

## PERSONAL RECOLLECTION

SHIGERU NAKAYAMA\*

Aydın Sayılı held the first Ph. D. in the History of Science, conferred in 1942 by Harvard University.

As one of early Harvard Ph. D.'s in the same subject, I have paid respect to and felt congeniality with him and his work since my graduate student days. His Ph.D. thesis on the Islamic institutions that influenced the formation of medieval Western universities (published in Ankara, 1960) was for a long time my only authority as a student of the history of science and learning, until George Makdisi's *The Rise of Colleges* appeared in 1982.

In the early years of Harvard history of science, it was not an independent department, but a joint field between the history of science and the history of learning. The latter was virtually the history of universities as the institutional background of scientific activities.

For a student such as myself, Sayılı's Ph.D. work was eye-opening. It showed that the *madrassa* and other Islamic institutions were definitely the forerunners of medieval Western universities in various respects. This corrected the writings of European historians of universities, such as H. Rashdall, S. D'Irsay and J. Verger, who neglected the influence of precursors altogether and stressed the medieval origin of higher education.

I had an opportunity to see Sayılı close up when he returned to Harvard as a Rockefeller Foundation fellow in the late 1950s. I enjoyed seeing him, with his usual friendly and informal style, at Widener 189, then the headquarters of activity in the history of science.

Since then we met on a number of occasions at International Congresses of the History of Science. The last such meeting was at the Congress in Tokyo and Kyoto in 1974.

After that I did not see him until 1989, when I was teaching in Australia just as I was about to retire from Tokyo University. I received from him an invitation to a conference in Turkey, over which he was to preside. He probably thought that I might be able to participate on my way home to

\* Kanagawa University, Japon.

Japan from a meeting of the International Society of the History of Science held in Germany.

I responded positively, but the Australian academic year, which has no summer vacation, prevented me from visiting Europe; I finally had to send him a letter of apology. He asked me to send a paper for a *Erdem*, a journal that he was editing.

I sent him a short article entitled "The Emergence of the Third Paradigm for Expressing Astronomical Parameters: Algebraic Function." This essay elucidated an eighth century Chinese calendar, the *Futian li*. Its contents were previously unknown, but the discovery of a fragment of its solar table in a Japanese library made analysis possible. It is unique in that it first used an algebraic equation of the second degree to express the solar equation of center. This way of expressing astronomical parameters resembles neither the Western schematic-geometric-trigonometric representation nor the Chinese empiric-pragmatic method of interpolation between observed values. The compiler of the *Futian* calendrical system originated in the far west of China. One conjectures that he or his family originally came from Samarkand. The same algebraic formula later appeared in the Uighur calendar. This is an interesting instance of astronomical creativity in Central Asia.

I suggested to Sayılı that, since Turkic peoples were active in this part of China in the eighth century, similar remnants of algebraic astronomical parameters might be found in Turkish astronomical sources. My American colleague Professor Nathan Sivin, who also had high esteem for Professor Sayılı, agreed that this query would please him.

Four more years passed. The next International Congress of the History of Science took place in Spain in the summer of 1993. Sayılı sent me another invitation to a conference in Turkey to be held immediately afterward. I accepted, with the idea in mind that I would like to see him while he was still active in Turkish intellectual life. This time I was able to join his Conference at Ankara in September. As soon as I arrived, I wanted to get in touch with him, but I was told that he had just retired from the directorship of his Institute and was not feeling too well. He did not show up at the Conference he organized. Impatient as I was, I telephoned him. He said that he was not well, but would come to see me at the banquet on the final day of the Conference.

Finally I was able to see him before departing Ankara for Japan. He was cheerful, retaining his usual sociability to greet to those who came

to salute to him. I was a little shocked that he looked much older than I expected. After all, nearly twenty years had elapsed since I saw him in Japan. He looked much older than E.S. Kennedy, of the same generation and in the same field of Islamic science, whom I saw just a couple of weeks before visiting Spain.

We had an interesting conversation about the early days of Harvard history of science, talking of our shared teachers, especially George Sarton and Willy Hartner. He was concerned about whether I had got hold of his recent work in the journal *Erdem* (vol. 7, Number 19, January 1991, actually published in June 1993), and gave me a copy. He also asked whether I received a copy of my article mentioned above, printed in an earlier issue of *Erdem*, as he thought it an important contribution.

Preoccupied with other commitments of the lecture tour, I did not have time to read his recent contribution in *Erdem*, "Al-Khwarazmi, Abdu'l-Hamid ibn Turk and the Place of Central Asia in the History of Science and Culture." When I read it carefully while flying from Istanbul back to Tokyo, I was excited by this long paper, 100 pages in English and 108 pages in Turkish. I admired his ability to write such an extensive monograph at the age of eighty.

I was unable to put it down. Its thesis mostly grew out of my inquiry about Turks in Central Asia. He had answered my query as closely as possible.

In the beginning, he discussed the origin of Arabic algebra in the thought of Al-Khwarazmi and others. He discussed the origin of these ideas and their connection with the fact that those early founders of algebra were of Turkish origin. After summarizing my paper in the middle part of the essay, he adduced many sorts of evidence to show the intercourse between Chinese and Turks in the transmission of paper technology, Buddhism, and the decimal place-value system. In the absence of direct proof, he accumulated a great deal of circumstantial evidence. I was, of course, deeply grateful for the trouble he took to look deeply into this question, and to find that my short article and inquiry had kindled his scholarly interest so near the end of his life.

Some time later, back in Japan, I received a letter from Professor İhsanoğlu to inform me that Sayılı passed away just two weeks after I met him last in Ankara.

