Vol. 3 Iss. 4
The Chemical Educator

ISSN 1430-4171
http://journals.springer-ny.com /chedr
S 1430-4171(98)04224-0

Book Review

A Chemist in the White House: From the Manhattan Project to the End of the Cold War by Glenn T. Seaborg

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A Chemist in the White House: From the Manhattan Project to the End of the Cold War by Glenn T. Seaborg, American Chemical Society: Washington, DC, 1998. Illustrations. xv + 341 pp, 22.0 x 28.4 cm. $59.95 HB Catalog No. 3347-0-472. ISBN 0-8412-3347-0.

Glenn T. Seaborg's name is legendary in today's chemistry. He is so renowned and well loved by his colleagues that they recently gave him the largest number of votes in the balloting process that nominated "C&EN's Top 75 Distinguished contributors to the Chemical Enterprise" on the occasion of the 75th anniversary of *Chemical & Engineering News* (Schultz, W. *Chem. Eng. News* Jan. 12, 1998, **76 (2)**, 167–168). Only the deceased chemists Linus Pauling and Robert B. Woodward received more votes.

Dr. Seaborg, still active at the age of 86, a University of California, Berkeley faculty member since 1939, is University Professor of Chemistry, Associate Director-at-Large of the Lawrence Berkeley Laboratory (LBL), and Chairman of the Lawrence Hall of Science. His long and distinguished career in science, education, and dedicated public service includes the Nobel Prize in chemistry (1951), UC Berkeley chancellorship (1958–1961), and chairmanship of the U.S. Atomic Energy Commission (1961–1971). A prominent participant in the Manhattan Project during World War II and codiscoverer of plutonium and nine other transuranium elements, he is the only living person for whom a chemical element has been named (seaborgium, element 106).

In the more than seven decades since he began keeping a daily journal on January 1, 1927 at the age of fourteen, this fantastically self-disciplined octagenarian has continued to make extensive daily entries in his diary and is currently preparing the volumes of his journals for publication. When we mentioned the rarity of his long-maintained practice, he replied, "My God, doesn't everybody?"

Seaborg's diary has served him, historians in general and historians of science in particular, scientists, chemists, and policy-makers well. For example, he has used it as the basis for three books, coauthored with Benjamin S. Loeb, a former commission staff member and assistant of Seaborg's, which meticulously detail his decade-long government service through three presidential administrations as chairman of the Atomic Energy Commission from March 1, 1961 to August 16, 1971, viz., *Kennedy, Khrushchev and the Test Ban* (University of California Press: Berkeley, 1981), *Stemming the Tide: Arms Control in the Johnson Years* (D. C.

Heath: Lexington, MA, 1987), and *The Atomic Energy Commission under Nixon: Adjusting to Troubled Times* (St. Martin's Press: New York, 1993).

On Sept. 3, 1997 Seaborg presented a slide-illustrated talk sketching his services as adviser to ten U.S. presidents, which began in the early 1940s, at the Washington, DC LBL office (Schultz, W. *Chem. Eng. News* Sept. 15, 1997, **75(37)**, 37). A detailed account of these services over more than five decades is now available as a fascinating and entertaining, but thoroughly documented book, which will be of great interest to historians of science, educators, and anyone concerned with the role that science plays in society.

On first sight, this luxurious, oversize (22.0 x 28.4 cm.; 8-5/8 x 11-1/8 in.) volume, with its glossy paper, double-column text with wide, generous margins, 132 large illustrations, and highlighted quotations from the text in large, boldface type on almost every other page, appears to be a typical coffee table book more suitable for browsing than for careful reading. However, it is much more than a highly attractive work of art. This first-person insider's look at national and international policy-making at the highest levels of government by an active participant is an extremely important chronicle of many of the most crucial and historically significant scientific, political, and educational events of the last six decades of the twentieth century.

As a case in point, Seaborg provides a first-hand, day-by-day recounting of the nuclear confrontation with the Soviet Union in the Cuban missile crisis of 1962, a "brush with disaster [that] brought President Kennedy and Chairman Khrushchev closer together, a prelude to the successful attainment of the Limited Test Ban Treaty [LTBT] one year later" (p 129). This treaty and the Comprehensive Test Ban Treaty (CTBT), which is also discussed, were goals strongly favored by Seaborg, a longtime advocate of nuclear arms control. (He was an original signatory of the Franck report, which, while World War II was still in progress, opposed the use of the atomic bomb against Japan). On May 29, 1963 Seaborg became the first non-Communist American to meet Soviet President Leonid Brezhnev ("a man who wanted to get along with the United States"), a meeting and visit to Russia described in great detail (pp 113–119) that "played a role in setting the stage for successful negotiations that led to an agreement on the [LTBT]...some two months later," one of Seaborg's many mitigating influences on the Cold War.

Through personal anecdotes, letters, transcripts, memoranda, and diary entries, Seaborg analyzes and contrasts the differing styles of the ten presidents from Roosevelt to Bush, to whom he served as an advisor and all of whom (except FDR) he knew personally, most on a first-name basis. Since he met FDR's predecessor, Herbert Hoover, and since the current president, Bill Clinton, has also consulted him, Seaborg has met almost a third of all U.S. presidents! He has also known all of the twelve vice presidents since Henry Wallace.

Seaborg presents his frank and forthright, but balanced, impressions of many of the world's leaders, both those with whom he agreed and those with whom he disagreed. In all cases he puts a positive "spin" on matters and tries to understand and empathize with their actions, even those of the often paranoid Nixon administration. Despite his differences with Nixon, he states, "Clearly, he was a man with a complex personality and many contradictions—alternately friendly and harsh. Overall, I would, nevertheless, regard him as a friend" (p 248). Likewise, Seaborg is convinced that the Reagan administration's policies on issues such as nuclear arms control and the institution of silly secrecy rules were not in the best interests of our national security. ("And, I still find it difficult to understand how the American people were nearly sold on the Strategic Defense Initiative [Star Wars], which was never more than a science fiction fantasy on which much money was wasted. Nonetheless, I believe his administration should be given deserved credit for recognizing that the declining standards of education in our country were a quite genuine threat to the future security of our nation" (p 290)).

Similarly, although Seaborg is clearly and justifiably irritated by the government's "cleansing" of his journals during the Reagan administration and concludes that "security classification of information became in the 1980s an arbitrary, capricious, and frivolous process, almost devoid of objective criteria," he hopes that "there might come a day when a more rational approach to secrecy might prevail and permit wider access, especially to historians, of the complete record" (p 284). Like many of the issues discussed in the book, this

one remains unresolved today; on Sept. 26, 1997 Senator Daniel Patrick Moynihan introduced Senate Bill 1232 to rescue Seaborg's journal from fourteen years of control by government censors (*Science* 1997, **278,** 393).

But Seaborg does more than present facts and opinions, for with the benefit of hindsight he analyzes and criticizes events, programs, tests, treaties, etc., readily admitting any shortcomings, taking full responsibility for his actions, and suggesting what might have been done to produce a better outcome: "AEC made its share of mistakes, some of which I freely acknowledge herein" (p 247).

Seaborg, who describes himself as "antibomb" but not "antinuclear," is careful to distinguish between his personal views and those of his government. Thus, although he has always been in favor of a test ban, he promoted nuclear testing because it was national policy and because the U.S.S.R. was conducting tests. However, he was personally opposed to the deployment of antiballistic missiles, which was being debated in Congress, and he ignored requests from the Nixon White House to make public pronouncements favoring such deployment. On another occasion, he opposed Attorney General John M. Mitchell by refusing to revoke the security clearance of Zalman Mordecai Shapiro, a chemist unjustly accused of diverting fissionable material to Israel. The journal entries, which are printed in smaller type and slightly edited to add information about the persons mentioned, allow Seaborg to recapture the immediacy of the moment and to describe events in almost unbelievable detail. For example, the exact location, date, time, and persons present, along with their official positions and often their remarks, are specified for virtually all of the numerous policy-making meetings that are described.

The illustrations include 107 widely diverse photographs, many of historic significance—meetings; speeches; dedication, award, and swearing-in ceremonies; treaty signings; rocket launchings; dinners; receptions; magazine covers; television programs; and portraits, formal and informal, of Seaborg and his family members with most of the world's leading political leaders and scientists, all of whom are scrupulously identified&emdash;as well as 23 presidential letters to Seaborg. Readers of our generation will feel a twinge of nostalgia on viewing the picture of the University of California's convocation honoring the 20th anniversary of the United Nations (June 26, 1965), in which Seaborg is seated next to Adlai Stevenson (The hole visible in Adlai Stevenson's shoe received national press coverage). Because of his height, Seaborg is frequently in the back row of formal photos. Many of these pictures and framed letters grace the walls of Seaborg's office at the Lawrence Berkeley Laboratory.

A veritable "Who's Who" of top-level, high-ranking officials, political leaders, diplomats from the United States and abroad, this meticulously documented gold mine of information abounds with an "alphabet soup" of contractions for governmental and international agencies, departments, offices, and committees, legislation, treaties, etc., but a three-page glossary of acronyms and abbreviations is conveniently provided. Although intended for the general reader, technical and scientific details are not neglected. Seaborg's characteristic sense of humor is evident in a number of incidents as when he "slyly places the chocolate cookies, which he does not much like, in front of the president" [JFK] (p 98) or when Louisiana Senator Allen J. Ellender asks him derisively, "What do you know about plutonium?" (p 320). Detailed, user-friendly, three-column subject (6 pp) and name (11 pp) indexes, with page numbers for photos in boldface, facilitate the location of information.

Since the topics mentioned above represent only a small fraction of those discussed in the book, the chapter titles and subtitles and the number of pages may give a revealing glimpse of its scope and breadth: (1) Franklin Delano Roosevelt, 1933–1945: A Race Against the Nazis for the Atomic Bomb (16 pp); (2) Harry S Truman, 1945–1953: How to Best Use This Awesome Power (36 pp); (3) Dwight David Eisenhower, 1953–1961: The President's Advisory Committee (23 pp); (4) John Fitzgerald Kennedy, 1961–1963: A Passion for Arms Control (65 pp); (5) Lyndon Baines Johnson, 1963–1969: An Overwhelming Personality Supports the Nonproliferation Treaty (56 pp); (6) Richard Milhous Nixon, 1969–1974: Adjusting to Troubled Times (50 pp); (7) Gerald Rudolph Ford, Jr., 1974–1977: A Longtime Friend (9 pp, the shortest chapter); (8) James Earl (Jimmy) Carter, Jr., 1977–1981: A Fellow Nuclear Scientist (12 pp); (9) Ronald Wilson Reagan, 1977–1989: An Amiable Fellow (20 pp); (10) George Herbert Walker Bush, 1989–1993: Continued Opposition to a Comprehensive Test Ban (16 pp); and (11) William Jefferson Clinton, 1993–1997: Renewed Hope for a

Comprehensive Test Ban (9 pp). Although Kennedy's term of office was the shortest of the elected presidents, the chapter devoted to him is the book's longest&emdash;a reflection of Seaborg's particularly cordial and close relationship with him. The subtitle of the Nixon chapter was also that of Seaborg's earlier book, *The Atomic Energy Commission under Nixon* (St. Martin's Press: New York, 1993).

Despite his numerous award-winning accomplishments Seaborg, a frequent flyer on Air Force One, remembers his humble origins. He modestly concludes this highly recommended volume: "I am pleased that my knowledge as a scientist (and, perhaps, as an administrator) placed me in a position to provide national service to these presidents (p 317)....The office of the president of the United States holds many pressures, and I feel privileged to have personally known so many of the men who have held that office and to have observed and learned from the characteristics and values that each brought to his position" (p 320).

This important and entertaining sourcebook on the evolution of national arms control, science, education, and nuclear policies reveals how the United States government functions or fails to function in regulating modern scientific and technological problems. It will be a cruise down memory lane for those who lived through those turbulent times and an enlightening chronicle for those who have not.
