

# The Role of the *Isis* in the Development of the History of Science

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## Abstract

This article examines the historical significance of *Isis*, one of the most foundational journals in the field of the "history of science." It outlines the history of the journal's establishment, its founder, the key figures who contributed to its development, its publication scope, as well as its scholarly style and chosen thematic directions. The primary objective of this research is to elucidate the role of *Isis* in the institutionalization of the history of science and its overarching impact on the scholarly process within the discipline. By addressing these issues, the study demonstrates how journals that have long held a prominent position in the history of science continue to serve as vital reference sources for both society and the academic community.

**Keywords:** George Sarton, *Isis*, Osiris, History of Science, May Sarton, source, university, philosophy, library, scholarly activity, Ghent, Harvard, university, source.

**Introduction.** Until the early twentieth century, the investigation of the scientific past was not recognized as an independent academic discipline (Cohen, 1957). Although nineteenth-century thinkers such as William Whewell, Auguste Comte, and Paul Tannery emphasized the importance of studying the chronology of science, the field lacked its own distinct research methodology, university chairs, or dedicated international periodicals (Kragh, 1987). The history of science existed primarily in the form of memoirs by retired natural scientists, dry chronological sequences of an encyclopedic nature, or isolated articles aimed at proving the priority of specific inventions (Guerlac, 1958). The task of filling this scholarly vacuum and elevating the history of science to an independent discipline with rigorous academic standards—akin to chemistry, physics, or philology—fell upon the shoulders of a young Belgian mathematician and thinker, George Sarton (Garfield, 1985).

**Research Methodology.** To achieve the primary objectives of this study, the article employs historical principles, comparative analysis, systematization, classification, and problem-chronological methods to clarify the essence of the research question.

**Analysis and Results.** After defending his doctoral dissertation on celestial mechanics at Ghent University in 1911, Sarton set a monumental goal for himself: to create a universal system for studying the scientific evolution of humanity (Lewis, 1982). He understood that an international academic journal was required as the core mechanism of this system (Cohen, 1957). Utilizing his personal funds and risking a substantial material inheritance left by his father, Sarton founded *Isis*, the world's first fundamental periodical dedicated to the history of science and culture (Garfield, 1985).

When Sarton established *Isis* in 1912, he perceived that the scientific research of his era was uncoordinated, fragmented, and lacked unity (Guerlac, 1958). A single platform was necessary to unify the history, interpretations, and historical epochs of science (Kragh, 1987). The journal clarified its purpose through its striving toward synthesis across all scientific domains (Cohen, 1957). Sarton viewed *Isis* as a pioneering and oriented platform among existing scientific periodicals (Garfield, 1985). He emphasized the necessity of creating a new interdisciplinary approach and applying methods rooted in historical context (Kragh, 1987).

Although the journal was established in Ghent in 1912, it was first published in March 1913 from a small editorial office located in Sarton's private home in the village of Wondelgem, advancing a new, interdisciplinary approach to historical research (Lewis, 1982). From that moment onward, *Isis* ceased to be a

mere collection of articles; it transformed into an international scholarly platform uniting historians of science scattered across the globe around a common purpose (Guerlac, 1958). This pioneering journal was the first periodical designed to coordinate historical research across all scientific fields (Garfield, 1985).

The name of the journal was by no means accidental (Cohen, 1957). In ancient Egyptian mythology, Isis was regarded as the goddess of wisdom, the revealer of nature's secrets, the giver of life, and the symbol of rebirth (Lewis, 1982). Through the name of this deity, Sarton aimed to connect the ancient roots of science with modern rationality, showcasing the reflection of natural laws within human thought (Guerlac, 1958). Reflecting Sarton's internationalist vision, Isis initially accepted articles in four major European languages: English, French, German, and Italian (Cohen, 1957). However, by the 1920s, the journal transitioned to publishing exclusively in English (Kragh, 1987). The publication of the journal was temporarily suspended during World War I (1914–1919) and World War II (1940 and 1945), demonstrating the vulnerability of academic endeavors to global conflicts (Lewis, 1982).

The journal's initial multilingualism reflects Sarton's belief in the universal nature of knowledge and his desire to promote the history of science internationally (Guerlac, 1958). The transition to English was likely driven by the need to reach a wider audience and establish a common language within the field (Kragh, 1987). Meanwhile, wartime interruptions manifest how deeply academic operations are affected by geopolitical shifts (Lewis, 1982).

During the early years of the journal's operation (1912–1924), all financial, editorial, and organizational matters relied solely on the personal dedication of George Sarton and the support of his spouse, Eleanor Mabel Elwes (Lewis, 1982). In 1924, to ensure the financial stability of the journal and transform it from a personal project into collective academic property, the History of Science Society (HSS) was established in the United States (History of Science Society, 1924). From its inception, the Society declared Isis as its official organ (History of Science Society, 1924). To this day, the journal remains the legal property of the HSS (History of Science Society, 2026).

The first two volumes of Sarton's Isis were compiled in French and published by the St. Catherine Press in Bruges, Belgium (Lewis, 1982). The publication of Volume 2 was temporarily disrupted by the outbreak of World War I (Garfield, 1985). After the war, in September 1919, Volume 2 of Isis was completed, with printing still continuing in Belgium (Lewis, 1982). With Volume 3, the language transitioned to English (Kragh, 1987). By Volume 6 in 1924, Isis served as the official organ of the History of Science Society, which was established largely through the efforts of David Eugene Smith and George Sarton (History of Science Society, 1924). In 1940, the Society assumed full financial responsibility for Isis; up until that point, its recurring deficits had been covered by Dr. Sarton from his personal inheritance (Garfield, 1985).

Sarton himself served remarkably as the editor of Isis for four decades, from 1913 until his retirement in 1952 (Cohen, 1957). His long-term tenure provided a consistent editorial vision for the evolving field (Guerlac, 1958). When Sarton stepped down as editor-in-chief, he was succeeded by I. Bernard Cohen, and later by Charles Gillispie (Garfield, 1985). Consequently, the journal shed its individualistic character and transformed into a collective, professional institution (Kragh, 1987).

Since July 2024, the journal's editorial leadership has been assumed by Elise K. Burton (University of Toronto), a specialist in the history of biological sciences and racial studies in the Middle East, and Projit Bihari Mukharji (Ashoka University), an expert in the history of science and medicine in South Asia, as well as the history of human sciences in the colonial and post-colonial eras (History of Science Society, 2026).

Beginning in the second half of the twentieth century, a special fifth issue—the Isis Current Bibliography—was appended to the end of the year in addition to the traditional four issues (Besterman, 1955). Currently, the editorial headquarters of the journal does not occupy a single permanent location (History of Science Society, 2026). According to the regulations of the History of Science Society, the official institutional seat of the prominent scholar appointed as editor-in-chief temporarily serves as the official office of the journal (History of Science Society, 1924). Having operated out of Harvard University's Widener Library for many years, the editorial office subsequently relocated to the University of Pennsylvania, the University of Wisconsin-Madison, and the University of Florida (History of Science Society, 2026). The technical printing and global distribution of the journal are managed by the University of Chicago Press, one of the world's most prestigious academic publishers (History of Science Society, 2026). The editorial board consists of more than 20 leading historians of science selected from various continents (History of Science Society, 2026).

The primary reason Isis has maintained its premier position in international scientific rankings for over a century is its rigorous and stringent selection system (Garfield, 1985). All scientific articles submitted to the journal undergo a mandatory double-blind peer-review process (History of Science Society, 2026). In this system, the author remains unaware of the reviewers' identities, and conversely, the reviewers do not know who authored the paper (Kragh, 1987). This mechanism effectively bypasses any subjectivity or corporate interests (Guerlac, 1958). The fundamental criteria for manuscripts submitted to the journal include: first, the article must analyze previously unknown archival documents or newly discovered primary sources (Kragh, 1987); second, dry chronological arrangements or mere biographical sketches do not satisfy the requirements of Isis. Every historical fact must be contextualized within the social and philosophical environment of its era (Cohen, 1957); third, every cited source, particularly manuscripts, must be precisely identified with its inventory numbers in world libraries (Besterman, 1955). Statistical data indicates that 85-90% of the articles submitted to the journal are rejected due to negative evaluations by the editorial board and reviewers (History of Science Society, 2026). Only 10-15% of the highest-caliber papers successfully navigate the revision stages to achieve publication (History of Science Society, 2026). It is precisely due to this uncompromising rigor that every article published in Isis is accepted as a foundational source by historians of science (Garfield, 1985).

Articles published in Isis can be categorically classified into the following primary branches:

**History of the Exact and Natural Sciences:** This direction explores the developmental patterns of mathematics, astronomy, physics, and chemistry from antiquity to the discovery of quantum mechanics (Kragh, 1987). Articles analyzing the personal archives of scientists such as Isaac Newton, Galileo Galilei, and Albert Einstein fall precisely into this category (Guerlac, 1958).

**History of the Life Sciences and Medicine:** This branch examines the evolution of biological, botanical, genetic, and medical institutions (History of Science Society, 2026). In particular, articles concerning Charles Darwin's evolutionary theory, the emergence of genetics, and medieval anatomical studies occupy a central place in the journal's pages (Cohen, 1957).

**Philosophy, Sociology, and Methodology of Science:** This section analyzes the connection between scientific discoveries and social institutions, state scientific policies, and the role of scientific societies (Kragh, 1987). The concept of "New Humanism" advanced by Sarton serves as the cornerstone of this department (Garfield, 1985).

**Global and Regional History of Science:** This domain includes articles dedicated to an objective investigation of the Medieval Oriental Renaissance, the Golden Age of Islamic Civilization, and the scientific heritage of ancient China and India (Cohen, 1957).

George Sarton emphasized that a comprehensive bibliography is the primary tool of a historian of science (Besterman, 1955). Throughout his life, he meticulously recorded every book, article, or review related to the history of science published in various world languages (Garfield, 1985). His personal methodology later became an integral component of the journal in the form of the Isis Current Bibliography (Besterman, 1955). This system is not merely a conventional list of books; it functions as a global network that systematizes all scholarly output published worldwide in the field of the history of science across time, space, and scientific branches (IsisCB Explore, 2026). Today, this massive bibliographic database has been digitized and transformed into an open electronic search system known as IsisCB Explore (IsisCB Explore, 2026). It preserves over 500,000 individual bibliographic entries (IsisCB Explore, 2026). Every year, scholars worldwide cross-reference this database within their research, allowing the system to prevent global scientific duplication and ensure academic consistency (IsisCB Explore, 2026).

**Discussion.** Robert K. Merton, a renowned sociologist and the founder of the modern sociology of science, expressed the following views regarding the journal: "When we began to empirically study the relationship between science and society, we had only one reliable source of material—and that was the bibliographic indexes of the journal Isis. Sarton and his journal provided us with a factual map to understand science as a social institution" (Merton, 1938).

The famous British historian and theorist of civilizations, Arnold J. Toynbee, noted: "In studying the rise and fall of human civilizations, I frequently encountered dry political chronicles. However, the journal Isis demonstrated to us the true and only continuous integration process of humanity—which is the history of

science. The journal is the only encyclopedic school that has broken down the artificial walls between Western and Eastern cultures and preserved a universal rational heritage” (Kragh, 1987).

**Conclusion.** The journal *Isis* has fundamentally transformed the academic attitude toward sources in the history of science, playing a critical role in investigating and coordinating the discipline. Its primary objective remains the synthesis of scientific research and facilitating a re-evaluation of historical scholarship through innovative approaches. Sarton's role and the trajectory of *Isis* demonstrate how the study of science evolves from both social and academic perspectives. The journal continues to act as a catalyst for rapid development in scientific movements and dissemination, ensuring that it will not lose its significance in the future. Even in the era of digital technologies and global scientific integration, *Isis* has maintained its elite status. The journal is consistently positioned in the highest Q1 (First Quartile) cohort across prestigious international databases such as Scopus, Web of Science, ERIH PLUS, and Google Scholar.

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