

A Tribute to Nathan Sivin

HILARY A. SMITH

University of Denver, USA (hilary.smith@du.edu)

This tribute to Nathan Sivin (1931-2022), a pathbreaking scholar of Chinese science, medicine, and philosophy, highlights his distinctive contributions to historical understanding and his memorable wit. I offer a brief biographical sketch followed by an analysis of the main themes in Sivin's voluminous publications and a personal note of appreciation. It is no exaggeration to say that Sivin transformed his field of study. His contrarian spirit, relentless curiosity, and humanistic insight helped make the history of East Asian science, technology, and medicine the vibrant area of study that it is today.

Key words: Nathan Sivin; Chinese science; Chinese medicine; Joseph Needham; history of science; sociology of scientific knowledge; cultural manifold

Nathan Sivin delighted in calling himself a dilettante¹ or a generalist, but the fittest word is polymath. That is how he described the eleventh-century Chinese scholar Shen Gua, whose constellation of ideas about what we would now call astronomy, geology, optics, mathematics, pharmacology, and archaeology fascinated him (Sivin 1988: 42). He liked to point out to students that in Shen Gua's time, knowledge was less specialized and disciplinary boundaries were less jealously policed than they are in ours—that a person of learning then knew a great deal about multiple fields that seem impossibly distant from one another today (Sivin 1988: 59, 1977).²

That distinction between the past and the present may indeed hold in the main, but our time is not bereft of polymaths, as Nathan's career demonstrates. He was curious about chemistry; immersed in Chinese philosophy, religion, science, and medicine; conversant with ethnography and sociology; and a master of digital tools. He never let deference to specialists prevent him from developing knowledge in any field that interested him. And most fields did. His range of appointments and honors attests to his versatility and influence. To mention but three, he was Professor of Chinese Culture and the History of Science at the University of Pennsylvania, an elected member of the American Academy of Arts and Sciences (as of 1977), and an honorary professor elected (in 1989) to the Chinese Academy of Sciences.

To summarize in a short essay the contributions of such a scholar is a daunting challenge—one that I fear exceeds my skill. Nonetheless, I take courage from the memory of Nathan's refrain whenever, during my years as his Ph.D. student, I approached him for advice about trying this or that. "What harm," he asked, "could it possibly do?" In this spirit, then, let us proceed.

1 The Social and Institutional Framework

Before highlighting his distinctive approaches and landmark works in the history of Chinese thought, it is only right to consider the political, social, and institutional factors that enabled such a scholar to appear and flourish in our time. After all, Nathan himself saw the content of ideas as inextricably entwined with the circumstances of their bearers' lives.

Born in 1931, Nathan Sivin grew up in a small West Virginia town at a time when the son of Russian and Austrian immigrants who ran a grocery store could have significant opportunities for social mobility. A combination of luck, talent, diligence, and corporate investment in higher education sent him to college; he won a full-ride scholarship from Pepsi-Cola and chose to attend the Massachusetts Institute of Technology, where he started out studying chemistry. By his own telling, the most significant parts of his education came from individual mentorship, acquired by haunting the offices of brilliant scholars whom he admired, rather than from sitting in classes. Foremost among these mentors was the historian of science Giorgio de Santillana.³

Nathan's introduction to China came courtesy of the Cold War. In the early 1950s, after the Communists' victory in China and the outbreak of the Korean War, the American government suddenly realized it could use more Chinese-speaking citizens. Nathan left his undergraduate studies to spend eighteen months at the Army Language School learning Chinese, and by the time he returned to MIT, he had developed a curiosity about China that would sustain him throughout his career. By this time, too, some interdisciplinary impulses were beginning to manifest at American universities, and these excited Nathan. MIT had established a new program called Science and Humanities, to which he promptly switched his major from chemistry, writing an honors thesis that explored (in 1958!) how to teach a computer scanner to read Chinese.

After earning his PhD in the history of science from Harvard, Nathan returned to MIT and established Technology Studies, which later became the university's well-known Science, Technology & Society program. In 1977 he was poached by the University of Pennsylvania, where another interdisciplinary program was thriving, the History and Sociology of Science Department. Nathan found a congenial intellectual home there and in Oriental Studies (later East Asian Languages and Cultures).

Nixon's visit to China in the 1970s renewed American interest in things Chinese. At the same time, the Vietnam War and the protest movement it inspired piqued curiosity about so-called "Eastern" civilizations and incited suspicion of the institutions and ideology that had wrought such devastation. As Americans grew disillusioned with established authority, including scientific and medical authority, many developed a fascination with Chinese medicine, religion, and philosophy. Acupuncture clinics sprang up across the country, and books about the "Tao" of this, that, and the other appeared on bestseller lists. Nathan, by then an established scholar, was well positioned to ground this enthusiasm in reliable knowledge. He helped temper the tendency to exoticize "Oriental" wisdom, by pointing out how sensible and comprehensible it generally was (and how mystical and irrational contemporary science could sometimes be).

In the 1980s and 1990s, popular interest in alternative medicine continued unabated with the publication of Ted Kaptchuk's *The Web That Has No Weaver* and the Bill Moyers documentary series "Healing and the Mind." In addition, China began to reform and open up in earnest, and Nathan was

delighted to be able to visit the People's Republic more frequently, collaborate with colleagues there, and teach brilliant Chinese graduate students who made their way to the U.S., such as the historian Sun Xiaochun, who completed a second Ph.D. at Penn after earning his first from the Chinese Academy of Sciences. Nathan's secure position as a tenured professor at an Ivy League university gave him the freedom to pursue whatever projects he found valuable, from wide-ranging comparative histories to more specialized monographs to a sourcebook of annotated translations that will give undergraduates better access to primary sources from Chinese healing traditions.⁴

The paragraphs above give a very rough outline of the cultural manifold that included Nathan Sivin. Of course, the circumstances alone cannot explain his formidable legacy. Only someone as curious, exacting, and humane as Nathan could have navigated those circumstances the way he did. Nor did the social and institutional settings of his life determine the precise content of his thought, to which I now turn.

2 Scholarly Contributions

Is there, as Confucius supposedly said of his own teachings, “a single thread running through” Sivin's work?⁵ Sivin, who published eighteen books and over seventy essays over the course of his career, wrote more than Confucius, who never produced a written record of his own thoughts. Within this abundance, however, it is possible to discern a consistent preoccupation.⁶ My best approximation of it is something like this: ideas reflect and shape the experiences and social relations of the people who have them. That is no less true of a modern nuclear physicist or a revered Greek philosopher than it is of a fourteenth-century Chinese astronomer. These are simple assertions, and might even seem like common sense, but then, Confucius's “thread” of integrity and reciprocity sounds simple too. The challenge lies in realizing the ideal, applying the principle to specific circumstances. And in this regard, Sivin consistently excelled. Moreover, by placing indigenous Chinese knowledge on an equal footing with other ways of knowing, his work powerfully destabilized Eurocentric and Orientalist perspectives.

A fellow polymath one generation older, the English biochemist-cum-sinologist Joseph Needham, had made Chinese science an active area of historical research starting in the 1950s. When the first volumes in his *Science and Civilisation in China* (hereafter, *SCC*) project came out, they demonstrated to a scholarly community that had come to think of the Chinese as great poets and philosophers, but lousy at science, that in fact China had a robust and richly documented heritage of knowledge about the natural world. Needham's work emphasized priority—ideas the Chinese had had, and technologies they'd invented, long before Europeans managed the same, from printing, the compass, and gunpowder to looms and ceramics. The *SCC* volumes overflow with equations, tables, sketches, maps, photographs of artifacts, reproductions of drawings, and diagrams reconstructing technologies. They are a grand encyclopedia of what Chinese inventors made when and of how their inventions worked. They show how Chinese thinkers approached mathematics, astronomy and cosmology, physics and chemistry, biology, engineering, and more, to use the anachronistic categories that organized the series. The point of all this detail was, in part, to make ancient Chinese technical prowess visible to modern eyes blinded to it by China's abject state in twentieth-century world politics.

That modern-day abjection, however, gave rise to a question that Needham considered important, namely: why did China, which had been so outstanding in the production of science and technology in the first millennium A.D., fall behind Europe in this regard in the second millennium. Put more simply, why didn't the Scientific Revolution take place in China? The so-called "Needham Question" spawned many responses, stimulating historical debate for decades.

Inevitably, Sivin entered the fray, though he took a far more skeptical view of the question than did most of his contemporaries. This was not because of any lack of respect for Needham, whom he admired. Sivin shared Needham's curiosity about Chinese technical knowledge and his impatience with those who continued to ignore such knowledge. His puckish response to a scholar who implied in 1972 that the jury might still be out on the question "Did the Chinese have science?" was to say that the scholar "doubtless has some deep rationale for his unwillingness to accept the enormous Chinese scientific literature as definitive evidence on this question. But I still suspect that he would be as unwilling as I to stand next to a tall building when someone was about to drop the early literature of mathematical astronomy or theoretical medicine off the roof" (Sivin 1973: 414).⁷ No doubt this made Needham and other contributors to his *SCC* project smile. Sivin himself contributed to the *SCC* series (three volumes!). He wrote a section on elixir alchemy, the topic of his doctoral dissertation and first book, for the 1976 volume on Chemistry and Chemical Technology, and a section on the theoretical background of laboratory alchemy for the Chemical Discovery volume published in 1980. Much later, in 2000, he put together the Medicine volume.⁸ He often spent summers in Cambridge, England, where Needham lived, and was a frequent visitor to the Needham Research Institute there after it opened in 1991.

Though he appreciated Needham for blazing the trail, Sivin also became one of his most trenchant critics. He operated from a different set of assumptions.⁹ In particular, he was less convinced than was Needham that modern science was the pinnacle of human knowledge, and that premodern forms of natural knowledge had led inevitably to this high point. Like most historians of science who began their careers in the 1960s and 1970s, Sivin rejected such a teleological view. That made it impossible for him to write the Medicine volume of *SCC* as Needham had wanted; Sivin's view of the subject was too far out of line with Needham's. As Sivin explained in the introductory essay that he wrote for that volume:

I do not see knowledge, no matter where, as converging toward a predestined state. I see today's knowledge, not as an endpoint, but as a fleeting moment in a long sweep of creation. My experience in research has led me to view science as something that people invent and reinvent bit by bit, never completely constrained by what is already there, never pulled by some immutable goal, often mistaken, always on the edge of obsolescence. That view makes its history not a procession of destined triumphs but a meandering journey, its direction often changing, with no end but where it turns out to be on a given day. Despite the remarkable rigour and power of science, in this sense of open evolution it is like the history of everything else human beings do (Sivin 2000: 1).¹⁰

In the end, unwilling to conform to Needham's vision for the series, Sivin settled for compiling and editing the essays that Needham and his collaborator Lu Gwei-djen had written about medicine over the previous decades.

The two topics on which Sivin diverged from Needham most plainly, and most memorably, were the role of Daoism in Chinese science and the Needham Question itself. Scholars often used the terms “Daoist” and “Daoism” in sloppy, impressionistic ways, just as they did the words “Confucius” and “Confucianism.” Sivin traced to Needham the tendency to present Daoism as a creative, anti-orthodox, nature-centered form of thought, in contrast to stultifying, conservative, authoritarian Confucianism. Supposedly, where Daoism was empirical and experimental in orientation, Confucianism was dogmatic. Daoism, in short, encouraged scientific discovery and progressive change, and Confucianism discouraged the same.

The trouble with this characterization, according to Sivin, was that it was unclear whom these Daoists and Confucians were. Detached from actual human beings who expressed and acted on them, the free-floating ideas that the “isms” represented could not explain historical change or continuity. But when one tried to anchor the “isms” in specific social groups, their coherence disintegrated. As Sivin wrote in a 1978 article titled “On the Word ‘Taoist’ as a Source of Perplexity,” “If we were to bring all the possible ‘Confucians’ together, we would encounter everyone in traditional China who had the slightest claim to social or intellectual standing. All those so-called Taoists would make up a group just as motley and probably a great deal larger. The overlap between these two groups would defeat any attempt to generalize about their differences” (Sivin 1978: 317).¹¹ The label “Daoist” had been applied promiscuously to the writers of the *Laozi* and the *Zhuangzi*, to ritually initiated adepts who served as clergy for religious sects, to purveyors of magical elixirs, to popular priests and people who engaged (as most people did) in the worship of local and household deities, and to people who sought to withdraw from the stresses of public life and contemplate nature. Needless to say, the relationship between these varied sets of people, on the one hand, and the development of technical knowledge, on the other, was impossible to map.

As for the Needham Question, Sivin acknowledged its value as a provocation, a heuristic device that prompted both awareness of Chinese achievements and curiosity about the circumstances that had made them possible. When it came to guiding a research program, however, he thought the Needham Question sent smart people down unpromising paths. As Sivin put it, the question “provided a shooting gallery in which anyone could fire a few rounds and no one kept score” (Sivin 1988: 50). Scholars advanced all sorts of factors to try to account for what *hadn’t* happened in late imperial China—for the absence, that is, of a Scientific Revolution like the one in sixteenth- and seventeenth-century Europe. The bureaucracy was too cumbersome to accommodate innovation; elite beliefs were too conservative to entertain new ideas; educated culture privileged literature and philosophy too much to value technical knowledge, and so on. In every case, the shots fired were based on presuppositions of dubious merit. They ended up reinforcing the message that modern science was the best or possibly the only valid way of understanding the natural world, and that China’s failure to create modern science independently reflected some sort of deficiency. Answers to the Needham Question thus left surprisingly intact the presumption of European intellectual superiority, even if they made it seem like a more recent, more politically and socially influenced phenomenon than the most chauvinistic histories had done.

Sivin did not believe that modern scientific thought represented “the best of all possible” thought, to modify Leibniz’s phrase. To him, the content of modern science was compelling, and endlessly fascinating, but the reason it was accepted among educated people the world over was not because it had won a free and fair competition among ideas over the previous four centuries. European imperialism had given European science an advantage that had nothing to do with how reliable its

predictions were, or how efficacious its interventions. To take one example, European and American medicine became widespread in early twentieth-century China even before sulfa drugs and antibiotics emerged to give them a clear therapeutic advantage over indigenous medicine for some infectious diseases. They were attractive, to a large degree, because they were associated with military and economic power, not because of how well they explained or cured illness.

In “Why the Scientific Revolution Did Not Take Place in China—Or Didn’t It?” Sivin called out scholars who persisted in believing that “European civilization all along was somehow in touch with reality in a way no other civilization could be, and that its great share of the world’s wealth and power comes from some intrinsic fitness to inherit the earth that was there all along.” He continued, “Many of those like myself who reject this assumption argue that the privileged position of the West comes instead from a head start in the technological exploitation of nature and the political exploitation of societies not technologically equipped to defend themselves” (Sivin 1982: 52).¹² In this regard, Sivin’s work of the 1970s and 1980s resonates powerfully with today’s calls to decolonize history.

According to Sivin, the only kind of responsible research agenda that the Needham Question could inspire was research into *European* history. The positive version of the question (“Why did the scientific revolution happen in Europe in the sixteenth and seventeenth centuries?”) could be explored, answered, and debated. The counterfactual version (“Why didn’t the scientific revolution happen in China?”) was a specific expression of a question that, in its generalized form, reveals its absurdity: “Why wasn’t China Europe?” As Sivin wrote, “we usually assume that the Scientific Revolution is what everybody ought to have had. But it is not clear that scientific theory and practice of a characteristically modern kind were what other societies yearned for before they became, in recent times, an urgent matter of survival amidst violent change.” (Sivin 1982: 51) The Needham Question applied to Chinese history could only generate histories of deficits. And historians, Sivin said acerbically, “have more urgent work to do than trying to prove the inferiority of every other culture to the one in which they specialize” (Sivin 1982: 47).

Sivin devoted much of his own research, therefore, not to trying to answer the Needham Question, but to delineating the contours of Chinese thought about the cosmos, the body, the state, and patterned change on their own terms. In separate publications, he wrote about time periods as distant from each other as the last three centuries B.C. and the 1980s, and though his self-deprecating “dilettante” label downplayed the audacity of that range, in reality he was never just dabbling. For each period he attacked shibboleths with gusto, offering pointed critiques based on close examination of the evidence. Here, I can only briefly describe a handful of his iconoclastic contributions.

For the Warring States period, he revised scholarly perceptions by refuting the idea that it had featured a “school” of naturalists, and that one of the contending states, Qi, had built an institution called the “Jixia Academy” to foster philosophical debate. Historians of philosophy, he suggested, had wishfully puffed up ambiguous and scattered primary-source references to imply that early China had had something like the Library of Alexandria or a modern, government-funded research organization ahead of its time. It did not, he argued. Approaching these purported social groups with the same skepticism he applied to “Daoists,” he found, similarly, that there was no there there.¹³ For the Han period, in both solo work and an essay co-written with Michael Nylan, he opened up new ways of thinking about how and when early Chinese intellectuals synthesized understandings of the natural, corporeal, and political worlds.¹⁴

He undermined prejudices that Chinese astronomy was inferior to western astronomy. One such prejudice derived from the observation that Chinese astronomy was largely computational and paid less attention to spatial models of the cosmos. It is true that Chinese astronomers seem to have cared little about crafting a bird's-eye (or God's-eye) view of how the pieces of the universe fit together. But Sivin suggested that this simply reflected a different resolution to the friction that *all* astronomers have faced between their cosmological models and their mathematical calculations. Western astronomers, who viewed their model of the cosmos as representing a divinely ordained pattern, tended to ignore anomalous phenomena such as novae or eclipses that did not fit the model. They did not let the anomalies fundamentally disrupt their cosmology until sixteenth-century astronomers such as Kepler and Copernicus, equipped with new instruments, came along. Chinese astronomers, by contrast, were less invested in the divine truth of their cosmology, so rather than chucking the astronomical observations and doubling down on the model, they set aside their models early on and paid close attention to the anomalies instead, factoring them into their calculations.

It was not that Chinese astronomers were incapable of cosmological sophistication, but that they had made a different choice when faced with a universal challenge. As Sivin pointed out, Chinese astronomers worked for the emperor, and the Chinese elite believed that unpredicted eclipses and other anomalous phenomena could be a signal that the emperor had lost the Mandate of Heaven to rule. So accurately predicting celestial phenomena mattered far more to them than constructing a theologically satisfying spatial model of the cosmos. The choice they made reflected the conditions of their employment and the ideology undergirding the political system—as was equally true of their European counterparts.¹⁵ Sivin more fully explained this complex of ideas, practices, relationships and institutions in *Granting the Seasons* (2007), a book-length study of what he considered “the high point of Chinese mathematical astronomy,” the calendrical reform that thirteenth-century astronomers undertook during the reign of Khubilai Khan.¹⁶

In a similar vein, some scholars had faulted Chinese astronomers for failing to appreciate the significance of Copernican cosmology when it arrived in China in the late imperial period. Sivin found this unfair. As he pointed out in “Copernicus in China,” starting in 1616 the Catholic church had forbidden Jesuit missionaries, who alone were in a position to introduce European scientific ideas into China, to discuss the concept of a sun-centered planetary system. Wanting to honor Copernicus, but barred from actually telling their Chinese counterparts all they knew, the Jesuits communicated Copernicus's world system by way of Tycho Brahe's geoheliocentric compromise model. By 1760, when the church relented and allowed the Jesuits to correctly describe Copernicus's ideas, their new descriptions contradicted what they had been saying for the previous century and a half, and no European interlocutor explained that earlier assertions about Copernicus had been untrue, or why they now described his ideas differently. No wonder Chinese scientists looked askance at the new theory. It was not because they were too dimwitted or hidebound to appreciate a revolutionary insight, but because its messengers were clearly unreliable.¹⁷

Sivin's contributions to the history of medicine in China were no less influential than his interventions in the history of astronomy. Presentist hubris has colored the historiography of medicine even more than it has narratives about other aspects of the past. In popular accounts, leeches, humors and miasma symbolize how ignorant European doctors used to be, and how far we've come. Some modern observers have viewed Chinese medicine with the same contempt, while others have seen it as a complement or corrective to biomedicine's weaknesses. Both, however, have tended to view Chinese medicine as persisting unchanged from some time in antiquity until the present day. In Sivin's view,

contemporary Chinese medicine was neither a remnant of past brilliance nor an embarrassing holdover from a benighted time. It was, just like biomedicine, a constantly changing set of ideas and practices shaped by its political and social environment, as his book *Traditional Medicine in Contemporary China* (1987) showed.

The volume translated into English much of a 1972 Chinese textbook meant to teach the basics of classical Chinese medicine to doctors trained in western medicine. In a remarkable passage in his introduction, Sivin reflected on the purpose of studying alternative or historical forms of healing. One studies the history of medicine, he suggested, in order to know how other societies have organized themselves, marshalled their resources, and gone about being human. But also, learning about past medicine helps us reflect on what present medicine does well or badly, and how we might improve current systems of health care. He also highlighted the difficulty of evaluating different systems of healing comparatively. Even the definitions of disease and cure differ from one time to another and one system to another; therefore, there is no constant yardstick one might use to measure, for all forms of healing, how well they relieve the suffering of the sick, or how well they prevent or cure disease.¹⁸

Sivin perceived that literate physicians trained in classical medicine, the focus of most accounts of Chinese health care, had actually made the smallest contribution to healing through most of Chinese history. Almost no one had had access to a classically trained doctor; many more people had sought help from popular priests and from Buddhist and Daoist clergy. Through much of the twentieth century, modern prejudice had dismissed the kinds of ritual healing that such experts offered, considering it superstitious and ineffective. In contrast, Sivin drew inspiration from medical anthropologists' observation that, in fact, ritual *does* heal, and that the efficacy of any form of medicine—including biomedicine—comes in part from the ritual process associated with it.¹⁹ He applied this lesson in his 2015 book *Health Care in Eleventh-Century China*, in which he explored the full range of healing practices, considering those of classical medicine but also those of the popular, elite, and state religions, and refusing to privilege the former over the latter.²⁰

I return, now, to the “single thread.” In each of the projects discussed above, Sivin showed how ideas reflect the experiences and social relations of the people who have them, regardless of whether the ideas are those of seventh-century Chinese alchemy, seventeenth-century western cosmology, twentieth-century traditional medicine, or astrophysics and biomedicine today. No piece of his voluminous legacy, however, defines this thread more clearly or features it more prominently than *The Way and the Word: Science and Medicine in Early China and Greece* (2002). He co-wrote this book with the Cambridge historian Geoffrey Lloyd. In it, Lloyd and Sivin coined the term “cultural manifold” to describe the “sum of all [the] dimensions” relevant to scientific or medical ideas, including how thinkers are educated and make a living, “what thinkers want out of life, who they consider their colleagues to be, how they agree or disagree with them, how they make sense of the world around them, and what political and social choices they make” (Lloyd and Sivin 2002: xi).²¹ Context is not an optional upgrade to a history of ideas, the authors insisted. Ideas' context *is* their history, just as much as their content is; both are part of what they called the cultural manifold. Understanding history properly, they argued, requires coming to grips with the whole picture of the human beings involved—their relationships, their ideas, and their daily bread.

The Way and the Word served as proof of concept for the cultural manifold, a demonstration of how one might use it to compare the sciences and medicine of two very different cultures without

privileging the west as so much previous scholarship had done. In this case, the sciences and medicine compared were those of Greece and China between 400 B.C. and 200 A.D., before Christianity and Buddhism, respectively, entered the lives of Greek and Chinese thinkers in major ways. Systematically, the two authors examined the social and institutional framework of the Chinese sciences and then of Greek science, and identified the characteristic questions that thinkers in each culture asked. Then, in the final chapter, they compared the two manifolds directly: their core concepts, their thinkers' livelihoods, the extent to which each accommodated diverse and contradictory ideas, the scope of their private and public spheres, the extent to which they fostered consensus or disagreement, and whom and how their thinkers sought to persuade. *The Way and the Word* and its central concept, the cultural manifold, spurred methodological discussions at conferences and in journals, including a lively exchange in *The Journal of World Philosophies*²², and continues to fuel discussion in undergraduate and graduate classes even today. Although Sivin went on to write other books and articles in the decades afterward, *The Way and the Word* was in many ways the apotheosis of his distinctive agenda.

3 Conclusion

What I have described above is a piece of Nathan's intellectual legacy, the durable, published parts that you can access directly. Reader, I urge you to do so. No one expresses his ideas as sharply as he did himself. As specimens of scholarly argument, Nathan's published works shine, and will be assigned for years to come. Whether you are interested in stars, the state, calendars, bodies, political legitimation, religion, philosophy, pharmacology, alchemy, Jesuits, ritualists, doctors, or Communists—if you are a curious person, in short—you can find something worthwhile in Sivin's oeuvre.

I have said very little, however, about the man: his life, his character, his relationships with others. Those wondering about such aspects might read the more personal appreciation that Marta Hanson, Michael Nylan and I have published elsewhere.²³ Those who knew him will never forget him, but inevitably, time softens the specifics. Who will remember, decades hence, how he always signed his emails "Cheers, Nathan" except when he sensed the recipient needed a boost, in which case it was "Excelsior!" Or how he declared "I have sounded the trumpets in their direction," when informing a student that he'd submitted a recommendation letter? How he worked at a standing desk decades before wellness culture made it fashionable? Who will recall that he walked and took public transit just about everywhere, or the legend about how he faced down a mugger outside of Philadelphia's 30th Street Station?²⁴

And so, finally, I come face to face with what we lost when he died on June 24, 2022, at the age of 91. My first, absurd thought when I finished this essay was "Now I will send it to Nathan, and see what he thinks," as I used to do with any writing I had labored over because it mattered. He was the best editor I knew, the first reader for me and for many scholars more accomplished than I. But this time, no prompt, incisive Sivin critique will arrive in my inbox to check my rambling and correct my dumb mistakes.²⁵ I know I am not alone in missing his wisdom, his support, and his mischievous sense of humor. His was a good, long life, but somehow it was still not long enough.

Hilary A. Smith is Associate Professor of History at the University of Denver. She earned her Ph.D. in the History and Sociology of Science at the University of Pennsylvania under the guidance

of Nathan Sivin. She is the author of the book *Forgotten Disease: Illnesses Transformed in Chinese Medicine* (Stanford University Press, 2017) and other work on health, disease, and science in Chinese history.

-
- 1 Nathan Sivin, "Science and Medicine in Imperial China—The State of the Field," *The Journal of Asian Studies* 47, no. 1, (February 1988): 41-90.
- 2 Nathan Sivin, "Shen Kua: A Preliminary Assessment of His Scientific Thought and Achievements," *Sung Studies Newsletter*, no. 13 (1977): 31-56.
- 3 Nathan Sivin, "Éloge: Giorgio Diaz de Santillana, 1902-1974," *Isis* 67, no. 3 (2023): 439-43.
- 4 He finished the manuscript of *Sourcebook for Chinese Medical History: From Antiquity through Late Imperial China* right before he died; it will be published posthumously.
- 5 *Analects* 4.15 (URL: [https://chinatxt.sitehost.iu.edu/Analects_of_Confucius_\(Eno-2015\).pdf](https://chinatxt.sitehost.iu.edu/Analects_of_Confucius_(Eno-2015).pdf); last accessed on June 8, 2023).
- 6 Among his eighteen books, two are compilations of some of his most influential essays: *Science in Ancient China: Researches and Reflections* (Aldershot, UK: Variorum, 1995) and *Medicine, Philosophy, and Religion in Ancient China: Researches and Reflections* (Aldershot, UK: Variorum, 2005). Nathan found the long-essay format particularly effective for conveying important arguments, so a reader wishing to efficiently build familiarity with his main themes might consider starting with these two volumes.
- 7 Nathan Sivin, "Letter to the Editor," *Philosophy East and West* 23, no. 3 (1973): 413-16.
- 8 Joseph Needham, *Science and Civilisation in China, Vol. 5, Part 3. Chemistry and Chemical Technology* (Cambridge: Cambridge University Press, 1976); Joseph Needham, Lu Gwei-djen, Ho Ping-yu, and Nathan Sivin, *Science and Civilisation in China, Vol. 5, Part 4. Chemical Discovery* (Cambridge: Cambridge University Press, 1980). Joseph Needham and Lu Gwei-djen, *Science and Civilisation in China. Vol. 6, pt. 6. Medicine*. Edited and with an Introduction, ed. Nathan Sivin (Cambridge: Cambridge University Press, 2000). Elixir alchemy had been the topic of Sivin's doctoral dissertation and first book, *Chinese Alchemy: Preliminary Studies* (Cambridge, MA: Harvard University Press, 1968).
- 9 In a 2008 festschrift in honor of Sivin, Henry Rosemont Jr suggested that the relationship of Sivin's work to Needham's was like that of Thomas Kuhn (*The Structure of Scientific Revolutions*) to Herbert Butterfield (*The Origins of Modern Science*). Henry Rosemont Jr., "Nathan Sivin: A Man for All Seasons," *Asia Major*, Third Series 21, no. 1, (2008): 1-14.
- 10 Nathan Sivin, "Introduction," in *Science and Civilisation in China Vol. VI, Part 6: Medicine*, ed. Joseph Needham and Lu Gwei-djen (Cambridge: Cambridge University Press, 2000), 1-37.
- 11 Nathan Sivin, "On the Word 'Taoist' as a Source of Perplexity," *History of Religions* 17, nos. 3 & 4 (Feb.-May 1978), 303-30.
- 12 Nathan Sivin, "Why the Scientific Revolution Did Not Take Place in China—Or Didn't It?," *Chinese Science* 5 (June 1982): 45-66.
- 13 Nathan Sivin, "The Myth of the Naturalists," Section IV in *Medicine, Philosophy and Religion in Ancient China: Researches and Reflections* (Aldershot, UK: Variorum, 1995).
- 14 Nathan Sivin, "State, Cosmos, and Body in the Last Three Centuries B.C.," *Harvard Journal of Asiatic Studies* 55, no. 1, (1995): 5-37; Nathan Sivin and Michael Nylan, "The First Neo-Confucianism: An Introduction to Yang Hsiung's 'Canon of Supreme Mystery' (T'ai Hsuan Ching, ca. 4 BC)," in *Chinese Ideas about Nature and Society: Studies in Honor of Derk Bodde*, (Hong Kong: Hong Kong University Press, 1987): 41-100.
- 15 Nathan Sivin, "Cosmos and Computation in Early Chinese Mathematical Astronomy," Section II in *Science in Ancient China: Researches and Reflections* (Aldershot, UK: Variorum, 1995).
- 16 Nathan Sivin, *Granting the Seasons: The Chinese Astronomical Reform of 1280, with a Study of Its Many Dimensions and an Annotated Translation of Its Records* (New York: Springer Media, 2009).

-
- ¹⁷ Nathan Sivin, “Copernicus in China,” Section IV in *Science in Ancient China: Researches and Reflections* (Aldershot, UK: Variorum, 1995).
- ¹⁸ Nathan Sivin, *Traditional Medicine in Contemporary China: A Partial Translation of Revised Outline of Chinese Medicine (1972) with an Introductory Study on Change in Present-Day and Early Medicine* (Ann Arbor, MI: Center for Chinese Studies, The University of Michigan, 1987). This title demonstrates nicely Nathan’s belief that titles ought to tell a reader what to expect from a piece of writing. He disliked coy titles that left a reader wondering what a book was about.
- ¹⁹ Sivin particularly admired Daniel Moerman’s reframing of the “placebo effect” as a “meaning response.” Daniel Moerman, *Meaning, Medicine, and the “Placebo Effect”* (Cambridge: Cambridge University Press, 2002).
- ²⁰ Nathan Sivin, *Health Care in Eleventh-Century China* (Cham, Switzerland: Springer, 2015).
- ²¹ Geoffrey Lloyd and Nathan Sivin, *The Way and the Word: Science and Medicine in Early China and Greece* (New Haven, CT: Yale University Press, 2002).
- ²² Anna Akasoy, Warwick Anderson, Gérard Colas, Edmond Eh, and Nathan Sivin, “Symposium: What Kinds of Comparison Are Most Useful in the Study of World Philosophies?” *Journal of World Philosophies* 3 (Winter 2018): 75-97.
- ²³ Marta Hanson, Michael Nylan, and Hilary A. Smith, “Eloge: Nathan Sivin (1931-2022),” *Isis* 114, no. 1, (March 2023): 1-4.
- ²⁴ I heard this legend from fellow students, never from Nathan himself.
- ²⁵ Nathan would not have indulged such sentimentality. He knew that the world is full of capable, interesting people, and he delighted in introducing them to one another. Fittingly, other trusted readers, some whom I’d met through him, soon came to mind. My thanks to Michael Nylan, Trishula Patel, Marta Hanson, Eric Karchmer, Wendy Jia-Chen Fu, and Babi Hammond for their suggestions and edits.