Abel Wolman

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1892–1989

By Gilbert F. White and Daniel A. Okun

Abel Wolman, engineer, scientist, and citizen of the world, died in his home in Baltimore, Maryland, on February 23, 1989. An active member of the faculty of the Johns Hopkins University from 1937 to 1962, and a leader in the public service for more than sixty years, he was elected to the National Academy of Engineering in 1965 and to the National Academy of Sciences in 1963.

Born in Baltimore on June 10, 1892, Abel Wolman lived his entire professional life in his native city, but his interests extended across the nation and around the world. He graduated from Baltimore City College in 1909 and received from the Johns Hopkins University a B.A. in 1913, a B.S. in engineering in 1915, and an honorary doctorate of engineering in 1937. He helped establish and became a professor in the university's Department of Sanitary Engineering both in the School of Engineering and in the School of Hygiene and Public Health. Throughout his career his abiding interest was in encouraging the application of engineering to the improvement of public health.

Following his retirement from formal duties in 1962, he continued to use his office as a base for far-flung activities, exercising a strong influence on students in the fields of engineering, public health, and environment. At a memorial service, the university stated, "It was perhaps through his role as teacher and scholar that he made his most long-lasting impact. Maintain

ing a strong interest in the scientific and technical aspects of his profession, he also imparted his concepts of the planning process as a standard tool of the engineering profession to generations of environmental engineers and health professionals who carry on his teachings with their own students."

Abel Wolman and Anna Gordon were married in 1919, and their family itself became a Baltimore institution. Their son, M. Gordon (Reds) Wolman, was to chair a department in the School of Engineering, now the Department of Geography and Environmental Engineering.

Although his quarter-century stint as a Hopkins professor may well have been the hallmark of his career, he spent almost a quarter of a century serving public agencies and editing professional journals prior to joining Hopkins, and more than a quarter of a century after his retirement from the university as a much sought-after consultant.

While most clearly identified with efforts toward the promotion of public health, a particularly important contribution resulted from his collaboration in 1919 with Linn H. Enslow in the development of chlorination. They built on earlier research on the effects of chlorine on bacteria that made possible the adoption of simple, effective methods to curb waterborne disease. Chlorination is frequently cited as the single most significant measure to protect public health in urban areas.

At the local level, and beginning with his own city of Baltimore, Abel Wolman provided consulting services on water supply and sanitation that shaped approaches to the solution of urban problems in the United States and foreign countries. Typically, he insisted on comprehensive analysis and on examination of the wider implications of a planning decision. Over the years, his work had influence in Columbus (Ohio), Detroit, Harrisburg, Indianapolis, Jacksonville, Newport News, New York City, Portland (Oregon), southeast Michigan, Seattle, and Washington, D.C. Foreign metropolitan areas profiting from his expertise included Buenos Aires, Calcutta, and São Paulo.

The Wolman vision of the aims of integrated water resources management was early formed in his activity as chief engineer with the Maryland State Department of Health (1922–1939) and

evolved during that period and subsequently, while his interests extended to other jurisdictions, nationally and overseas. As chairman of the Maryland State Planning Commission (1934–1945) and of the Water Resources Committee of the National Resources Planning Board and its predecessors (1935–1941), he dealt with a wide range of policy issues, always adding new dimensions, always comparing experience in one area with the challenges in another area.

It is impossible even to list, let alone describe, in this memorial all of the assignments he discharged over the seventy-five years of his very active professional life. Their flavor may be suggested by naming a few of the more important ones. At the state and regional level, they included services with the Potomac River Commission (1940–1950); the Board of Technical Advisors, International Boundary and Water Commission of the United States and Mexico (1976–1979); and the New Jersey Master Water Plan (1975–1980). At the foreign level, his activities covered consultancies with the governments of Argentina, Sri Lanka, Taiwan, and, most notably, Israel. At the international level, he chaired the Advisory Committee of the Centro Panamericano de Ingenieria Sanitaria y Ciencias del Ambiente (1977), and served as a consultant to the Pan American Health Organization (1979) and to the World Health Organization (1984) for the International Drinking Water Supply and Sanitation Decade (1981–1990). His advice was sought by the Senate Select Committee on National Water Resources (1959–1961), the House Committee on Science and Astronautics (1965–1968), and by the U.S. Geological Survey (1943–1967).

Beyond his numerous water-related activities, he was drawn into a variety of advisory roles in associated fields. Among these were the National Advisory Committee on Radiation for the U.S. Public Health Service (1957–1960) and the U.S. Atomic Energy Commission Safety and Licensing Board Panel (1960–1972).

His leadership among his professional peers was reflected in his election to the presidencies of the American Water Works Association and the American Public Health Association, the latter an organization dominated by medically related professionals. Honorary memberships were awarded in both those

organizations and in the American Society of Civil Engineers, the Water Pollution Control Federation, the American Water Resources Association, the American Academy of Environmental Engineers (where for many years he was the sole honorary member), the Franklin Institute, and the Technion of Haifa Board of Directors.

Principal among special honors received were the Public Service Award of the Albert Lasker Awards Given Through the American Public Health Association (1960), the National Medal of Science (1974), and the Tyler Prize for Environmental Achievement (1976).

Over various periods, Abel Wolman was editor of the *Journal of the American Water Works Association* (1921–1937), associate editor of the *American Journal of Public Health* (1923–1927), and editor of *Municipal Sanitation* (1929–1935). His own writing comprised a review with Arthur Gorman of the significance of typhoid fever outbreaks (1931), the editing of manuals of water-works and wastewater practice in the mid-1920s, and about three hundred articles. In 1969 a selection from the articles was published under the editorship of Gilbert F. White, entitled *Water, Health and Society*. But the flow of challenging ideas from his pen did not stop with retirement. Some of his later thinking and his observations on his past work were caught by Walter Hollander, Jr., in a private publication in 1981, *Abel Wolman: His Life and Philosophy: An Oral History*.

Up to that time, Abel Wolman believed that trace contaminants were of little public health significance and did not warrant the levels of investment called upon to deal with them. A few years later, when he was about ninety, he was still flexible enough to accept new evidence gleaned from the genetics community; trace contaminants might, indeed, have mutagenic consequences. Over the last few years of his life, he seldom passed up the opportunity to raise this issue with those responsible for water quality management. He kept up with events, even ahead of some, to the last.

Despite his prodigious output of lectures, papers, and consultantships, he was so well organized that he always had time for people, in both professional and social settings. He also had time

for notes to colleagues, calling attention to items of possible interest or offering congratulations for papers well written.

To the thousands of people who worked with Abel Wolman, there were his personal qualities that made lasting, invigorating impressions. The introduction to his selected papers captured some of these in noting that rare was the national conference touching on water and environmental engineering that had not felt the charm of his analysis of a policy issue. Usually extemporaneous, always felicitous, and punctuated with gentle wit, the typical Wolman talk summed up the problems in a lucid framework, and sent his audience away smiling, a bit puzzled by some of the generalizations, and refreshed by a new perspective. His gift for asking the pertinent, but disarming, question gave both direction and relief to countless discussions. Technical precision and insight blended with cultured urbanity.

In the words of the tribute by the *Baltimore Evening Sun:* "Abel Wolman ... envisioned a world in which the most basic of necessities, water to drink, would be safe and plentiful to all peoples of the world."