be required in all nations using atomic energy in order to keep the radioactivity level of the world environment at tolerable levels.

9) Improved safety devices for control of transients in nuclear reactors should continue to be vigorously developed.

10) Further tests are required of reactors to evaluate their ability safely to withstand power excursions which may occur as a result of unusual operating circumstances.

11) Until such time as advances in the technology of reactors lessen potential hazards substantially, sealed buildings properly designed, constructed, and tested should be required for all nuclear reactors to be built in or near populated areas.

12) All operations involving radioactive materials in sufficient amounts to create possible health hazards should be supervised by trained and responsible people.

Fallout Considerations

It is apparent that as of the present time the dispersal of radioactive material resulting from weapons testing has not been an environmental contaminant of substantial public health significance. However, because of various unknown factors regarding the distribution and ultimate fate of this material, plus the potentials of possible wider spread and more frequent weapons testing, it is also apparent that the subject in all of its aspects merits meticulous and continuing attention. The problem of fallout is one of international significance and should be studied and evaluated on that basis, perhaps looking forward to international cooperation in control.

Louis C. Karpinski, Historian of Mathematics

Although he was best known and probably will be longest remembered as a historian of mathematics, Louis Charles Karpinski was remarkable for his breadth of interests and his vigorous pursuit of them. These included cartography, American history, bibliography and book collecting, chess, and public utility rates.

After graduating from Cornell University in 1901 where he was the ranking player on its championship chess team, he journeyed to the University of Strassbourg in France. There he completed in 1903 a doctorate in mathematics with a thesis in number theory. Upon his return to this country, he taught for a year at Oswego State Normal School, before being appointed to an instructorship at the University of Michigan where he remained, except for leaves, until his retirement in 1948.

His activities while on leaves from the university were typical of his interests and greatly influenced them. The first of these was a year (1909–1910) spent as a fellow at Teachers College, Columbia University. There, with David Eugene Smith, he developed his interest in the history and pedagogy of mathematics, the fields wherein lie his greatest contributions, both in research and in teaching. Out of this period came his first of more than ten articles in *Science, The International Commission* [on the Teaching of Mathematics], and his first book, *The Hindu-Arabic Numerals,* (1911) written jointly with David Eugene Smith. This work is still the most complete and accurate study of this topic available.

His *History of Arithmetic* (1925) and monumental *Bibliography of Mathematical Works Printed in America Through 1850* (1940) show the continuity and vigor of his interest in the history of elementary mathematics and in bibliography. Also of a bibliographic nature are his two books on the early maps of the Great Lakes and Michigan. These volumes published by the Michigan Historical Commission represent an even broader interest in maps and historical source materials.

It was typical of him that he not only enjoyed these interests but made them serve him both financially and in the pursuit of his research. He helped finance one trip abroad by the sale of his map collection to Yale University and another by photographing manuscripts related to America in libraries and archives in France, Spain, and Portugal. Shopping in bookstores on his trips abroad and avidly scanning catalogs from dealers all over the world were the means of constructing what is probably the most lasting monument to Professor Karpinski, the outstanding collection of source materials in the history of science that he built up in the University of Michigan Library.

The internationalism of his interests (he was proud of his father's Polish birth) is further attested by the range of foreign journals in which his more than 100 publications appeared (for instance, *Biblioteca Mathematica, Isis, Archeion*), his publications of studies of Spanish, Italian, Provencal, English, and Arabic algebraists and arithmeticians, and the fact of which he was most proud—namely, that he was elected an effective member (No. 14) of the Comité Internationale d'Histoire des Sciences at the time of its establishment. He also served a term as chairman of Section L of the AAAS, and later (1941) was elected president of the History of Science Society.

He was frequently involved in controversies, because he was sensitive to what he thought to be wrongs to himself or to society and responded fearlessly and vigorously when a wrong was perceived. It was in this spirit that he attacked utility rates and studied this problem to the extent that he was once listed as an "expert" on them. His colleagues and friends often secretly admired his forcefulness and fearlessness in rushing to an attack where others awaited more data or a better opportunity. His students recall him affectionately as one whose friendliness as a counselor belied his occasional classroom "bark" and as one who was always ready to help, even beyond the regular duty of an instructor, with suggestions and materials from his own resources and with references from his astonishing reserve of information about the literature of his fields.

He died in his sleep early in the morning of 25 January 1956 at his home in Winter Haven, Florida, from which since his retirement he had continued as a book dealer to exercise his bibliophilistic urge.

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