THE LIFE AND CAREER OF GEORGE SARTON : THE FATHER OF THE HISTORY OF SCIENCE*

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The year 1984 marked the centennial of the birth of George Alfred Leon Sarton, the father of the history of science. Sarton was the author of numerous major works in the field, including the three-volume, 4, 236-page opus "Introduction to the History of Science", which many still consider one of the field's most definitive and ambitious works. Sarton also founded the field's primary journal, *Isis*, which he edited for forty years. But in spite of the importance Sarton placed on the history of science, he considered the discipline a means, not an end. Sarton's ultimate goal was an integrated philosophy of science that bridged the gap between the sciences and the humanities — an ideal he called "the new humanism." The forces and ideas that molded this idealistic scholar were a unique confluence of his Old World bourgeois upbringing and the experiences under German occupation during World War I that forced him to seek refuge in the United States.

The year 1984 marked the centennial of the birth of George Sarton, a pioneer in establishing the history of science as a discipline in

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its own right. Founder and editor for forty years of *Isis*, the field's primary journal, Sarton also wrote what many consider to be one of the most definitive works of this infant field, the mammoth *Introduction to the History of Science*.[1] The three-volume, 4, 236-page work consists of five tomes, in which Sarton reviews and catalogs the scientific and cultural contributions of every civilization from antiquity through the fourteenth century.

Among the other major works by Sarton, author of fifteen books and over three hundred articles, are *A History of Science*[2], a two-volume reworking of his lectures covering the acquisition of knowledge from ancient science and the Golden Age of Greece through the Hellenistic period; *A Guide to the History of Science*,[3] a bibliography; *Appreciation of Ancient and Medieval Science during the Renaissance*;[4] and *The History of Science and the New Humanism*.[5] His work has been published in a wide variety of periodicals, ranging from the *Proceedings of the American Philosophical Society*, the *Yale Review*, and *Science* to *Natural History*, the *Nation*, and, of course, *Isis*.

An indication of the impact of Sarton's works is given by data accumulated from 1955 to 1984 in the Institute for Scientific Information's (ISI's) *Science Citation Index (SCI)*, *Social Sciences Citation Index (SSCI)*, and from the *Arts & Humanities Citation Index (A & HCI)*. Most of Sarton's works were published well before the earliest date for which *SCI* data are available. Thus, these works may have passed through their peak citation years before they were indexed in *SCI*. Even so, his three-volume *Introduction to the History of Science*, for example, has been cited over one hundred and fifty times.

For Sarton, science was "the totality of positive knowledge."[6] According to a 1953 article by William H. Hay, Sarton's devotion to compiling the history of science was born of his conviction that such study is the key to the history of humanity, yielding unique insights concerning the complexity of human nature.[7] The purpose of Sarton's *Introduction to the History of Science*, as he puts it, is to

> explain briefly, yet as completely as possible, the development of one essential phase of human civilization ... the development of science ... No history of civilization can be tolerably complete which does not give considerable space to the explanation of scientific progress.[8]

In fact, for Sarton,

> the history of science is the only history which can illustrate the progress of mankind. In fact, "progress" has no definite and unquestionable meaning in other fields than the field of science.[9]

Despite the importance that Sarton placed on the history of science, however, the discipline was a means, not an end; his ultimate goal was an integrated philosophy of science that bridged the gap between the sciences and the humanities — an ideal he called "the new humanism."[10] In the division between scientist and humanist, Sarton saw a "chasm ... cutting our culture asunder and threatening to destroy it."[11] Waging his war on two fronts, Sarton admonished humanists who trivialize science as a mere technical occupation to respect it as one of the most impressive activites of which humanity is capable,[12] and at the same time he implored scientists to immerse themsleves in the scholarly traditions of the humanities. Sarton perceived the history of science as the synthesis of science and the humanities that would help to make "scientists who are not mere scientist, but also men and citizens."[13]

In an essay on the coverage of history and sociology of science journals in *Current Contents (CC)* that appeared in *CC* some years ago,[14] I noted that early in my career as an information scientist I almost became a historian of science myself. When I was a young, upstart member of the Johns Hopkins University Welch Medical Library Indexing Project in Baltimore, Maryland, I had plenty of exposure to the field. For instance, my boss, Sanford V. Larkey, a physician by training, was fascinated by Elizabethan medicine.[15] My friend and mentor Chauncey Leake, one of the project's advisors, was one of those rare individuals who combine an interest in the history of science with active

research. His work includes articles on Galileo and Egyptian medical papyri.[16] And during my stay on the project, I often attended Oswei Temkin's and Richard Shryock's lectures on the history of medicine.

Even without the nodding acquaintance with the history of science that I developed at Johns Hopkins, however, the name of George Sarton was familiar to me, since my original interest in citation indexing involved its application to the humanities literature. The first paper I presented on the subject of citation indexing, given in Philadelphia in 1955, was on citation indexes to the Bible.[17] It was fascinating to trace the history of a point Sarton made in his book *A History of Science : Ancient Science through the Golden Age of Greece*[18] concerning a passage in the Book of Joshua, which alludes to the translation of *harbot zurim*. In a note appending the section on prehistoric medicine, Sarton contends that the phrase has been mistranslated as "sharp knives"; the correct meaning, he claims, is "flint knives."[19] Thus, Joshua 5:2 in the Authorized (King James) Version of the Bible reads, "At that time the Lord said unto Joshua, make thee sharp knives and circumcise again the children of Israel the second time." According to Sarton, however, the passage should read, "And at that time the Lord said unto Joshua, make thee stone knives of the hardest flint, and having again a fixed abode, circumcise the children of Israel."

Who was this giant, George Sarton ? What was this polymathic scholar really like? His daughter, the well-known poet and novelist May Sarton, described him as

> an exceedingly charming man; this charm made itself felt at once, on first meeting, in his beaming smile, the smile of a delighted and sometimes mischievous child, that flashed out below the great domed forehead and sensitive eyes behind thick glasses.
> He was stout, with beautiful hands and small feet, a stocky man who walked down Brattle Street in Cambridge, Massachusetts, at exactly the same time every morning, with the propulsive energy of a small steam engine, a French beret on his head, a briefcase in one hand, in a coat a little too long for him because he could

not be bothered to have his clothes altered and insisted on buying them off the rack to save time.[20]

George Alfred Leon Sarton was born in Ghent, East Flanders, Belgium, on 31 August 1884. His father, Alfred Sarton, was the director and chief engineer of the Belgian State Railroads. His mother, Léonie van Halme, died when George was less than a year old.

The Victorian household in which Sarton grew up was dominated by the personality of Alfred Sarton. In her book *I Knew a Phoenix*,[21] May Sarton recalls her impressions of her grandparents. Of her grandfather she wrote, "[he] was a confirmed bachelor, who had for a brief interlude happened to be married."[22] For May, the phrase "In my father's house," with which George used to begin so many anecdotes about his life in Belgium before World War I, always brought a sharp image of Alfred Sarton — "ultra-sensitive, sardonic, with bright deep-set eyes"[23] — into focus.

But of Sarton's mother, little is known — even to those in her immediate family. Léonie Sarton died of a hemorrhage a year after George's birth "because she was too modest to call for help, while her husband, swinging his cane, ready to go out, waited for her in vain."[24] She played Chopin and loved candied violets and *fleur d'oranger*. Innocent and extravagant, she shocked her husband's conservative family by buying her gloves by the dozen. Yet she is a lonely figure as well. "All around her hangs the parfume of sadness, the silence her husband never broke to tell little George something of that vanished young mother who so soon became younger than her son."[25]

Loneliness also haunted the childhood memories of Sarton himself. An isolated, only child, he was both pampered and neglected by the household servants, who, with the best of intentions, took his medicine for him when he was ill — especially if the concoction had a disagreeable taste.

In spite of Sarton's starvation for tenderness as a child, however, he was not without an active imagination and a "streak of Flemish humor,"[26] in the words of May Sarton :

> When ... still eating in a high chair, George was allowed to be present at dinner, but if he so much as babbled a single word, his father, without raising his head from his newspaper, reached forward to touch the bell (a round brass bell on a stand, tapped with one finger) and when the maid appeared, said simply, *"Enlevez-le"* (Remove it). When George was alone at a meal, formally served him in the dining room in his high chair, and he did not like something he was given to eat, he repeated the lordly gesture and the lordly phrase and was delighted to see that, like "Open Sesame" in reverse, he could thus have the unhappy cabbage, or whatever it was, removed from his sight.[27]

George Sarton first studied at the Athénée — the equivalent of our primary and secondary schools — of his native town, and then at the one in Chimay for four years. In 1902 he entered the University of Ghent to study at the Faculté de philosophie et de lettres. One of his teachers there was the well-known classical scholar Joseph Bidez, whose influence Sarton remembered with gratitude. Sarton found, however, that the traditional presentation of the humanities did not parallel his interests. So he abandoned the study of philosophy, and in 1904, after a year of private reading and reflection, he reentered the University in the Faculté des sciences, in which he began work in the natural sciences. As he later wrote in his journal, "I hope thus to become more than a writer of fine phrases, and bring my effective aid to the progress of the sciences."[28]

Sarton's studies included chemistry, crystallography, and mathematics. He received the degree of *docteur ès sciences* from the University of Ghent in 1911 for a thesis in celestial mechanics entitled "Les Principes de la mécanique de Newton." For his work in chemistry, he was awarded a gold medal offered by the four Belgian universities — Ghent, Louvain, Brussels, and Liège.

Almost immediately after obtaining his doctorate, on 22 June 1911, Sarton married Eleanor Mabel Elwes, the daughter of a Welsh civil and mining engineer, and the young couple established themselves in an old country house in Wondelgem, near Ghent. Sarton, whose small private income was too modest to sustain a family, purchased the house with the proceeds of the auction of his deceased father's wine cellar. The sale itself was widely regarded as scandalous but it was perhaps typical of the iconoclastic Sarton. In the following year, 1912, Sarton's only surviving child, Eleanore Marie (later shortened to May), was born, and the journal *Isis*, Sarton's *"Revue consacrée à l'histoire de la science,"* was founded.

Sarton liked to refer to his wife, Mabel, as "the mother of those strange twins, May and *Isis*,"[29] and the history of science owes a debt to Mrs. Sarton for the survival of its first journal. When the journal was in its early days, she wrapped and mailed each issue, and in her last years, she watched her husband so that he did not overtax himself.[30] An artist and a distinguished designer of furniture, Mabel Sarton helped George meet the expenses incurred by *Isis* by supplementing his income with her own. She was inspiration, companion, and helpmeet to her husband, and when she died in 1950, he felt that a part of himself had been extinguished.

Isis, a review devoted to the history and philosophy of science, was to be, as Sarton defined it, "at once the philosophical journal of the scientists and the scientific journal of the philosophers, the historical journal of the scientists and the scientific journal of the historians, the sociological journal of the scientists and the scientific journal of the sociologists."[31] The title of the new journal was meant to evoke "the period of human civilization which is perhaps the most impressive of all — its beginning."[32]

Like other scholarly journals, *Isis* would publish original research articles, notes, queries, personal items, and book reviews. But a unique feature of the journal was its critical bibliography. During the forty years he served as the editor of *Isis*, Sarton himself regularly compiled this

index of the major publications dealing with the history of science throughout the world. Its purpose was to make scholars aware of resources and the growing literature of the field, and to provide a forum for the correction of errors.[33]

By September 1912, Sarton had recruited a distinguished editorial board for the journal that included Henri Poincaré, Svante August Arrhenius, Émile Durkheim, Jacques Loeb, Friedrich Wilhelm Ostwald, and David Eugene Smith. The wide range of fields represented by the work of these scholars reflected Sarton's conviction that the history of science was by nature an encyclopedic discipline, his orientation toward universal history, and his philosophical belief in the brotherhood of man.[34]

With a discipline to be forged, esoteric theories and rigorous consistency were less important to Sarton than establishing professional techniques, methodologies, and an intellectual orientation of comparison, summation, and synthesis. Thus, Sarton was a combination of propagandist and proselytizer, and *Isis* was the intended organ of the new discipline. It was through *Isis*, according to Arnold Thackray and Robert K. Merton, that he hoped to "systematically and holistically" combine "methodological, sociological, and philosophical perspectives with purely historical inquiry," enabling such inquiry to gain its full significance.[35] The first issue of *Isis* appeared in March 1913. In 1924, when the History of Science Society was founded, *Isis* became its official publication, but the Society did not assume full financial responsibility for the journal until 1940. The annual deficit it ran for twenty-eight years was met by Sarton, who had no private or independent income.[36]

As subscriptions to *Isis* trickled in from all over the world, Sarton was hard at work taking voluminous notes for his monumental *Introduction to the History of Science*. At the start, Sarton had intended to bring his *History* up to the present, but the task on the scale he had planned proved beyond even his extraordinary efforts. In fact, according to I. Bernard Cohen,[37] a member of the board that assumed the duties of editing *Isis* when Sarton stepped down from the position, Sarton would

explain to students that, had he known as much about the history of science when he began his *Introduction* as he did when he finished the two-volume, 2155-page work on the fourteenth century,[38] he would never have gotten even that far.

The spring and summer of 1914 was an idyllic time for the Sartons. As May Sarton recounted, "We were beautifully happy and independent, all three."[39] But on 28 June, the Archduke Ferdinand was assassinated in Sarajevo. According to May, all through July of that year, as her father worked quietly in his study, and her mother wondered why the plum tree would not bear fruit, diplomats hurried back and forth across Europe. The war that most people referred to as "a scare" lurked around the corner.

Despite the seemingly far-off nature of the threat, however, the Belgian newspapers were filled with rumors, and preparations of a sort were made. Of that time, May wrote :

> The Civil Guard, to which my father at one time belonged, drilled now and then on the village green, and took uniforms out of mothballs. But no one really believed in that impossible war as a reality. In any case ... Belgium itself was neutral. Nothing could happen here.
>
> [But] on August second, the Germans demanded free passage, were refused, and on August third the Wehrmacht marched in in their spiked helmets ... My father, though no longer a member of the Civil Guard, got out his heavy Civil Guard coat, took down the old musket, and reported for patrol duty. He was set to guard the railway intersection. There, alone, a lantern in one hand, his gun in the other, he paced up and down all night hoping that the German army would not come hurtling down the track. Fortunately, it did not.[40]

Twenty-six German officers and infantrymen were billeted at the Sarton's house in Wondelgem, and Sarton was responsible for their

safety; if any of the enlisted men failed to make curfew, Sarton would have been taken into his garden and shot. Indeed, it was to prevent just such an occurrence that he buried his Civil Guard coat, since members of the Guard were treated as spies. Little by little, as the war continued and Sarton realized — after a brief, frustrating stint in the Red Cross at Brussels — that he could be of more use continuing his work, the Sartons came to the decision that they should leave the country. They could take very little with them, so the precious notes for Sarton's *Introduction to the History of Science* were stored in a metal trunk that joined his buried Civil Guard coat in the garden. A distant cousin managed to dig up the notes, and returned them to Sarton after the war.

The Sartons first went to England, where George got a job as a censor in the War Office. Although the flood of reflugees from Belgium was welcomed, the War Office did not pay enough to support a family of three, and employment opportunities in the history of science were nowhere to be found. The Italian historian of science Aldo Mieli offered Sarton the hospitality of his home at Chianciano, near Sienna.[41] Instead, Sarton left his wife and child in England while he went to the United States in search of a position that would support his family and his dream of completing his *History of Science*. In September 1915, Mabel and May Sarton completed the hazardous passage across the Atlantic and joined George at the New York home of Leo Baekeland, the eccentric Belgian inventor of Bakelite, the first successful plastic.[42]

By good fortune, Sarton had reached the United States at a time when the history of science was becoming a recognized activity. Although it was far from being an established discipline and was almost unthought of as a profession, it was beginning to reach maturity.[43] Nevertheless, Sarton endured an uncertain time in which he must have wondered whether he would have to abandon his dream of a life exclusively devoted to the history of science. Despite this, he turned down a good job as a librarian at Rice University, Houston, Texas, because the University could not meet the one condition about which he was adamant : that his imployer take over the publication and financial

support of *Isis*, which had been out of print since shortly after the invasion of Belgium.[44]

The summer of 1916 found Sarton delivering a course of lectures at the University of Illinois, Urbana, and through *Isis* board member David Eugene Smith, among others, he soon received other appointments.[45] In the same year, for example, he gave a series of six lectures on science during the time of Leonardo da Vinci at the Lowell Institute in Boston, Massachusetts, and later was a lecturer at George Washington University in Washington, D.C.

Among those who helped Sarton arrange this frenetic but sustained round of temporary appointments was L.J. Henderson, a biochemist and a junior but influential member of the Harvard University faculty.[46] Henderson had been teaching a course on the history of science regularly since 1911, and supported Sarton's goals for the discipline. He managed to obtain an appointment for Sarton as a "lecturer in philosophy" at Harvard that extended until 1918, when the United States' involvement in World War I caused financial problems for the University.

In response to Sarton's renewed appeals for work, Robert S. Woodward, second president and successful organizer of the Carnegie Institution, Washington, D.C., provided the crucial financial support Sarton needed.[47] Woodward had a personal interest in the history of science, and Sarton had been in touch with him even before the exile from Belgium. Although Woodward had initially been unsympathetic to Sarton's dream of establishing the history of science in its own right, he had slowly softened his position. With the help of Carnegie Institution trustee Andrew Dickson White, Woodward created the post of research associate in the history of science for Sarton. Characteristically, almost as soon as he heard that he had secured a permanent position with a regular salary, Sarton made plans to revive *Isis*, which had been dormant during the years of the war.[48]

Thus began Sarton's nearly lifelong association with the Carnegie Institution, but although he was officially employed full-time in

Washington, D.C., he remained in Cambridge to study at Harvard's then-new Widener Library.[49] When the war ended and he recovered his notes — which were greatly augmented by the mass of new data he had accumulated in the United States — he found himself secure in one of the world's great libraries, with the salary guaranteed by the Carnegie Institution and with no specific responsibilities or duties other than those he set for himself. He was free at last to pursue the mission that he had never forgotten.

Sarton's sense of mission found its first, and perhaps best, expression in his mostcited work, the *Introduction to the History of Science.*[50] The development of this work is a microcosm of the evolution of Sarton's concept of the unity of scientific and cultural endeavors. Sponsored by the Carnegie Institution, it was not conceived as a work of historical narrative, but rather as a bibliography that would serve as the basic source material for such a history.[51] It would deal with all science, covering the enterprise from its earliest beginnings up through the twentieth century. Sarton at first imagined that it would be a relatively short work.

Gradually, there emerged the concept of a colossal work that would consist of three series of books. The first would survey cross sections of civilization by half-centuries; the second would deal with different types of civilization; and the third would discuss, in detail, the histories of various "special" sciences. The entire work would comprise some twenty-six volumes, but Sarton lived to complete only the first three volumes of the first series.[52]

The first of these volumes, *From Homer to Omar Khayyám,*[53] was published in 1927 and contained 840 pages. It represented nine years of active work and covered the period from Homer through the eleventh century. The second volume took another four years to complete. Published in 1931 in two large parts consisting of a total of 1,252 pages, it was titled *From Rabbi Ben Ezra to Roger Bacon*[54] and covered the twelfth and thirteenth centuries. The third volume, also printed in two parts,[55] did not appear until 1947; when it did, it was apparent that the

project could not continue, for it covered only the fourteenth century and comprised 1,018 pages. Sarton estimated that a similar work dealing with the fifteenth century would have taken him ten to fifteen years to complete.[56]

During the course of his labors on the *Introduction*, Sarton found himself hampered by his lack of knowledge of Arabic.[57] Spending the academic year 1931-1932 in the Near East, he taught himself to read classical and modern Arabic. Sarton also knew some Hebrew, Chinese, and Portuguese and was familiar with Latin and Greek. He was fluent in French, English, German, Italian, Dutch, Flemish, Swedish, Danish, Turkish, and Spanish. In 1936 he found the time to begin a companion journal to *Isis*, and he named it *Osiris*. The purpose of the journal was to publish articles that were too long for *Isis* but not quite comprehensive enough to become books. Sarton edited ten volumes of this new journal.

In 1940 J.B. Conant, President of Harvard, elevated Sarton from his position of lecturer, which was an annual appointment, to tenured professor of the history of science.[55] However, Sarton continued to draw the major portion of his salary from the Carnegie Institution, which also provided him with a research and traval budget, money for the purchase of books and periodicals, and full-time secretarial assistance. When Sarton had published what would prove to be the last volume of his great *Introduction*, he resolved to put to paper the lectures that he had given for so many years at Harvard. He planned to complete the project in nine volumes, but again the task eluded him. He published two : *A History of Science : Ancient Science through the Golden Age of Greece*,[59] cited over sixty times from 1955 through 1984, according to the SCI, SSCI, and A&HCI, and *A History of Science : Hellenistic Science and Culture in the Last Three Centuries B.C.*,[60] cited over forty-five times from 1955 through 1984. Ironically, although Sarton had been wont to say that his real interests lay in the modern period, when he died, the bulk of his published work covered antiquity and the Middle Ages.[61]

Among the honors bestowed on Sarton were the Prix Binoux of the Académie des sciences, Paris, in 1915 and again in 1935, and the

Charles Homer Haskins Medal of the Medieval Academy of America in 1949. He was made a Knight of the Order of Leopold in his native Belgium in 1940, and was granted numerous honorary degrees from such institutions as Brown University, Harvard University, and Goethe University, Frankfurt am Main, FRG. The scholarly honor societies to which he belonged include the American Academy of Arts and Sciences, the American Philosophical Society, the Royal Society of Edinburgh, the Royal Flemish Academy of Belgium, and the Arabic Academy of Damascus. A founding member of the International Academy of the History of Science, he also served as President of the International Union of the History of Science, and Honorary President of the History of Science Society. He also claimed honorary membership in the history of science societies of Belgium, England, Holland, Germany, Israel, Italy, and Sweden.[62]

The honor that gave Sarton the most pleasure was the award of the George Sarton Medal, which he was the first to receive. On the occasion of Sarton's retirement as editor of *Isis* in 1952, a committee under the chairmanship of Frederick G. Kilgour, then of the Yale Medical Library, secured funds from Charles Pfizer and Company, a pharmaceutical and chemical manufacturing firm in New York, for a medal to be struck in Sarton's honor.[63] The obverse of the medal features a profile of Sarton, while on the reverse is a figure of the goddess Isis, copied from a drawing made by Sarton's late wife for her husband's bookplate. The medal bears the inscription, "To further the history of science."

The Council of the History of Science Society, which makes the award, felt that there was no person to whom the medal might be more appropriately awarded than to George Sarton himself.[64] In making the award, Dorothy Stimson, President of the Society, said,

> It is most fitting that the George Sarton Medal ... should go first to Dr. Sarton himself ... Dr. Sarton has established, to a greater extent than anyone else, our present foundations of knowledge and understanding of the history of science. This he has achieved through more than 40 years as a pioneering, dynamic scholar and

> editor. He is truly the dean of the historians of science in this country.[65]

Subsequent winners of the medal include Charles and Dorothea Waley Singer (1956), Lynn Thorndike (1957), John F. Fulton (1958), Oswei Temkin (1960), Joseph Needham (1968), Henry Guerlac (1973), and Thomas S. Kuhn (1982).

In 1960 the History of Science Society, under the auspices of the American Association for the Advancement of Science (AAAS), also established the George Sarton Memorial Lecture. The first lecturer was René Dubos; subsequent lecturers have included Ernst Mayr (1971), Thomas Kuhn (1972), I. Bernard Cohen (1978), Henry Guerlac (1982), Derek de Solla Price (1983), and Arnold Thackray (1984). The speaker for 1985 is Daniel Kevles.

Yet despite the honors and accolades Sarton accumulated by the end of his career, his influence during his lifetime was relatively limited. According to Thackray and Merton, Harvard's administration considered Sarton a "marginal, if illustrious, man. In 1940, he had still to produce his first successful Ph.D. candidate, his undergraduate courses remained small, and he almost completely avoided all committee service and routine academic administration."[66]

Although Sarton's influence on the history of science may not be immediately obvious, it is nonetheless real. His emphasis on critical bibliography, his instigation of sweeping surveys of the vistas of science, the journal he founded, and, above all, his classic *Introduction to the History of Science* all served to create the elements required by a struggling new field, as opposed to methods to be emulated or finished products for display.[67] His presence at Harvard was instrumental in the creation of what later became one of the leading centers of the history of science in the world. And at least part of the reason for Sarton's lack of influence was that, during the greater part of his career, there were no departments of the history of science, and therefore no jobs. However, though the outward face of the history of science today may show little

trace of Sarton's influence, the bony foundation across which that skin is drawn was assembled through his efforts.

George Sarton died at 7:30 A.M. on 22 March 1956 of congestive heart failure. He appeared to have been in excellent health, and was eagerly anticipating a visit to Montreal,[68] where he was to give a lecture at McGill University entitled "The History of Science and the New Humanism." A few minutes after departing from his home in Boston for the airport, however, he felt ill and asked the taxicab driver to turn back. He died only a few minutes after he reached his house, while sitting in his favorite armchair. A simple funeral service, which, in accordance with Sarton's wishes, was identical to that held for his wife some six years earlier, took place two days after he died, in the Harvard Memorial Church.

Sarton has been called a great teacher, a superb organizer of facts, and an unrivaled integrator of knowledge.[69] "His erudition was such that even his informal comments were based on exact knowledge and frequently opened new leads for the author of a paper under discussion,"[70] Stimson wrote a year after Sarton died. "The encyclopedic range of his writings led the way to fresh and fertile fields for other scholars."[71] In an obituary for Sarton in *Archives internationales d'histoire des sciences*, F.S. Bodenheimer wrote, "He was a good man ... a courageous man ... a wise and reasonable man ... a great scientist ... [and] a great humanist."[72]

During the presentation of the first George Sarton Medal, Sarton had this to say about himself and his career :

> Scholars of a later age reviewing my life will sometimes wonder whether I was crazy; I was not crazy, but seemed to be, because I was overwhelmingly dominated by two passions, a passion for science and another equally ardent one for the humanities ... [I]t is impossible to live reasonably without science, or beautifully without arts and letters. He who studies the history of science and teaches it should always remain in touch with the living science of his own time ... [T]he past cannot be separated from the present without grievous loss. The present without its past is

insipid and meaningless; the past without the present is obscure. The life of science, like the life of art, is eternal, and we must view it from the point of view of eternity.[73]

George Sarton was a remarkably gifted and versatile scholar who had exceptional organizational ability and a seemingly endless capacity for work. He also had a broad streak of idealism, conceiving a lofty view of humanity and its essential reason for existing, and rejoicing in that heritage, which he took every opportunity to proclaim. He has come to epitomize the history of science to scholars throughout the world, and the imposing number of books, articles, and lectures he produced in the more than forty-five years he devoted to his field stand as a monument as much to his determination and faith as to his scholarship.

Notes

1. George Sarton, *Introduction to the History of Science. From Homer to Omar Khayyam* (Baltimore : Williams & Wilkins, 1927), vol. 1; Sarton, *Introduction to the History of Science. From Rabbi Ben Ezra to Roger Bacon* (Baltimore : Williams & Wilkins, 1931), vol. 2, two parts; Sarton, *Introduction to the History of Science; Science and Learning in the Fourteenth Century* (Baltimore : Williams & Wilkins, 1947), vol. 3, two parts.

2. George Sarton, *A History of Science. Ancient Science through the Golden Age of Greece* (Cambridge : Harvard University Press, 1952); Sarton, *A History of Science. Hellenistic Science and Culture in the Last Three Centuries B.C.* (Cambridge : Harvard University Press, 1959).

3. George Sarton, *A Guide to the History of Science* (Waltham, Mass. : Chronica Botanica, 1952).

4. George Sarton, *Appreciation of Ancient and Medieval Science during the Renaissance (1450-1600)* (Philadelphia : University of Pennsylvania Press, 1955).

5. George Sarton, *The History of Science and the New Humanism* (Bloomington : Indiana University Press, 1962).

6. Ibid., p. 118.

7. William H. Hay, "George Sarton : Historian of Science and Humanist," *American Scientist* 41 (1953) : 282-286.

8. Sarton, *Introduction to the History of Science*, vol. 1, p. 3.

9. George Sarton, *The Study of the History of Science* (New York : Dover Publications, 1957), p. 5.

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