AIDS from Its Beginnings

History of AIDS. Emergence and Origin of a Modern Pandemic. MIRKO D. GRMEK. Princeton University Press, Princeton, NJ, 1990. xii, 279 pp. $29.95. Translated from the French edition (1989) by Russell C. Maulitz and Jacalyn Duffin.

Mirko Grmek of the Ecole Pratique des Hautes Etudes at the Sorbonne, an authority on diseases of the ancient Greek world, has now turned his attention to AIDS. In this important and provocative book he analyzes the recent history of the disease and also delves somewhat more speculatively into the prehistory of the current epidemic.

The book begins with the recognition of AIDS as a new disease, its clinical recognition and epidemiological description, and the initial identification of risk groups. This part of the story is already familiar, but Grmek's inclusion of the European experience adds a dimension usually omitted from American accounts.

Grmek then provides a wonderfully lucid and concise overview of the history of virology. He describes the discovery of oncoviruses, retroviruses, and slow viruses and explains how virology was ready in 1980, as it would not have been ten or even five years earlier, to identify the causal organism of AIDS. This leads into what is perhaps the most controversial episode in the whole history of virology, the priority dispute over the discovery of HIV. In Grmek's view, there is little doubt that the credit properly belongs with Luc Montagnier's team at the Pasteur Institute in Paris.

Grmek's account of Robert Gallo's contributions and subsequent actions paints an unflattering portrait of a man willing to stop at little to gain scientific recognition. His discussion is also framed as a lesson in the pitfalls of prior success. Grmek notes that Gallo and his colleagues had forged the scientific tools that were indispensable to the discovery of HIV and had isolated the first human retroviruses, HTLV-I and HTLV-II. This very success, Grmek argues, became a barrier to the discovery of the AIDS virus because Gallo, convinced that it was a variant of HTLV, spent his time trying to prove that contention. The Montagnier group, unfettered by such preconceptions, had the freedom to explore alternative hypotheses.

When the French team isolated LAV, Grmek suggests, Gallo felt deprived of a prize to which he believed himself entitled in view of his previous discoveries; this led him to construct a "face-saving scenario" and "to fight with all available means" (p. 71). The real problems began when Gallo tried to prove that the virus he called HTLV-III was identical to the French team's LAV. The story involves electron microscope pictures, supposedly of HTLV-III, that were really images of LAV. When LAV and HTLV-III were shown through genetic sequencing to be all-too-identical twins, the suspicion arose that HTLV-III had actually been isolated from samples sent from Paris. Gallo, either by accident or by design, may have used the French team's viral culture for his own "discovery."

On this account, the subsequent international political compromise in which the United States and France agreed to share credit for the discovery and to divide the considerable royalties from the patented HIV diagnostic test was a poor deal for France. The "official history" that all parties agreed to accept was little more than a chronology that glossed over all the more problematic aspects of the dispute. Grmek's account of this whole affair is fascinating although brief; both the facts and their interpretation continue to be debated.

The second half of Grmek's book is even more ambitious in taking a long perspective on the epidemic and attempting to trace the distribution of AIDS viruses in time and space. Here conjecture replaces conviction and the flow of the narrative is uneven. Many readers, however, will find the discussion rich and suggestive. Having searched the medical literature for probable cases of AIDS, Grmek states that retroviruses capable of causing AIDS have certainly existed for several decades and probably for some centuries. He discusses several plausible cases of AIDS in the 1950s, including that of an English sailor who died in 1959. Grmek argues that HIV-2 probably existed long before the present AIDS pandemic due to HIV-1. He then tries to create an evolutionary tree of retroviruses, its branches representing the ancestry and evolutionary distance between viral forms.

If HIV has been around for a long time, why should it only now lead to an epidemic of AIDS? Grmek argues that a new set of social circumstances has facilitated the transmission of the highly virulent strain of an old virus. These include "organized homosexual promiscuity" and greater liberty in sexual behavior, increased travel, widespread transfusion of blood and blood products, and escalating use of intravenous drugs.

Grmek emphasizes the concept of "pathocenosis" in arguing that any single disease must be understood in relation to all other diseases affecting the same population. From this perspective, the "worldwide unification of the pool of pathogens" and the spectacular decline of many infectious diseases have provided enticing new viral opportunities. The decline of infectious diseases allowed time for the slow viruses to grow, while other aspects of mid-20th-century life provided the slow viruses with the conditions they needed to multiply and thrive.

Any summary necessarily skims the surface of Grmek's complex arguments. Anyone concerned with the origins of the epidemic and the history of HIV will want to come to terms with his analysis. The translators of the work, who are both physicians and historians of medicine, are well qualified to deal with the technical scientific arguments and, for the most part, have rendered a graceful English text.

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Regulation Reexamined

Rheostasis. The Physiology of Change. N. MROSOVSKY. Oxford University Press, New York, 1990. viii, 183 pp., illus. $49.95.

Even our greatest scientific concepts become preconceptions, paradoxically illuminating and obscuring our view of the world simultaneously. In physiology, a case in point is the principle of homeostasis, the maintenance of a regulated and constant internal condition. It has been enormously influential in structuring physiological thought since its elements were articulated by Claude Bernard over a century ago. Constancy and regulation of function have become anticipated standards, to the extent that any biological system that does not uphold them is seen as necessarily inferior. Consider mammalian hibernation and its attendant low body temperatures. Bernard himself saw this as an instance of poor and primitive thermoregulatory ability, an example of *la vie oscillante, dépendante*, rather than *la vie libre*. This view warped our appreciation and understanding of hibernation until only 20 years ago. Hibernation then finally became recognized as a highly regulated state with an altered thermal setpoint. It is a response to complex seasonal and energetic demands and cues and is not primitive, inferior, or an abandonment of thermoreg-