Crosland's biography is not only one of the best scientific biographies of the last generation, it is also one of the earliest modern monographic biographies of an important nineteenth-century French chemist. Using an extraordinary range of the sources, including masses of surviving letters and other manuscripts, Crosland builds a compelling picture of Gay-Lussac's life, both in scientific and personal terms. One of the great strengths of the work is its analysis of the political and social context of science in Restoration and Orleanist France. It is also beautifully written, providing an appealing account of Gay-Lussac's attractive personality. All in all, the book marks a milestone that has lost none of its significance twenty-six years after its first appearance in print. *Alan J. Rocke, Department of History, Case Western Reserve University.*

DuPont: From the Banks of the Brandywine to Miracles of Science. Adrian Kinnane, Johns Hopkins University Press, Baltimore, MD, 2002, distributed for the DuPont Co., 272 pp, 598 illustrations, ISBN 0-8018-7059-3, $29.95.

This 11" x 11" 4-lb. coffee-table book was commissioned by DuPont on the occasion of its 200th birthday. The author is affiliated with History Associates Inc, which also provided research and editing services from several other staff members. The photographs are largely from the collection of Hagley Museum and Library. Although DuPont's founding and early development have been the subject of earlier accounts, historians of chemistry will find the first six chapters of primary interest. The more recent history of the company covering the last three decades is detailed for the first time in this book.

In Chapter 1, "A Vision and Product," the author presents the fairly familiar story but with an eye to detail of the founding of the US company by Eleuthère Irénée du Pont (E. I.), who visualized its successful future in the manufacture of gun powder. The original powder works on the Brandywine River near Wilmington, DE, were called "Eleuthère Mills." Considerable detail is presented about the financing and operation in the early days and of the frustrations and challenges E. I. faced up to his death in 1834. After a three-year transition in management, Alfred, one of E. I.'s sons, took over the company. He was succeeded in 1850 by another son Henry, a graduate of West Point.

The transformation of the growing company from the Civil War to the end of the 19th century is covered in Chapter 2, "Family Firm, Growing Nation." The reader is informed about expansion of products to include guncotton ("smokeless powder") and dynamite; but we also learn about the du Pont family: those who distinguished themselves by service in the Civil War, a diarist daughter of E.I., marriages, births, and personal tragedies.

Chapter 3, "The 'Big Company,'" covers continued expansion and diversity of DuPont, partially prompted by the demands of World War I. By 1919 the company's assets had skyrocketed, and new directions were sought. The investment into General Motors and development of new product lines such as dyestuffs, plastics, and paint are described in Chapter 4, "Serving the New Customer." The company was organized into departments; the Buffalo plant was opened for production of rayon and cellophane; and DuPont began supplying the auto and film industries.

Charles Stine is credited with the vision for developing a solid commitment to basic research in the 1920s, as we learn in Chapter 5, "Discovery." He called investment into research "patient money," whose dividends might not materialize for a long time. Once the executives were convinced, DuPont went forward with an aggressive program of basic investigations in five areas—catalysis, colloids, polymerization, chemical engineering, and chemical synthesis—each headed by a distinguished research chemist. Indeed, in that 'golden era' of discovery, DuPont came forth with highly successful products such as neoprene and nylon. It was in 1935 when, under severe public criticism for its undue profiteering at the expense of the public, DuPont coined the famous—now, in some minds, politically incorrect—motto, "Better Things for Better Living..Through Chemistry."

The era of World War II, covered in Chapter 6, "Science and the Affluent Society," provided the challenge of contributing to the war effort, which DuPont did under the supervision of Crawford H. Greenewalt, who later headed the company. DuPont collaborated in construction of the nuclear reactor at Oak Ridge as part of the Manhattan Project, with the understanding that the company would be remunerated in the amount of $1 above the cost. (In the final settlement, the government auditors insisted DuPont return 33 cents because the war ended before their contract did.) At the end of the war, Greenewalt oversaw the adjustment to peacetime manufacturing and the appearance of products such as Dacron®, Orlon®, and Teflon®.

The more recent evolution of DuPont, described in detail in Chapters 7-9, includes the prosperity of the 1960s superimposed on social and economic pressures brought on by concerns for the environment; the inevitable tension between basic and applied research; new directions toward pharmaceuticals, agricultural chemistry, and biotechnology; discontinuation of the manufacture of explosives in the 1970s; and response to the energy crisis.

Although the book clearly sends a message of pride in the DuPont Company, it is presented in a highly objective style and enriched with myriad photographs and reproductions of archival documents, aside from the promotional materials (The reader is told that the dust cover is made of Tyvek® and given a web site for further information.) In this reviewer's opinion, the author has effectively presented a detailed, honest account of the founding, growth, and evolution of DuPont. It includes not only the major successes but also misjudgments, financial failures, and family squabbles. The ample Endnotes for each chapter are particularly appreciated by the historian. Especially helpful for an overview of DuPont's hierarchy is a partial "family tree" on p 9, depicting members of the du Pont family (and spouses) who have played a role in the company's founding and management. It would have been even more useful had it included dates of service. The index appears to be extensive and accurate. The book will be attractive on the coffee table, but it is far more than a decoration—a source book of a chapter in the history of American industry. *Paul R. Jones, University of Michigan*

The Last Alchemist: Count Cagliostro, Master of Magic in the Age of Reason. Iain McCalman, HarperCollins, New York, 2003, xii + 246 pp, ISBN 0-06-000690-0, $25.95.

Giuseppe Balsamo, alias Count Alessandro di Cagliostro, among several other pseudonyms (1743-1795) gained fame and infamy in France, Russia, and England in the latter half of the 18th century for his reputed skills in alchemy, mysticism, and necromancy. Yet his names are far less familiar than those of his alchemical predecessors of the previous century or his contemporaries with more formal education than he possessed. He warrants no mention in the chemical histories of Partington or Ihde, and an internet search under "cagliostro" yields only four hits, provided by *Theosophy*, *Encyclopedia Britannica*, Google, and Alpha Chi Sigma. Author McCalman, Director of the Humanities Research Centre, Australian National University, provides a highly readable rendition of the man, warts and all. We are told how the author was motivated to write this account in the very last paragraph of the book:

> Of all the real and mythic lives of Giuseppe Balsamo—Alessandro Cagliostro, the one, finally, that attracts me most is the one I encountered first outside the house of Balsamo in Palermo—the one that launched my project of writing this book.

In stating this, McCalman has chosen to accept some "facts" of Cagliostro's life over others, for the account of this character in the *Theosophy* source indicates mystery and uncertainty about the location of his birth. The sources for this book are numerous, however, including archival material from libraries in Australia, Paris, Strasbourg, London, Oxford, Italy, Basel, and California. The reader is reassured that many of the letters,