

Ego and the International

The Modernist Circle of George Sarton

By Lewis Pyenson and Christophe Verbruggen***

ABSTRACT

The early years of *Isis* are examined in the light of George Sarton's connection with Paul Otlet (1868–1944) and Henri Lafontaine (1854–1943), founders in 1895 of the International Office of Bibliography and in 1907 of the Union of International Associations, both in Brussels. Otlet, known as one of the fathers of the Information Age, invented the science of information, which he called, in French, *documentation*. Lafontaine, a socialist senator in Belgium, won the 1913 Nobel Prize for Peace. Sarton shared Otlet and Lafontaine's views about pacifism, internationalism, and rational bibliography; he designed *Isis* to fit with the modernist goal, expressed by Otlet and Lafontaine, of using information to generate new knowledge.

SARTON'S EGO

George Sarton, whose faith in the progress of learning has earned him the inappropriate identification of “positivist,” was surely an inconsistent scientist. (See Figure 1.) As a student who left the humanities for science, he inverted what has become, in our own time, the usual argument advanced by intellectuals who leave science for the humanities—the move would allow him the better to connect with life, he contended. While he labored on a prizewinning chemical investigation (in, roughly, the equivalent of a current American master's thesis), he lectured and wrote on philosophy and politics, and he romanced a talented English artist. In 1911 he took a doctorate at the University of Ghent in exact sciences, writing a dissertation not on the revolutionary new physics but, rather, on the classical mechanics of Isaac Newton. He worked briefly as an astronomer and as an instructor in a girls' school before resigning himself to exhausting his inheritance in the pursuit of the general history of science. In this pursuit, he and his artist wife, Mabel Elwes, breathed life into the present journal, *Isis*.

Civilization, in George Sarton's view, had two poles of reference: science and art. To make sense of history required deep familiarity with each pole. In common with others of

* Graduate College and Department of History, Western Michigan University, Kalamazoo, Michigan 49008-5242.

** Department of Modern and Contemporary History, University of Ghent, Blandijnberg 2, B-9000 Ghent, Belgium.



Figure 1. Man in a boat. George Sarton in Europe. Courtesy of Susan Sherman, Riverdale, Bronx, New York.

his generation, Sarton saw himself as a socialist and promoted social reform. He held that nineteenth-century historians, with their focus on the idiosyncrasies of political leaders, their documentation of battles and treaties and dynasties, delivered little hope to forward-looking people. The past was best described by emphasizing discovery and creation. If the present is dull and grim, if humanity has suffered under cruel rulers and capricious natural forces, the task of historians is to show how people in times past contributed new understanding and new sensibilities and to emphasize the rich possibilities that the past has given to us today. Belle-Epoque Europe (1890–1914) seemed to open in all directions: feminist, pacifist, spiritual, material, socialist, artistic, scientific, musical. With the founding of *Isis*, George Sarton staked a claim in these currents.¹

A new social group appeared in the Belle Epoque—the modern intellectuals who

¹ Lewis Pyenson, *The Passion of George Sarton: A Modern Marriage and Its Discipline* (Memoirs of the American Philosophical Society, 260) (Philadelphia: American Philosophical Society, 2007) (hereafter cited as **Pyenson, *Passion of George Sarton***), provides a full treatment.

considered themselves protectors of a new society; they congregated in epistemic communities.² The dialectics of Belgium, particularly Brussels and the center of Flemish industry and intellect at Ghent, offered support for the epistemic communities—generally transnational ones—to which Sarton belonged.³ A nominally Catholic state, Belgium featured an active anticlerical Masonic movement that examined faith in all its forms. The *frisson* and excitement of rising Flemish nationalism encouraged questioning of the Belgian *raison d'état*. The compact country was served by a good rail system (engineered by Sarton's father, among others) that allowed the easy circulation of people. As an industrial and entrepreneurial powerhouse, it saw the simultaneous rise of large fortunes for an assertive bourgeoisie and vocal organizations for an equally assertive proletariat. The intellectual world was then small enough that thinkers in one domain could quickly learn about ideas across the spectrum of knowledge; it featured, notably, a fecund mix of nationalism (both Belgian and Flemish) and internationalism. And by virtue of its location and origin, Belgium was heavily invested in the international peace movement.

In the early years of *Isis*, the last circumstances are striking. Young George Sarton interacted with two older intellectuals who had already achieved credibility in internationalist and pacifist circles. One was Paul Otlet (1868–1944), the animator of what might be called a universal grammar for knowledge; the other was Henri-Marie Lafontaine (1854–1943), Otlet's socialist and pacifist colleague, winner of the 1913 Nobel Prize for Peace. In 1895, Otlet and Lafontaine created the International Office of Bibliography to bring order to the avalanche of published knowledge. Otlet, who, according to one account, connected Ernest Solvay with Walther Nernst to organize the first Solvay Conference in physics,⁴ received Belgian state support and installed his office in the Hôtel Ravenstein, also the location of Solvay's Institut des Sciences Sociales, directed by Emile Waxweiler, a socialist reformer and sociologist known to Sarton since 1906. By this year, Otlet was elaborating Melvil Dewey's system for organizing libraries according to a universal decimal classification.⁵ Lafontaine was one of the main proponents (and a

² Research into epistemic communities deals with the cross-national connections between actors who have concepts or ideas in common, always in combination with a degree of scientific knowledge. See P. M. Haas, "Epistemic Communities and International-Policy Coordination," *International Organization*, 1992, 46:1–35. A good historical example of an epistemic community can be found in Jasmien Van Daele, "Engineering Social Peace: Networks, Ideas, and the Founding of the International Labour Organisation," *International Review of Social History*, 2005, 50:435–466.

³ Akira Iriye, "Transnational History," *Contemporary European History*, 2004, 13:211–222; P. Y. Saunier, "Going Transnational? News from Down Under," *Historical Social Research/Historische Sozialforschung*, 2006, 31:118–131; and Saunier, "Municipal Networks in Nineteenth–Twentieth Centuries: Transnational Panorama of Europe," *Urban History Review/Revue d'Histoire Urbaine*, 2006, 34:43–56. See also Christophe Charle, *Transnational Intellectual Networks: Forms of Academic Knowledge and the Search for Cultural Identities* (Frankfurt am Main: Campus, 2004).

⁴ Annick Brauman and Marie Demanet, *Le Parc Léopold 1850–1950: Le zoo, la cité scientifique et la ville* (Brussels: Aux Archives d'Architecture Moderne, 1985), pp. 164–165. Otlet is absent from the evaluation by Diana Kormos Barkan, "The Witches' Sabbath: The First International Solvay Congress in Physics," *Science in Context*, 1993, 6:59–82.

⁵ W. Boyd Rayward, *Universum informastii: Zhizn' i deiatl' nost' Polia Otle* [*The Universe of Information: The Work of Paul Otlet for Documentation and International Organization*], trans. R. S. Giliarevsky (Moscow: VINITI, 1975); Rayward, *El universo de la documentacion: La obra de Paul Otlet sobre documentacion y organizacion internacional*, trans. Pilar Arnau Rived (Madrid: Univ. Complutense, 1996); Rayward, ed. and trans., *International Organisation and Dissemination of Knowledge: Selected Essays of Paul Otlet* (Amsterdam: Elsevier, 1990); Françoise Levie, *L'homme qui voulait classer le monde: Paul Otlet et le Mundaneum* (Brussels: Les Impressions Nouvelles, 2006), p. 61 (for the Hôtel Ravenstein); Pyenson, *Passion of George Sarton*, pp. 28–29 (for Waxweiler); Pieter Uyttenhove and Sylvia Van Peteghem, "Ferdinand van der Haeghen's Shadow on Otlet: European Resistance to the Americanized Modernism of the Office International de Bibliographie," in *European Modernism and the Information Society: Informing the Present, Understanding the Past*, ed. Rayward

president) of the International Peace Bureau in Berne.⁶ In the minds of Lafontaine, a Belgian senator, and Otlet, an independent intellectual, the systematizing urge extended naturally to the creation, in 1907, of the Union of International Associations, of which Lafontaine became secretary-general. The union published a yearbook on international life and a periodical, *La Vie Internationale*, one of whose early contributors was the young Sarton. These actors in Sarton's circle were united in their desire for transnational intellectual cooperation, a fervor that extended widely in Belgium over the years prior to World War I—for example, in the Second International under Emile Vandervelde. The foundations for the Committee on Intellectual Cooperation (the forerunner of UNESCO) were laid in antebellum Brussels. Otlet and Lafontaine formed what has been called a transnational advocacy network.⁷ Sarton, a member of the network, modeled *Isis* to conform to its tenets.

In the 1925 text of a course delivered at the recently opened Academy of International Law, located in the Peace Palace at The Hague, the director of the International Institute of Intellectual Cooperation, Julien Luchaire, described five major categories of institutions through which international intellectual life had been organized: international conferences, international commissions established for the preparation of multilateral treaties between countries, international bureaus founded by private organizations, international research institutes, and, finally, international associations or federations of national societies.⁸ Otlet and Lafontaine were active in all five areas, and Sarton had aspirations in them as well. Sarton continually emphasized the transnational, cooperative dimension of science, and in this attitude he was a child of his times. World War I strengthened the conviction of thousands of intellectuals that they must take “the world as [their] parish” and made them see the need for intellectual cooperation, as expressed by the authority on American history, William MacDonald, in 1923. This transnational credo, connected with the burning desire to make things new, is the signature of modernism.⁹

Sarton's plans for a life of scholarship materialized around the time of his marriage in 1911. By then he had lost both his mother and his father, and he had a small but adequate

(Aldershot: Ashgate, 2008), pp. 89–104; and Charles van den Heuvel, “Building Society, Constructing Knowledge, Weaving the Web: Otlet's Visualizations of a Global Information Society and His Concept of a Universal Civilization,” *ibid.*, pp. 127–153. For an introduction to Otlet and the Mundaneum see Alex Wright, “The Web That Time Forgot,” *New York Times*, 17 June 2008.

⁶ Generally, see Sandi E. Cooper, *Patriotic Pacifism: Waging War on War in Europe, 1815–1914* (New York: Oxford Univ. Press, 1991).

⁷ On the Committee on Intellectual Cooperation see Pascale Demeulenaere, “Rôle et attitude des délégués belges à la Commission Internationale de Coopération Intellectuelle,” in *Penser l'Europe à l'aube des années trente: Quelques contributions belges*, ed. Michel Dumoulin (Louvain-la-Neuve: Collège Érasme, Bureau du Recueil, 1995), pp. 9–33; and Jean-Jacques Renoliet, *L'UNESCO oubliée: La Société des Nations et la coopération intellectuelle (1919–1946)* (Paris: Sorbonne, 1999). On transnational advocacy networks see Margaret E. Keck and Kathryn Sikkink, *Activists beyond Borders: Advocacy Networks in International Politics* (Ithaca, N.Y.: Cornell Univ. Press, 1998), pp. 1–8; Keck and Sikkink, “Transnational Advocacy Networks in International and Regional Politics,” *International Social Science Journal*, 1999, 51:89–101; and Diane Stone, “Introduction: Global Knowledge and Advocacy Networks,” *Global Networks*, 2002, 2:1–12. Anne Rasmussen has emphasized the internationalist orientation of *Isis* in her doctoral dissertation, “L'Internationale scientifique, 1890–1914” (Ecole des Hautes Etudes en Sciences Sociales [Paris], 1995).

⁸ Julien Luchaire, “Principes de la coopération intellectuelle internationale,” Hague Academy of International Law, *Recueil des Cours*, 1925-IV, 9:307–406, on pp. 316–317. Luchaire's wife, the biographer Antonina Vallentin, is the author of *The Drama of Albert Einstein*, trans. Moura Budberg (Garden City, N.Y.: Doubleday, 1954).

⁹ William MacDonald, *The Intellectual Worker and His Work* (London: Cape, 1923), pp. 304–305; and Peter Gay, *Modernism, the Lure of Heresy: From Baudelaire to Beckett and Beyond* (New York: Norton, 2008), pp. 48 (for cosmopolitanism at the center of modernism), 4 (for Ezra Pound's *cri de coeur*, “Make it New!”). Gay's synthesis focuses on signal modernist figures in arts and letters (Einstein makes no appearance).

inheritance to commit to a family of his own. But with his wife's enlightened agreement, he dedicated a substantial portion of his income to support both his scholarship and his political activity. He reckoned expenses to the centime, but his laments about money lead us to conclude that, in the years before the war, he continually drew on his capital. The general aspect of his life, including the inaccessibility of his vocation to his wife, is captured in the Nobel laureate Elias Canetti's satire *Die Blendung* (1935). But in his career, at least, Sarton was no Peter Kien, Canetti's unfortunate protagonist. Whereas Peter Kien was widely admired and entirely absorbed in his books, Sarton, unknown and unaccomplished, was seeking everywhere for a way to make his career. He was, at this time, a private scholar, following his admired Romain Rolland. It is possible that he was also inspired by the model of the Ghent classicist Franz Cumont, an independent spirit who was the only Belgian on the first Editorial Board of *Isis*.¹⁰

As the sociologist Pierre Bourdieu might have stressed, the class or estate awareness of intellectuals dovetailed with a social commitment that emphasized the dignity of new professions; class awareness also created opportunities for intellectuals to affirm their social status before those who moved the levers of political, cultural, and economic power. The discussion that arose at that time about the definition of the intellectual—a discussion that continues—accordingly had two axes: the class or estate character of the intellectuals and the function of intellectuals in society. Contemporaries held the intellectual worker responsible for the global *machine sociale* and for the development and maintenance of civilization.¹¹ From the turn of the century forward, an increasing number of Belgians shared this feeling of responsibility; a large part of them congregated around the Université Nouvelle in Brussels, where the young Sarton had friends and correspondents.¹²

How does one make a name in the world? Family contacts certainly help, and Sarton's family was well connected in Flanders. There are also what Goethe wrote about, the elective affinities generated by circumstance—the associations of club, party, and faith, where one can develop a concept into an idea in the company of sympathetic interlocutors. Moderns—the tribe of the *avant-garde*—are elitist, as Peter Gay has emphasized.¹³ The modern age is all about restrictive salons, circles, and clubs, which were particularly significant in the Belle Epoque. The Fabians in England and the Cosmopolitans in Washington are two clubs that attracted Sarton. In Ghent, he breathed life into several

¹⁰ See Marc De Mey, "Sarton's Earliest Ambitions at the University of Ghent," *Isis*, 1984, 75:39–45, on Cumont and on Sarton's psychological constitution.

¹¹ Pierre Bourdieu, *Homo academicus* (Paris: Minuit, 1984). For an overview of the debate regarding the definition of the intellectual see Charles Kurzman and Lynn Owens, "The Sociology of Intellectuals," *Annual Review of Sociology*, 2002, 28:63–90. On the responsibilities of the intellectual see Luchaire, "Principes de la coopération intellectuelle internationale" (cit. n. 8).

¹² The Université Nouvelle was founded by dissident professors in 1894 following the cancellation of a speaking invitation extended by the Université Libre to the geographer and anarchist Elisée Reclus, a correspondent of Sarton's and of his circle. See Jean Gottmann, notice in *English Historical Review*, 1989, 104:245. In 1919 Sarton was invited to become director of the scientific section of the Institut des Hautes Etudes in Brussels, created in the nineteenth century as the popularizing arm of the Université Nouvelle and after World War I absorbed with it into the Université Libre. See Pyenson, *Passion of George Sarton*, p. 352. Most research on Belgian intellectuals refers to the "pillarized" nature of Belgian society, in contrast to more uniform social structures in France. See, e.g., Marnix Beyen and Paul Aron, "L'histoire des intellectuelles en Belgique: Spécificités locales et actualité de la recherche," in *L'histoire des intellectuels aujourd'hui*, ed. Michel Leymaire and Jean-François Sirinelli (Paris: Presses Univ. France, 2003), pp. 409–424. For an overview see Eva Schandevyl, "Intellectuele geschiedenis in België: Lange tijd een magere oogst," in *De tuin van het heden: Dertig jaar wetenschappelijk onderzoek over de hedendaagse Belgische samenleving*, ed. Guy Vanthemsche, Machteld De Metsenaere, and Jean-Claude Burgelman (Brussels: VUB Press, 2007), pp. 299–319.

¹³ Gay, *Modernism, the Lure of Heresy* (cit. n. 9), p. 24.

clubs, among them Reiner Leven and the Society of Socialist Students, and he belonged to others, notably the Freemasons.¹⁴ Finally, there are also more distant connections, such as the editorial boards of periodicals and scientific societies. The union of these connections, the formalization of a “circle” of friends and colleagues, is known as an ego network.¹⁵

An ego network is the structure for accumulating intellectual capital, the authority that permits freedom of action in expressing ideas.¹⁶ Is there a homology between the structure of personal relations and the structure of ideas in a field of knowledge? To borrow from the language of algebraists, does one map onto the other? The question has been asked for more than a century: How does a life relate to a life’s work? Classically, the answer is sought in prosopography, or collective biography, which has the advantage of transcending personal agency.¹⁷ Generally speaking, the coarseness of categories in prosopography

¹⁴ Following the example of similar Dutch societies, a *Lebensreform*-association, Reiner Leven, was founded in Ghent at the end of 1905. Sarton was the initiator. Domestic and foreign speakers were invited to talk about a wide range of topics, including biology, vegetarianism, art and literature, and women’s education. As in Germany, *Lebensreform* united a number of social and educational movements. See Christophe Verbruggen, “Het Egonetwerk van Reiner Leven en George Sarton als toegang tot transnationaal intellectueel engagement,” *Revue Belge d’Histoire Contemporaine*, 2008, 38:87–129. See also Pyenson, *Passion of George Sarton*, pp. 27–29, 37–40 (for Reiner Leven), 85–86 (for Freemasonry), 179–182 (for the socialist students).

¹⁵ Ego networks are treated in a number of sources. For a general introduction to both methods and theories of social network analysis see John Scott, Stanley Wasserman, and Peter J. Carrington, eds., *Models and Methods in Social Network Analysis* (Cambridge: Cambridge Univ. Press, 2005). George Giacinto Giarchi holds that a network makes sense only when it refers to formal lines of communication and formal relationships. See Giarchi, “Caught in the Nets: A Critical Examination of the Use of the Concept of ‘Networks’ in Community Development Studies,” *Community Development Journal*, 2001, 36:63–71; Charles Wetherell, “Historical Social Network Analysis,” in *New Methods for Social History*, ed. Marcel van der Linden and Larry J. Griffin (Cambridge: Cambridge Univ. Press, 1999), pp. 125–144; Bonnie H. Erickson, “Social Networks and History,” *Historical Methods*, 1997, 30:149–174; Mustafa Emirbayer and Jeff Goodwin, “Network Analysis, Culture, and the Problem of Agency,” *American Journal of Sociology*, 1994, 99:1411–1454; M. Mario Diani, “Simmel to Rokkan and Beyond: Towards a Network Theory of (New) Social Movements,” *European Journal of Social Theory*, 2000, 3:387–406; Charles Kadushin, “Networks and Circles in the Production of Culture,” *American Behavioral Scientist*, 1976, 19:769–784; and D. B. Tindall, “Social Movement Participation over Time: An Ego-Network Approach to Micro-Mobilization,” *Sociological Focus*, 2004, 37:163–184. The study of ego networks connects generally with the scientometry of Derek J. de Solla Price and Eugene Garfield—see Price, “Networks of Scientific Papers,” *Science*, 1965, 149:510–515; and Blaise Cronin and Helen Barsky Atkins, eds., *The Web of Knowledge: A Festschrift in Honor of Eugene Garfield* (Medford, N.J.: Information Today, 2000)—and also with research on invisible colleges along the lines of the work of Price’s student Diana Crane, *Invisible Colleges: Diffusion of Knowledge in Scientific Communities* (Chicago: Univ. Chicago Press, 1972). Ego networks bear an affinity to discussions of networks in, e.g., the Scientific Revolution, which extend back to the first third of the twentieth century; see H. Floris Cohen, *The Scientific Revolution: A Historiographical Inquiry* (Chicago: Univ. Chicago Press, 1994). Structures resembling ego networks are at the center of Martin Rudwick’s study of early nineteenth-century British geology, *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists* (Chicago: Univ. Chicago Press, 1985); they share certain features of Lewis S. Feuer’s iso-emotional lines in early twentieth-century Europe: Feuer, *Einstein and the Generations of Science* (New York: Basic, 1974). Ego networks should not be confused with the actor-network theory of Bruno Latour; see Latour, *Reassembling the Social: An Introduction to Actor-Network Theory* (Oxford: Oxford Univ. Press, 2005). Actor-network theory postulates agency for ideas, paintings, or books; things with no mind have a fanciful intentionality, in the way that a physicist may sometimes ask students how an electron “knows” the right way to travel in an electrical circuit. Social network analysis generally restricts agency to persons or groups of people.

¹⁶ Nothing expresses the cleavage between postmodernists and modernists better than the distinction between Pierre Bourdieu’s metaphor of “intellectual capital” and the ascetic-humanitarian “institutional imperatives” of science (universalism, disinterestedness, communism, and organized skepticism) formulated in 1942 by Robert K. Merton “in one of the most famous papers ever written on science”: Stephen Turner, “Scientists as Agents,” in *Science Bought and Sold*, ed. Philip Mirowski and Esther Mirjam Sent (Chicago: Univ. Chicago Press, 2002), pp. 362–384, on p. 368; see Robert Merton, “The Ethos of Science” (1942), in Merton, *On Social Structure and Science*, ed. Piotr Sztompka (Chicago: Univ. Chicago Press, 1996), pp. 267–276.

¹⁷ Lewis Pyenson, “‘Who the Guys Were’: Prosopography in the History of Science,” *History of Science*,

means that the technique lacks the utility of statistical correlation that we find, for example, in medical trials. Our intent in raising the point here is to identify similarities between the intellectual task set by George Sarton and the enterprise of two patrons—Otlet and Lafontaine—who he thought could facilitate the achievement of the task.

What was the task? Sarton has left substantial traces of his thinking. There is every reason to conclude that he sought to realize the unachieved goal of Paul Tannery: to write a general history of science and to create an international discipline for promoting history of science as a field of scholarship. Tannery, the doyen of history of science in France, was an engineer-administrator in the French tobacco monopoly who published and lectured widely. At the Paris Exposition of 1900, he had organized the world's first international congress devoted to history of science, which resulted in a 348-page volume of twenty papers; many additional communications about history of science appeared in volumes emanating from other meetings held at the exposition. Tannery emerged as the leader of the pack. At the international historical congress in Rome in 1903 he advocated the creation of a society devoted to history of science, which would publish a periodical. Shortly thereafter, he repeated his plea at the international congress of philosophy in Geneva; there he urged that the historical approach, not the philosophical approach, should guide the new society. Tannery was the clear favorite in 1904 to succeed Auguste Comte's disciple Pierre Laffitte in the chair for history of science at the Collège de France, a chair created at Comte's urging. But political wrongheadedness in the anticlerical Third Republic gave the positivist Grégoire Wyruboff the position over the ardent Catholic Tannery. His academic advancement thwarted, Tannery expired from pancreatic cancer later that year.¹⁸

Assembling the documentation for a general history of science was a fearsome prospect, especially for someone situated, as Sarton was in the Wondelgem suburb of Ghent, without immediate access to a major library. His aim in creating his journal, *Isis*, which he named in 1912, was to help assemble the pieces of the general work. This circumstance accounts for the emphasis placed on critical reviews and notices—whether of books, collections, periodicals, or events—related to the history of science and to his modernist creed.¹⁹ From the beginning, Sarton sought to contact the world's experts in his domain and also to affirm the international character of scientific inquiry. This effort, he thought, commended him to Paul Otlet's enterprise in systematizing knowledge. When *Isis* was under way, Sarton wrote to Otlet about it.

1977, 15:155–188; and Christophe Verbruggen, "Combining Social Network Analysis and Prosopography," in *Guide to the Principles and Practice of Prosopography*, ed. Katherine S. B. Keats-Rohan (Oxford: Unit for Prosopographical Research, Linacre College, 2007), pp. 579–601.

¹⁸ George Sarton, "Paul, Jules, and Marie Tannery (with a Note on Grégoire Wyruboff)," *Isis*, 1947/1948, 38:33–51; and Lewis Pyenson, "Prerogatives of European Intellect: Historians of Science and the Promotion of Western Civilization," *Hist. Sci.*, 1993, 31:289–315, esp. pp. 297–306. Both Tannery's father and Sarton's father were railway engineers. The steam engine on the iron rail was indeed a harbinger of progress, an emblem of the positivism that attracted both Tannery and Sarton. It is likely that the first successful society devoted to the history of science, the one organized around Karl Sudhoff in Germany, was inspired by Tannery's activity, for Sudhoff was in personal contact with Tannery. See Andreas Frewer and Yvonne Steif, "Personen, Netzwerke und Institutionen: Zur Gründung der Deutschen Gesellschaft für Geschichte der Medizin und Naturwissenschaften," *Sudhoffs Archiv*, 2003, 87:180–194, which, however, is silent about Tannery.

¹⁹ See Pyenson, *Passion of George Sarton*, pp. 169–171, 174–175, for the founding of *Isis*. See George Sarton, "Bibliographie synthétique des revues et des collections de livres," *Isis*, 1914, 2:125–161, for a discussion about how bibliography paves the way to synthesis; see also Pyenson, *Passion of George Sarton*, p. 190.

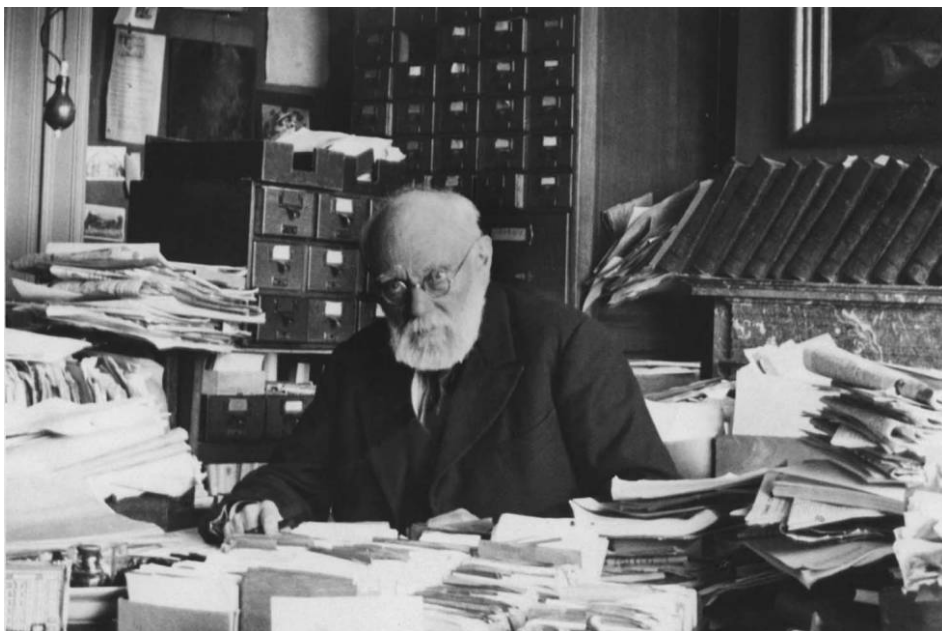


Figure 2. Paul Otlet at his desk. Courtesy of the archives of the Mundaneum in Mons, Belgium.

OTLET AND SARTON

Encyclopedias of various sorts extend back to antiquity, and modern science is based on organizing and disseminating knowledge, but it is at the climax of modernity, in the decades leading up to World War I, that we find the roots of the project to provide a dynamic system for organizing the avalanche of knowledge represented in the exponential growth of publications. Late in the nineteenth century, the great libraries of the world began to classify their collections with universally applicable call numbers and to make the collections available through card catalogues. With this precedent, the Brussels lawyer Paul Otlet helped breathe life into the science of information, which he called, in French, *documentation*; in Otlet's view, "documents" might be written, printed, pictorial, or ideographic. (See Figure 2.) He believed that organizing knowledge appropriately would, in itself, lead to new ideas. Inspired by the earliest card-indexing projects, undertaken at just this time by the Harvard College Library, by the John Crerar Library in Chicago, and by the Library of Congress in Washington, D.C., Otlet and his close colleague Henri Lafontaine maintained that their enterprise of classifying knowledge, under way since 1895, would produce a new language.²⁰ At the Paris Exposition of 1900, which has been taken as a crucial marker of modernity, Otlet received a grand prize for an exhibit prepared

²⁰ W. Boyd Rayward, "The Origins of Information Science and the International Institute of Bibliography/International Federation for Information and Documentation (FID)," *Journal of the American Society for Information Science*, 1997, 48:289–300; Alistair Black and Dave Muddiman, "Reconsidering the Chronology of the Information Age," in *The Early Information Society: Information Management in Britain before the Computer* (Aldershot, Hampshire: Ashgate, 2007), pp. 237–243, on p. 240; and Scientific Committee of the Mundaneum, ed., *Cent ans de l'Office international de bibliographie, 1895–1995: Les prémisses du Mundaneum* (Mons: Editions du Mundaneum, 1995).

by his International Office and Institute of Bibliography. He spent his life trying to realize the Mundaneum, a “World City” devoted to knowledge and documentation.²¹

Otlet greeted the appearance of *ISIS* with enthusiasm: “I completely share your observations on the interrelated nature of all knowledge. This is the basis for giving the word ‘science’ the greatest extension.” He clarified to Sarton that the Union of International Associations (he called it the “Union of International Academies”) “is concerned with bringing together not only people and organizations, but also ideas.” The union would soon organize a second world congress, in the context of the world’s fair to take place in Ghent. Otlet invited Sarton to lecture on “studies of history related to the movement of the Union of International Academies. I mean it in this sense: By practical arguments, we show the present necessity of uniting the sciences and uniting organizations.” Sarton promptly accepted. He would speak, he wrote, about the “international character of the *history of science*, and the special importance this discipline brings to the International Associations.” He proposed to visit Otlet’s international museum and to write about it in *ISIS*, a periodical that, he further suggested, deserved Otlet’s subscription.²² Otlet agreed, and the two editors arranged an exchange of periodicals and republication of announcements appearing in them.

After receiving a draft of the proposed text of the lecture for the congress, Otlet asked Sarton to situate his remarks in the practical context of international organization, to recall historical examples, and to describe *ISIS* as a truly international review. Sarton accepted Otlet’s other criticisms, but he declined to introduce *ISIS*, for to do so “would be really to speak about myself.” Sarton related that he had spent an entire afternoon in Otlet’s international museum, organized in the monumental Palais du Cinquantenaire for the Brussels Universal Exposition of 1910. With frankness bordering on insensitivity, Sarton suggested that many of the objects on display were inessential. He disputed Otlet’s identification of Esperanto as “the most perfect and simplest international language,” preferring instead Ido, a scion of Esperanto promoted by the French logician Louis Couturat. Sarton, long sympathetic to the needs of Dutch speakers in Flanders and to multilingualism in general, found that Otlet’s museum unjustly privileged “documentation in French or of French inspiration.” Otlet accepted Sarton’s criticisms of his museum. In its defense, he observed that the museum was a work in progress. He wanted to organize sixteen rooms devoted to the theme of internationalism and progress, and for that he depended on the help of collaborators.²³

²¹ W. Boyd Rayward, “European Modernism and the Information Society: Introduction,” in *European Modernism and the Information Society*, ed. Rayward (cit. n. 5), pp. 1–25, on p. 3. Jan Romein, *The Watershed of Two Eras: Europe in 1900*, trans. Arnold Pomerans (Middletown, Conn.: Wesleyan Univ. Press, 1978), is explicit about the year 1900 as a turning point, although neither Otlet nor Lafontaine figures in his book; so is Gay, *Modernism, the Lure of Heresy* (cit. n. 9), pp. 69–70.

²² Paul Otlet to George Sarton, 11 Jan. 1913; and Sarton to Otlet, 14 Jan. 1913: Bergen/Mons, Mundaneum, Correspondence of Paul Otlet and George Sarton, Box 2006–45/PO 13 (hereafter **MOS**) (here and throughout this essay, translations from French are our own). Although Otlet eventually called his museum for documentation, located in the Palais du Cinquantenaire in Brussels, the Mundaneum, his city existed only as an idea and as various designs, one of them by Le Corbusier. See Van den Heuvel, “Building Society, Constructing Knowledge, Weaving the Web” (cit. n. 5). The present Mundaneum in Mons, Belgium, is an archive and museum containing precious files and artifacts pertaining to Otlet’s plans and to cognate interests, such as feminism, socialism, and peace; it also contains the archives of Henri Lafontaine. Otlet’s union should not be confused with the International Union of Academies, founded in 1919.

²³ Otlet to Sarton, 22 May 1913; Sarton to Otlet, 31 May 1913; and Otlet to Sarton, 3 June 1913: MOS. On the plans for the international museum see Rayward, “European Modernism and the Information Society: Introduction” (cit. n. 21), p. 14.

With his first publication in *La Vie Internationale*, Sarton attempted to insert history of science within Otlet's international orbit. The history of human progress was recorded in the history of science, which was, according to Sarton, an international enterprise. In the article Sarton claimed that science has no place in "national culture." Its advancement would be sped by the rationalization and inventory of publications in all languages. We find in Sarton's article the impetus for his addition of "the organization of science" to the subtitle of *Isis*.²⁴

Otlet then recruited Sarton to his cause. He agreed to publish a note of Sarton's about the international determination of time. He proposed, at the last minute, to have Sarton translate an article of Wilhelm Ostwald's on "international unifications" for *La Vie Internationale*.²⁵ He asked Sarton to write a note about the 1913 Nobel laureate in chemistry, Alfred Werner; Sarton could not find sufficient information.²⁶ Otlet recommended Sarton's article about the history of science, which he thought deserved a better address than those in the collected papers of the Ghent conference, for *La Vie Internationale*, and he urged Sarton to take his time writing an article about journalism. In the summer of 1913, Otlet inquired about visiting Sarton at Wondelgem, a meeting that eventually occurred in April 1914. The two scholars continued to exchange announcements in their respective publications, and Sarton wanted certain articles from *La Vie Internationale* to be published in *Isis* as well.²⁷

In the spring of 1914, Sarton sent Otlet the text on journalism he had been preparing for *La Vie Internationale*. The popular press had engaged Sarton for the past decade; he wrote for it, although he was skeptical about the information such outlets presented regarding international affairs and workers' rights.²⁸ Some of Sarton's mature style can be seen in

²⁴ George Sarton, "L'histoire de la science et l'organisation internationale," *La Vie Internationale*, 1913, 4:27–40; and Pyenson, *Passion of George Sarton*, p. 203. On the national question see Lewis Pyenson, "An End to National Science: The Meaning and the Extension of Local Knowledge," *Hist. Sci.*, 2002, 40:251–290; and Pyenson, "National Culture and Styles," in *Oxford Companion to the History of Modern Science*, ed. John Heilbron (Oxford: Oxford Univ. Press, 2003), pp. 557–559.

²⁵ Pyenson, *Passion of George Sarton*, p. 204. Ostwald was a founding member of the Editorial Board of *Isis* and an advocate of rational bibliography. See Thomas Hapke, "Wilhelm Ostwald, the 'Brücke' (Bridge), and Connections to Other Bibliographic Activities at the Beginning of the Twentieth Century," in *Proceedings of the 1998 Conference on the History and Heritage of Science Information Systems*, ed. Mary Ellen Bowden, Trudi Bellardo Hahn, and Robert V. Williams (Medford, N.J.: Information Today for the American Society for Information Science and the Chemical Heritage Foundation, 1999), pp. 139–147; Hapke, "From the World Brain to the First Transatlantic Information Dialogue: Activities in Information and Documentation in Germany in the First Half of the Twentieth Century," *International Federation of Library Associations and Institutions [IFLA] Journal*, 2003, 29:364–377 (for Ostwald and Sarton); and Hapke, "Roots of Mediating Information: Aspects of the German Information Movement," in *European Modernism and the Information Society*, ed. Rayward (cit. n. 5), pp. 307–327. It is unclear if Ostwald was inspired by the young Expressionist artists from Dresden who in 1906 founded "Die Brücke," a circle seeking to revolutionize painting in Germany that encouraged cooperative endeavor; see Gay, *Modernism, the Lure of Heresy* (cit. n. 9), pp. 125–126.

²⁶ Otlet to Sarton, 23 Dec. 1913; and Sarton to Otlet, 15 Jan. 1914, 4 Feb. 1914; MOS. Sarton's local library, at the University of Ghent, was under the direction of Ferdinand van der Haeghen (1830–1913), an advocate of rational bibliography who unsuccessfully proposed an international cataloguing project for library holdings, on index cards, at the time that Paul Otlet launched his cataloguing office. See Uyttenhove and Van Peteghem, "Ferdinand van der Haeghen's Shadow on Otlet" (cit. n. 5). It is surprising that Sarton did not have access to J. C. Poggendorff's biobibliography and to the relevant chemistry journals. See Sarton to Ferdinand van der Haeghen, 4 Nov. 1902, in De Mey, "Sarton's Earliest Ambitions at the University of Ghent" (cit. n. 10), about the absence of a library catalogue.

²⁷ Otlet to Sarton, 28 June? 1913 (history of science article), 3 July 1913 (journalism article), 15 July 1913, 1 Apr. 1914 (regarding Otlet's visit to Sarton), 23 Feb. 1914 (regarding the publication of A. Korn in *La Vie Internationale*), 31 Mar. 1914 (about announcing Otlet's journal in *Isis*): MOS.

²⁸ See Pyenson, *Passion of George Sarton*, p. 115, for Sarton's 1910 lament that "we can't rely on the newspapers, which are informed by the agencies (Havas, Reuter . . .), all sold out to the capitalists."

the resulting publication, and his personality is revealed in his attitude toward seeing it through the press. As a condition of publication, Otlet asked Sarton for revisions, notably deleting passages about the history of journalism in England, the nature of the contemporary press, and schools of journalism; he also requested that Sarton omit some of his political and philosophical views. In reply, Sarton affirmed that he did not mind eliminating matters of fact but that he wanted, above all, to display his more general points of view. "I assume that you will not eliminate them without having consulted with me," he wrote, for although he needed the money Otlet offered to authors, "I am extremely jealous of my liberty of thought." He would not sacrifice his liberty to "material interests." Opinions were more important than facts for young George Sarton. But Otlet went ahead and published the piece with his editorial modifications. Sarton was furious, and he demanded the return of his manuscript. His contribution was "mutilated. . . . It is not necessary to make reprints: This will save you an expense." A month later, his anger having subsided, he asked for a handful of reprints for the authorities cited in the article.²⁹ Here Sarton manifested his unfortunate lifelong tendency to alienate patrons who could speed his career.

The chief focus of all Otlet's efforts was organizing knowledge, and his private means allowed him to indulge this fancy without the requirement of giving lectures and interacting with dull colleagues. With close friends from bourgeois families and an independent income, young George Sarton roamed freely across Belgian intellectual life. He nevertheless sought a patron, for he was practical enough to realize that his own income could not sustain his dreams. He consistently looked for aid to private philanthropists in Brussels, because a number of these men with money—the industrialist Ernest Solvay, the architect Henry van de Velde, and the writer Maurice Maeterlinck—styled themselves as progressive socialists. In Sarton's fertile imagination, Otlet and Lafontaine's initiative in using bibliography to advance world peace was precisely the setting for a synthetic history of science. He tried to pave the path for a triumphal reception by connecting *Isis* with Otlet's vision.

Sarton's view of his discipline extended widely across human activity, and his universalist reach complemented the approach of Otlet and Lafontaine. He proposed an encyclopedia for the history of science on index cards, reprinting reviews published in *Isis*. The scheme fit closely with Otlet's enterprise. By 1906, Otlet had selected for his *Répertoire Bibliographique Universel* the 3- x 5-inch postcard format that was the American standard. Otlet and his staff wrote millions of entries for it, and Otlet was continually interested in attracting collaborators for a catalogue of human knowledge called the *Bibliographia Universalis*. Otlet was glad that Sarton had decided to use a decimal classification for his encyclopedic project, and he hoped that Sarton would add Otlet's own classification numbers to the cards he was printing, in this way facilitating their integration into other data banks. The war stopped nearly everything in Belgium, but it did not stop Sarton, who continued with his bibliographical schemes after he fled in 1914 for

²⁹ Otlet to Sarton, 11 May 1914; and Sarton to Otlet, 13 May 1914, 20 May 1914, 24 June 1929: MOS. For the published piece see George Sarton, "L'organisation scientifique du journalisme," *Vie Internat.*, 1913, 5:391–428. It was also published separately as the 79th publication of the Union of International Associations; see Pyenson, *Passion of George Sarton*, pp. 203–204. Sarton's article called for a moral force in journalism, and he reviewed the Nobel laureate Alfred Hermann Fried's proposal for an international telegraphic service—a hotline—to reduce the possibility of misunderstanding in international affairs.

England and then America. Indeed, the first permanent position offered to Sarton, which he rejected, was that of librarian at Rice Institute in Houston, Texas.³⁰

Nor did the war stop Otlet. In 1916, also in exile, he published a large study on international questions and the war. He affirmed, in a Sartonian vein:

The intellectual union of the world is an accomplished fact. It is the direct result of the progress of science and the establishment of the positive method applied to scientific works. Sciences are pure reason. They act continually to unify the human spirit and to unite nations. . . . Today only one authority exists to which everyone may refer, and it is *Science*, or in other words, the organized body of all knowledge acquired by human experience, founded on real observation, always verifiable, able to be revised, and cumulative.

A League of Nations was required to oversee the international organization of science and, with it, the coordination of scientific bibliographies. (See Figure 3.) Science had to be open to all people, even though, as Alphonse de Candolle contended, “there are, and there have been, some peoples who are more ‘scientific’ than others.”³¹

LAFONTAINE AND SARTON

The desire for encyclopedic understanding that we see in Paul Otlet, Henri Lafontaine, and George Sarton is the most general expression of an organizing impulse that infected intellectuals over the generation before World War I. Intellectuals sought to band together for the common good. And Sarton found much good in Lafontaine’s enterprise.

More than eight months before his programmatic announcement for the first number of *Isis*, George Sarton wrote to Henri Lafontaine about *L’Annuaire de la Vie Internationale* for 1908–1909, which he had seen several days previously at the Royal Library in Brussels. He asked, in the form of veiled criticism, why the periodical did not list publications resulting from international congresses. Providing such information would be helpful to scholars seeking those publications in library catalogues, for one never knew under which key word the entry would appear. Sarton found in the *Annuaire* no mention of international meetings in history and nothing about history of science; he offered to fill in the blanks. He asked Lafontaine whether the library of his institute contained the proceedings of meetings about history of science. Finally, he requested information about the principles of decimal classification, notably where history of science figured in the system. Sarton reminded Lafontaine that history of science, an independent scholarly discipline, differed from the history of each individual scientific field. He signaled this understanding by citing his own recent publication about the emerging discipline.³²

Henri Lafontaine hesitated before responding. Sarton wrote two weeks later to report that he had found the information he sought about decimal classification. He noted that the system had no place for history of science, as such, and he proposed a special code for “each new, synthetic discipline.” He reported on his own, continuing bibliography for the history of science, written on index cards. Then he moved on to *Isis*, observing that the

³⁰ Otlet to Sarton, 16 July 1914, MOS; and Pyenson, *Passion of George Sarton*, p. 259.

³¹ Paul Otlet, *Les problèmes internationaux et la guerre: Tableau des conditions et solutions nouvelles de l’économie, du droit et de la politique* (Geneva: Librairie Kundig; Paris: Rousseau, 1916), pp. 276–289; quotations from pp. 277–278, 283.

³² George Sarton to Henri Lafontaine, 5 Mar. 1912, Bergen/Mons, Mundaneum, HLF 066, no. 8, Correspondence of Henri Lafontaine and George Sarton (hereafter *MLS*); he cited George Sarton, “L’histoire générale de la science,” *Revue Générale des Sciences Pures et Appliquées*, 1912, 23:93–94.

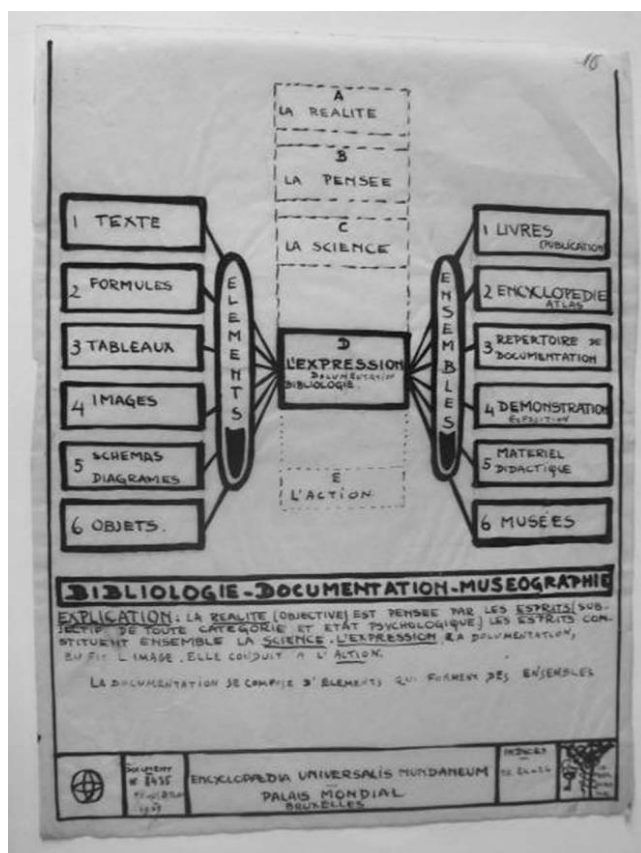


Figure 3. Paul Otlet's understanding of the crucial role of documentation in civilization. In his view, science is the apprehension of reality. The formal expression of science paves the way for intervening in the world. Documents (as an ensemble of words, images, and objects) are essential for producing scientific works, which may be disaggregated into new documents. Courtesy of the archives of the Mundaneum in Mons, Belgium.

first number of his periodical was scheduled to appear in January 1913 and that it had received the support of the German chemist Wilhelm Ostwald, the English chemist William Ramsay, and the French philosopher Gaston Milhaud. Would Lafontaine be interested in publishing a bibliography of the history of science—a “critical bibliography,” in Sarton’s sense?³³

Still without a reply after six months, Sarton wrote to ask whether he had caused offense. Had his style been compromised by fatigue? He requested that the critical bibliography of *Isis* receive notice from Lafontaine’s institute. To punctuate his request, he included a typescript prospectus, dating from April 1912. The prospectus asserted that *Isis* would help call into being an “international association for the study of the history of science, so frequently desired!, and . . . the very existence of our review would be the agent for the society, its vital linkage, and its firmest advocate.” *Isis* would be synthetic,

³³ Sarton to Lafontaine, 20 Mar. 1912, MLS.

and it would serve the ends of both pedagogy and scholarship. It would pursue “an historical, philosophical point of view; this will be less the science of the present than that of the past, less the new achievements of science than the study of its evolution and of its connections. These are the things that interest us.” *Isis* would go into the psycho-sociological nature of science past, along the lines of the writings of Francis Galton, Alphonse de Candolle, Ernst Mach, and Wilhelm Ostwald. The dream of Herbert Spencer and Auguste Comte could be realized “only when the provisional synthesis to which we want to commit ourselves will have been erected in a firmer way.” In asking for precision, Sarton did not deny the importance of the scientist predecessors who had written about history of science, and he named Pierre Duhem, in addition to Mach and Ostwald. *Isis* would appear in about eight hundred pages annually, in one of the standard formats prescribed by Ostwald in his bibliographical writings. Sarton, who classified artists and writers as intellectual workers, intended to pay his contributors.³⁴

This time Sarton elicited a response. Early in 1913 Lafontaine wrote that he was pleased with the first number of *Isis*, and in view of its contents he asked Sarton for an opinion about a new, international positivist society in Paris. Sarton explained that the new group was rather different from the existing French positivist society, which was primarily concerned with political questions. The direct disciples of Comte in France were ill-prepared to arrive at new syntheses in science, he suggested, while the new international society derived from a German positivist society, which appealed to a learned public.³⁵ Lafontaine fell silent again, to Sarton’s chagrin. Sarton wrote late in 1913 about decimal classification, expressing his reservations about the system and its routine application by clerks untutored in the subject matter they indexed. He requested a meeting in Brussels. Lafontaine then reported that he had sent Sarton’s inquiry to Paul Otlet, who was traveling in America, but he invited Sarton to lunch; Sarton, in accepting, reminded Lafontaine that payment had not been received for his two articles in *La Vie Internationale*. Social democrats of Sarton’s sort were not shy about discussing matters of money; in this way, they distinguished themselves from gentlemen.³⁶

On the day after the German army invaded Belgium, Sarton wrote Lafontaine that, in the future, pacifist organizations would need to organize differently. Instead of recruiting a multitude of members who pay minimal fees, the organizations should look toward members who could afford “great sacrifices”—that is, who could pay a large sum as an “insurance against war.” The discussion of money really concerned Sarton’s own finances. The invasion had left him almost completely without means, and he asked Lafontaine to pay for his last article. In a postscript, he hoped for the best: “My dream is for France and England to be victorious, that they be great enough and noble enough, I should add, clever enough, to offer the vanquished a *generous peace*—a solid basis for solid and stable European understanding and cooperation.” He emphasized that he had volunteered with the Red Cross, “because it is absolutely impossible for me to fight.” German soldiers were

³⁴ Sarton to Lafontaine, 10 Sept. 1912, MLS. The prospectus is also in the MLS collection: George Sarton, “*Isis: Projet de creation d’une Revue nouvelle consacrée à l’Histoire de la Science*,” 25 Apr. 1912.

³⁵ Sarton to Lafontaine, 25 Apr. 1913, MLS; Sarton mentions Lafontaine’s earlier letter. No doubt Sarton was referring to Joseph Petzoldt’s *Gesellschaft für Positivistische Philosophie*, of which he was an early member; see Pyenson, *Passion of George Sarton*, p. xlv n 35. On the call for the formation of that group see Gerald Holton, “Ernst Mach and the Fortunes of Positivism in America,” *Isis*, 1992, 83:27–60, esp. pp. 37–39.

³⁶ Sarton to Lafontaine, 9 Nov. 1913; Lafontaine to Sarton, 12 Nov. 1913; and Sarton to Lafontaine, 13 Nov. 1913: MLS. On Otlet’s voyage to America see Levie, *L’homme qui voulait classer le monde* (cit. n. 5), pp. 150–158.

as much brothers to him as Belgian soldiers: "I feel for them no hate, no anger—only infinite pity."³⁷

Sarton fled with his family to England; after more than four months, he decided to travel to the United States—where, as he wrote to Lafontaine in March 1915, he could work more effectively for Belgium in his capacity as a pacifist. Soon after the invasion of Belgium Lafontaine also left for England, where he represented the Belgian government; then he moved to Washington. In his letter Sarton recalled a long conversation with Lafontaine. He asked Lafontaine to introduce him to Nicholas Murray Butler at the Carnegie Endowment for International Peace, and he named David Eugene Smith, professor of mathematics at Columbia University and a member of the Editorial Board of *Isis*, as his American contact. A week later, Sarton asked for introductions to the chief librarian of the Library of Congress and to Melvil Dewey, the pioneer of decimal classification.³⁸ Sarton connected with all these men within the year.

In the popular imagination, a Nobel Prize guarantees a life of material ease; but in fact it is more usual that material ease paves the path to the prize. Lafontaine, like Sarton, had his money in Belgian banks, and with the German invasion the banks became illiquid. In the United States, Lafontaine was destitute. Furthermore, the Carnegie Endowment, the principal patron of his international office in Brussels, had cut off support. Lafontaine asked Sarton, in Washington since April 1915, to find out why. Sarton looked into the matter, speaking with S. N. D. North of the Endowment, who explained that nothing personal was intended in the suspension of funding; rather, the Endowment wanted to abstain from involvement with belligerent countries. Sarton, in contrast to Lafontaine, landed on his feet, teaching at George Washington University and also working for the Belgian Scholarship Committee. His wife Mabel and daughter May were in England, he related to Lafontaine. He would ask Mabel to call on the Lafontaines when she arrived in America.³⁹

In September 1915 Sarton's wife and daughter landed in New York. At the home of Sarton's patron, the chemist Leo Hendrik Baekeland, the Sartons reunited with the Lafontaines. Mathilde and Henri Lafontaine then traveled to California, where Henri found a mixed reception: at the University of California, Berkeley, President Benjamin Ide Wheeler, a German sympathizer, would not let him speak; he was able to speak at Stanford University, but he sensed that the prominent peace activists there, David Starr Jordan and Edward Benjamin Krehbiel, "have been afraid of my competence in these matters." He advised Sarton not to seek his fortune in California.⁴⁰ Sarton was indeed exploring lectureships at California universities, but East Asia was his preferred destination. In response to Lafontaine, he described the evolution of his pacifist beliefs. He embraced the position of his uncle Jules Sarton that "neutral or neutralized states must be extremely well defended." Preparations for defense had become "a moral obligation," for without an international system "each people must organize its own defense to discourage aggression." Sarton had difficulty advancing pacifism on the East Coast because German

³⁷ Sarton to Lafontaine, 5 Aug. 1914, MLS.

³⁸ Sarton to Lafontaine, 8 Mar. 1915, 15 Mar. 1915, MLS. On Lafontaine's travels see Pierre Nothomb, *Les barbares en Belgique* (Paris: Perrin, 1915), p. 12.

³⁹ Sarton to Lafontaine, 20 May 1915, MLS. See Pyenson, *Passion of George Sarton*, p. 269, for the Carnegie Endowment's policy.

⁴⁰ Lafontaine to Sarton, 22 Dec. 1915, MLS. See Pyenson, *Passion of George Sarton*, p. 259, on the reunion of the two families.

sympathizers took advantage of the discourse.⁴¹ Lafontaine, who shared Sarton's view about defensive armaments, again discouraged him from moving to California: "Intellectual life is severely limited in this region inhabited above all by farmers and businessmen chasing after the dollar." Sarton declined Lafontaine's request to edit a pacifist periodical: "As you know, the aim of my life is to write a complete History of Science, and I am most anxious to prepare the first volume (on Prehellenic science) as quickly as possible; it will take me at least two years, and much more, if circumstances do not favor me."⁴²

Lafontaine published his plan for a new pacifist world order and schemed to receive a renewal of funding from the Carnegie Endowment for International Peace. He contended that "the work in Brussels is not really pacifist in the traditional sense of the word" but, rather, internationalist. Lafontaine worried about America's aggressive international role in the coming years. Sarton, who received an appointment as lecturer at Harvard University in the spring of 1916, had a more detached view. He shared Romain Rolland's lofty opinion that the war was a kind of internecine argument. "The war has not exalted my patriotism; it has on the contrary exalted my internationalism." Hate could produce nothing useful. The world needed good men who would sacrifice everything for a better future, "a democratic and unified Europe."⁴³

The war ended, as wars do, and the survivors picked up their lives. Mathilde and Henri Lafontaine returned to Belgium. Mabel and George Sarton, who had moved from Cambridge, Massachusetts, to Washington, D.C., and then back to Cambridge, traveled to Europe late in 1919. George Sarton contacted Lafontaine from Florence, where he was studying Italian. He wrote a letter about great and timeless truths. Sarton was pleased that *Isis* had resumed publication, and he accepted Lafontaine's invitation to speak on the new humanism, Sarton's mantra for the discipline of history of science, early in December at the Institute des Hautes Etudes in Brussels.⁴⁴ Lafontaine, in Belgium, replied in a discouraging letter that humanity had reached a turning point. The governing elite had learned nothing from the war. The masses sensed their power, but they were easily swayed by demagogues. Would Florence survive the impending catastrophe? Humanity could accomplish great things, but instead talk focused on differential tariffs and long-term credit. Lafontaine dreamed about realizing the plans of the socialist Charles Fourier, notably his design for communal living called a phalanstery, but he sensed that it was a fantasy. How could the same species that built Florence also have engineered the war? Lafontaine ended on a somber note: "In the evening of life, one is taken to doubt the usefulness of devotion and of disinterested labor. The question is raised, despite all our idealism: What good is it, for everything ends in the death of individuals, of people, and of the earth? When will I be able once more to stroll the alleys of Florence?"⁴⁵

⁴¹ Sarton to Lafontaine, 30 Dec. 1915, MLS. For his efforts to obtain a position at Berkeley, Stanford, the University of Southern California, and the theosophical school (by then an academy and college) of Katherine Tingley in Point Loma see Sarton to Lafontaine, 12 Jan. 1916, MLS.

⁴² Lafontaine to Sarton, 3 Mar. 1916; and Sarton to Lafontaine, 12 Mar. 1916: MLS.

⁴³ Lafontaine to Sarton, 9 Apr. 1916; and Sarton to Mathilde and Henri Lafontaine, 30 May 1916: MLS. For Lafontaine's pacifist plan see Henri Lafontaine, *The Great Solution, Magnissima Charta: Essay on Evolutionary and Constructive Pacifism* (Boston: World Peace Foundation, 1916); for his worry about American aggression see Pyenson, *Passion of George Sarton*, p. 269.

⁴⁴ Sarton to Lafontaine, 17 Nov. 1919 (in Italian). See Pyenson, *Passion of George Sarton*, p. 247, for an expression of the new humanism from 1916; see p. 352 for the talk in Brussels. For a published version of Sarton's thoughts on these topics see George Sarton, "The Faith of a Humanist," *Isis*, 1920, 3:3–6.

⁴⁵ Lafontaine to Sarton, 9 Nov. 1919, MLS.

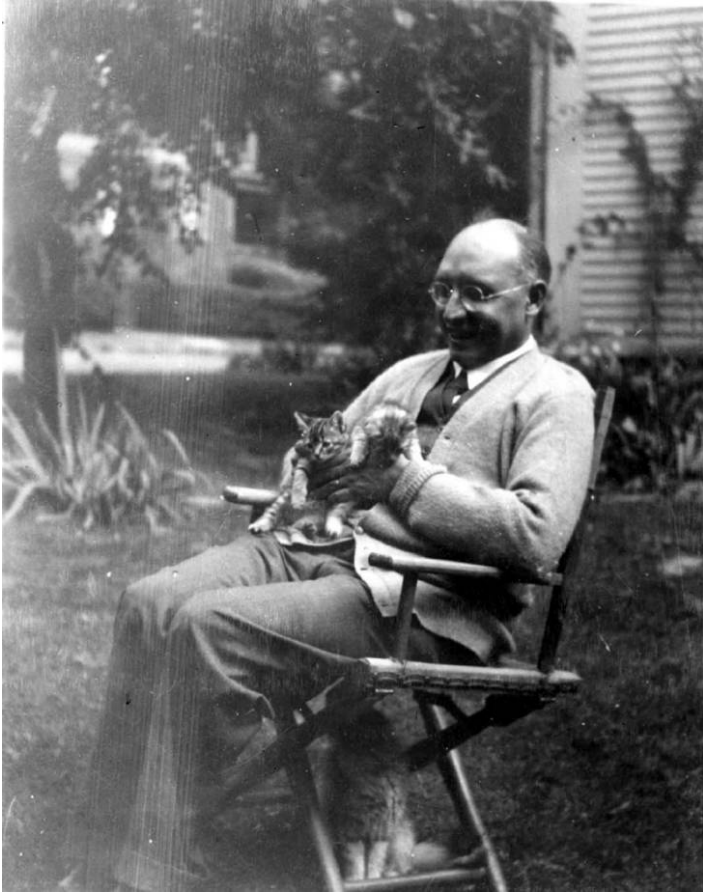


Figure 4. *Man of cats. George Sarton in America. Courtesy of Susan Sherman, Riverdale, Bronx, New York.*

CONCLUSION

For the Europeans in Sarton's circle, which we call his ego network, the Treaty of Versailles and the League of Nations constituted a shaky beginning, especially given America's decision to abstain from League membership. When Sarton arrived in Belgium from Italy late in 1919, he was firmly convinced that he had to return to America, where he had obtained a post as researcher in the Carnegie Institution of Washington. America was on the way to gratifying his ambitions. In Europe, there was everything to accomplish and only slim means to make it happen. (See Figure 4.)

Sarton maintained his circle of colleagues and friends, but his relationship with them changed. He was not much more of a scholar in 1920 than he had been in 1914, but, by virtue of his having lectured across America and having taught at Harvard for two years, and given his Carnegie Institution sinecure, he now occupied a position of authority. Antonio Favaro, the distinguished senior editor of Galileo's writings, acknowledged Sarton's new status in 1919: "You dispose indeed of such a means of which we have no idea." Sarton recognized the point, for he declined offers to direct a center for history of science at both the Institut des Hautes Etudes in Brussels, where Lafontaine would become

a professor of international law, and at the international university contemplated by Otlet (and partially realized in the Academy of International Law located at The Hague).⁴⁶

Sarton's correspondence with Otlet and Lafontaine declined after 1920, just at the time that he resumed publishing *Isis*, which had been suspended in 1914. If we were given to unkindness, we would say that the two internationalist organizers from Brussels no longer gratified Sarton's ego. But their traces are evident in *Isis*. There, although he never reactivated his scheme for an encyclopedia on cards, Sarton maintained his devotion to critical bibliography, reaching across all disciplines and periods. By the 1920s, although his intellectual capital far exceeded his worth in the bank, Sarton became ensnared with his patrons in the American bourgeoisie. Perhaps as a consequence, *Isis* paid less attention to socialism than to pacifism, which he often invoked in the form of promoting human kindness.

In 1920, Sarton lamented to his *Isis* readers that the choice of Geneva instead of Brussels as the location for the League of Nations was a tragedy, and he noted that the matter was ably discussed in a publication by Paul Otlet. He and others continued to hope that Brussels could become the intellectual capital of the world, a goal of Otlet's. Then Sarton affirmed: "*Isis* will periodically review the activities of the Union [of International Associations] and of the international center [in Brussels]. It will also publish all essential information on the international scientific congresses, as it did before the war, but only on those which are genuinely international, *not* on those from which the representatives of German, Austrian and Russian science are systematically excluded." In this way, Sarton broadcast his rejection of the postwar Allied boycott of politically suspect scientists, and he offered *Isis* as a *salon des refusés*.⁴⁷ He continued in the same vein two years later, after quoting Otlet on the international dimensions of the intellectual world: "May the projects of Messers La Fontaine and Otlet be achieved one day!" And Otlet returned the compliment in a long, rambling summary of his life's work, published in 1935, which made passing reference to Sarton's "great review," *Isis*.⁴⁸

United in the tenets of social democracy, their pacifism tested together under fire, Otlet, Lafontaine, and Sarton indeed walked a common path. Paul Otlet concluded his long examination of World War I with an expression of hope. It was certain, he wrote, that a better world would emerge from the cataclysm.⁴⁹ When political events gave his circle reason to despair, they nevertheless retained the abstract idealism that had been forged in the golden decades of intellectual optimism before the war.

Sarton's ego network rode the high tide of modernism into the debacle of World War II. In 1938 Sarton reprinted his prewar article on the history of science and international organization, published in *La Vie Internationale*. In a two-page preface he emphasized, in the shadow of Munich, that, thanks to Otlet, Lafontaine, and their colleagues, the world had been "organized on an international basis; this organization is so complete and so

⁴⁶ Pyenson, *Passion of George Sarton*, pp. 336 (quoting Favaro), 352 (the Institut des Hautes Etudes); and Otlet to Sarton, 4 Dec. 1920, George Sarton Papers, bMS Am 1803.2, Houghton Library, Harvard College Library, Cambridge, Massachusetts (the international university).

⁴⁷ George Sarton, "The International Organization of Science," *Isis*, 1921, 3:420–421. See also Pyenson, *Passion of George Sarton*, pp. 346–347. The eighteenth number of *Isis* (Vol. 6, no. 3), for example, sent to press in October 1923, contains thirty-eight pages in German, written by three German and Austrian scholars.

⁴⁸ George Sarton, "Conférence pour le Développement des Institutions du Palais Mondiale (Bruxelles, 1922)," *Isis*, 1923, 5:419–420; and Paul Otlet, *Monde: Essai d'universalisme; Connaissance du Monde, sentiment du Monde, action organisée et Plan du Monde* (Brussels: D. van Keerberghen, 1935), p. 254. The early pages of Otlet's book provide a dense recapitulation of the history of science.

⁴⁹ Otlet, *Problèmes internationaux et la guerre* (cit. n. 31), p. 496.

profound that it is impossible to go backwards, and calamities as well as good fortunes tend to become ecumenical.” The political disorganization facing the world was due to technological progress and international interdependence. Sarton did not deny that another world war might erupt, but he wanted more than ever to affirm his internationalist sentiments. “The history of science is truly the history of humanity in its most essential and most noble aspect.” The most exalted task was the one undertaken by geniuses who point out the direction of truth.⁵⁰

In a sense, Sarton’s epistolary activity and his direction of *Isis* place him in the position of Henry Oldenburg, editor of the *Philosophical Transactions* of the Royal Society of London, and Marin Mersenne, the Minim monk of the Académie Parisiensis. Both Oldenburg and Mersenne maintained networks of correspondence at the time of the Scientific Revolution, and near the end of his life Sarton commended Mersenne for proposing an *international* academy of sciences.⁵¹ *Isis* projects its founder’s ego into the structures that, for nearly half a century, animated a scholarly discipline. In its intimate reporting, it incorporates the confessions and the commonplace book of its first editor. When we read the journal, we see the man, and the man is a microcosm of his circle of correspondents and colleagues.

⁵⁰ George Sarton, “Deuxième préface au volume vingt neuf, l’histoire de la science et l’organisation internationale,” *Isis*, 1938, 29:311–312. The issue is dated “November”; the Munich appeasement agreement was signed on 30 Sept. 1938. See Arnold Thackray and Robert K. Merton, “On Discipline Building: The Paradoxes of George Sarton,” *Isis*, 1972, 63:473–495, on p. 489, where Sarton is quoted as emphasizing that Munich was the “nadir of my life.”

⁵¹ See George Sarton, rev. of Robert Lenoble, *Mersenne, ou la naissance du mécanisme*, *Isis*, 1949, 40:270–272, for Sarton’s most extended comments on Mersenne; he did not dwell on Oldenburg.