Profitable frontiers

Daniel S. Greenberg

The Golden Helix: Inside Biotech Ventures. By Arthur Kornberg. *University Science Books*: 1995. Pp. 287. \$28, £24.95. Distributed in Europe by W. H. Freeman.

THE Nobel laureate Arthur Kornberg does not hoard his spears in this candid, acerbic memoir of an academic scientist's venture into industry-financed research. Ravenous Wall Street investors, dense

Budd Gray

Talking candidly: Arthur Kornberg, with Lewis Thomas (right).

corporate management, arrogant scientists, misleading pharmaceutical advertising, confusion-sowing lawyers and myopic university administrators are plump targets for the professor emeritus of biochemistry at Stanford University's School of Medicine. In a calling rife with antagonisms, the bane of many professorial memoirs is a bland aversion to causing offence. Not Kornberg's.

He reports, for example, that in 1980, when he and the legendary scientist-entrepreneur Alex Zaffaroni, of Syntex renown but off on his own, sought capital for a start-up venture, the Syntex executives they visited "were utterly rude in their treatment of Alex, who had conceived and created the Syntex they occupied in Palo Alto". Kornberg criticizes Roy Vagelos, then president of Merck, for "disdain" for small biotech ventures, adding that "this disdain would dictate Merck policy for the next decade".

Johnson & Johnson's top-selling "Extra-Strength Tylenol", he caustically observes, "is merely a larger pill containing 500 grams of acetaminophen instead of the customary 375". Discussing Schering-Plough's frictional relationship in the late 1970s and early 1980s with its biotech-dependant, Biogen, Kornberg observes that the "scientists regarded the business people as shallow mercenaries, and the business people looked upon the scientists as a necessary evil". The difficulties, he writes, were heightened by "the

abrasive manner" in which board meetings were chaired by Walter Gilbert, a 1980 Nobel prizewinner. Gilbert, he reports, made "daily phone calls" to the chief executive officer, Robert Luciano, "berating the ineptitude of the Schering-Plough staff and the inadequacy of the company's operations".

Kornberg finds no end of targets. Scientists at the booming Genentech start-up company were "distracted by concerns about how best to enjoy and invest the bonanza profits pouring in from their ownership" of stock. And from his perspective as a witness in litigation challenging patent rights for the polymerase chain reaction (PCR) technique, Kornberg deplors "inappropriate commercial exploitation of knowledge that was paid for [by], and belonged to, the public".

Although corporate and academic stumbling and inanity are his backdrop, Kornberg is mainly concerned with telling the tale of a successful marriage of fundamental research and industrial money. Blessed with foresight and good luck, he says, he and his colleagues successfully melded corporate support and university-style, open basic research in what he proudly describes and lauds as an exceptional creation: the DNAX Research Institute of Molecular and Cellular Biology, Inc., which, after a parched period, became a well-financed subsidiary of Schering-Plough. Focused on the molecular biology of T cells and cytokines, DNAX, founded in 1980, is described by Kornberg as "a small institute, remote from the imperatives of product development and marketing and given the freedom to innovate".

In these admirable respects, he asserts, it is a rarity in pharmaceutical research, as well as a miraculous survivor, given the ravenous demand for products and cash flow in the profit-starved biotechnology industry. Kornberg salutes the scientific and marketplace achievements of other biotech companies, notably Amgen and Genentech. DNAX has yet to produce an economic blockbuster, he acknowledges, but he expresses confidence that therapeutic value and riches are sure to ensue from Schering-Plough's development of DNAX's pioneering research on the powerful interleukin IL-10.

Steeped in the values and culture of academic fundamental research, Kornberg urges recognition of the continuing intellectual debt that the pharmaceutical industry owes to university-based science. "The industrial sector", he states, "must be reminded that the concepts, techniques, and practitioners of biotech

ventures and biotechnology driven pharmaceutical firms all came from basic academic research. As technologies proliferate and gain in sophistication, their scientific foundations are submerged and forgotten." And he warns against "illusions that basic research can be left to industry". "In fact", he declares, "more than 90 percent of such research has been, in the past, and must be in the future, done in university and other academic settings, requiring massive support to the tune of billions of dollars from the taxpayer through the federal government."

Kornberg's unexceptionable views on the wellsprings of scientific knowledge are embedded in a smartly written work that will reward readers in academe and industry. One puzzling dissonance, however, must be noted by this otherwise admiring reviewer. Yes, of course, as Kornberg writes, the indispensable billions for basic research in the United States must be provided by the taxpayers through the federal government. It is jarring, then, to find that elsewhere in *The Golden Helix*, Kornberg reports that Zaffaroni "incorporated DNAX in the Isle of Jersey, one of the Channel Islands, a maneuver designed to save taxes on future earnings as had been achieved by making Syntex a Panamanian company". No comment. □

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Betrayer of truth

Anthony Snodgrass

Schliemann of Troy: Treasure and Deceit. By David A. Traill. *John Murray*: 1995. Pp. 365. £19.99.

DAVID Traill would hardly claim to be a detached observer of the excavator of Troy and Mycenae, his quarry for the past 15 years. This is the third book he has published, jointly or alone, on Heinrich Schliemann: with his painstaking search through diaries, newspapers, catalogues and weather-reports, he would make a great prosecuting counsel. He has proved beyond argument that Schliemann, if not a complete psychopath, was an unsavoury character, egocentric, a bully to the weak and a sycophant to the powerful, and, above all, profoundly dishonest.

Schliemann was not just economical with the truth: he purveyed lovingly crafted, circumstantial falsehoods especially but (alas) not only about his personal life. He was sometimes caught out in his lifetime, which explains the contempt in which some (not all) of his learned contemporaries held him, and