directly to the early years of the conflict. Hoyle worked on radar at Nutbourne, the large field in Sussex where the radar antennas for naval radar were designed. He describes the problems of returning in 1945 to Cambridge with a junior lectureship and of defining his direction in research. But define it he did with characteristic creativity. His account of his theory of nucleosynthesis in stars is required reading for astronomers. Coming well before his steady-state cosmology, it shows clearly that we should bury once and for all the canard that stellar nucleosynthesis was presented to prop up the steady-state theory. One has heard that too often, and it is false.

In the third part, Sir Fred shares much of the administrative side of his scientific life. Elected Plumian Professor in 1958, he became the champion of the revitalization of British astronomy, its greatest fundraiser, political liaison for government planning in astronomy, founder of an instantaneously famous research institute, chairman for the design and construction of the Anglo-Australian Telescope, and perhaps the most spell-binding lecturer astronomy has known. He, of course, does not claim these superlatives; but as a half-time colleague at his institute in Cambridge during its magic six years (1966–72), I can assure the reader that they are no exaggeration. These pages lead us through the high points and dwell little on the lows. Of special interest are Hoyle's efforts to create and maintain the Institute of Theoretical Astronomy on Madingley Road. Never able to suffer fools gladly, Hoyle succumbed in 1972 to destructive acts by envious university competitors. A hard pull up a Scottish Munro was his technique for clearing his mind and keeping it in balance, as I was lucky to learn from him. His love of the hills is evident throughout — even in the title.

In the last chapter, Hoyle gives us in forceful prose not only the definitive history of the steady-state Universe but also an evolution for its future. He explains in direct language why he regards simple Big Bang cosmology as a dead end (and this despite his lasting fame for naming the Big Bang and for his pioneering calculation of the origin of helium in the event). His scalar field interprets black holes as sources of matter rather than as sinks. Like a mountain guide with a compass, he outlines the cosmological terrain over which he has travelled for half a century, complete with its wrong turns and acrimonious assaults by others. It is an inspired vision, with testable scientific history far more distant than that single unknowable event of creation just one Hubble time ago. □

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A misanthropic philanthropist

John L. Heilbron

Alfred Nobel: A Biography. By Kenne Fant. *Arcade*: 1993. Pp. 342. \$24.95.

ALFRED Nobel flaunted inconsistencies. The King of Dynamite, the inventor of smokeless powder and the mastermind of the Swedish munitions industry, he supported peace movements; an engineer, applied chemist and aggressive capitalist, he wrote, and established a prize for writing, "literature of an idealist tendency". With a good head for business but a weak stomach for delegation, he ran his

scientist and clever entrepreneur.

Fant does not try to integrate the many Nobels at whom he hints with the "grumpy" (such was Nobel's self-characterization in his letters to Sofie) man immanent in the documents he quotes. From the opening quotation, from a letter of 1887 ("Alfred Nobel — pitiful creature, ought to have been suffocated at birth by a humane physician when he made his howling entrance into this life"); through epigraphs from "Nemesis" ("My life is woven out of torment"); to excerpts from the letters to Sofie ("My stomach hurts so much"; "My nobility of soul has withered away"; "I hope that you will never be struck by the feeling of debasement that embitters my days"), Fant's Nobel is permanently lugubrious and self-absorbed. This stasis may be related to Fant's profession of cinematography. The establishment of character in a film requires or rewards techniques different from those appropriate to a written biography.

Readers of *Nature* may be disappointed by Fant's perfunctory accounts of Nobel's inventions and their place in the second Industrial Revolution. He does not explain how the chemists of the mid-nineteenth century understood the properties of nitroglycerine or describe how dynamite was manufactured, nor does he tell in any detail how Nobel's explosives revolutioned civil engineering and improved the art of war.

The letters of Sofie Hess have only recently been made available. They have survived in a safe place because of blackmail: Nobel's executor, Ragnar Sohlman, bought them from her during the contest over Nobel's will. Sohlman reasoned that the news that Nobel had kept a silly, spendthrift, ignorant girl (so Nobel describes Sofie in his letters to her) would create a public image inimical to the implementation of the odd idealistic testament of a man then already sufficiently suspect as a merchant of death. Fant's book demonstrates Sohlman's wisdom. The letters, printed as they are without commentary, create a picture of Nobel that swamps the more interesting and complicated personality implicit in other documents.

Fant's good partial portrait demonstrates the desirability of a full biography of the King of Dynamite that would put together the elements of Nobel's personality and integrate the whole with his knack for invention and approach to business. Such a biography would make a welcome appearance some time between the centenary of Nobel's death (1996) and that of the first Nobel prizes (2001). □

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Alfred Nobel (1833–96).

enterprises by correspondence without an office or a secretary. Nobel insisted that he was frail, but worked for 18 hours a day; he went into society, and acted the misanthrope; he prided himself on his rationality, and took elaborate precautions against being buried alive.

A good writer with an ear for quotation can scarcely avoid making Nobel's life interesting. Kenne Fant is such a writer. He lets Nobel speak primarily through letters to his brothers and to Sofie Hess, a woman 25 years his junior whom he kept for more than a decade. Fant also relies heavily on a play Nobel wrote a few years before his death. Its title, "Nemesis", is the most cheerful thing about it. The man who emerges from this selection of documents is a melancholic, hypochondriacal, misanthropic workaholic. To be sure, Fant lets slip hints of other Nobels: the good son, brother and uncle; the philanthropist; the man of wit, friend of Victor Hugo and lover of literature; the creative