A Savage History

A new book highlights disturbing details about the early days of organ transplants.

MARK WILLIAMS

TRANSPLANT
By Nicholas L. Tilney
Yale University Press
320 pages, $30

FOLLOWING THE NEWS in 1967 that Cape Town's Christiaan Barnard had implanted a human heart inside 55-year-old Louis Washkansky, cardiac surgeons worldwide raced to be the next to perform such an operation—despite the fact that Mr. Washkansky died 18 days after undergoing his. By the end of 1969, 166 heart transplants had been carried out in 22 countries. Like Mr. Washkansky, all the early recipients of transplanted hearts died soon after surgery as their immune systems rebelled.

The excitement that attended the initial transplant surgeries—beginning with the first kidney transplant in 1954 and climaxing with the heart transplants of the '60s—is hard to imagine today, when tens of thousands of transplant operations are conducted in the United States every year and just short of 2,500 are cardiac transplants. Nicholas L. Tilney, director of the Surgical Research Laboratory at Harvard Medical School, refreshes our memories in his book *Transplant: From Myth to Reality*, but the history he presents may anger many readers because it raises this question: Did the ends of transplant surgery justify the means employed by many of its pioneers?

From the beginning, excessive hype surrounded the procedure. For Britain's first heart transplantation, in 1968, the donor was conveyed to the National Heart Hospital in an ambulance preceded by a cavalcade of paparazzi—they had been tipped off by one of the doctors. Then, after the operation, "the surgeons, in full operating regalia, appeared on the steps of one of the London teaching hospitals to the shouts of cheering crowds, bands playing 'Britannia Rules the Waves' and 'God Save the Queen,' and the waving of flags." Public disenchantment followed some of the more disturbing transplant stories: the political manipulations of the two men responsible for the first artificial heart implanted in a human in 1969; and the case of brutal abuse in which a black "donor" had his heart removed, apparently without his permission, for a transplant in South Africa in 1968.

The overwhelming fact about the history of transplantation is how much patients suffered before they died, all for the sake of their surgeons' reputations. The argument that such suffering was ultimately justified and that it actually advanced medicine as a whole—as proponents of cardiac transplantation argued in the late '60s—ignores what became clear after the very first such operation performed by Dr. Barnard: without effective immunosuppression, it could not succeed.

Most of the next few hundred heart transplant operations were unscientific insofar as they ignored this. After the heart-transplant circus of the '60s, some observers argued that transplant doctors had acted recklessly. Dr. Tilney quotes Francis Moore, a pioneer of 20th-century surgery and the leader of the team responsible for the first successful human organ transplant in 1954 (a kidney transplant from one identical twin to another): "Does the presence of a dying patient justify the doctors' taking any conceivable step regardless of its hopelessness? The answer to this question must be negative." Dr. Moore continued, "It calls into discredit all of biomedical science, and gives the impression that physicians and surgeons are adventurers....The dying person becomes the object of wildly speculative experiments when he is hopeless and helpless."

Does the focus demanded by groundbreaking medical research always breed a strange indifference toward the well-being of its human subjects? No. Still, surgery is constrained to addressing the most ineluctable aspect of the human animal—its existence as flesh. Transplant surgery performs freakish miracles with that flesh. It shouldn't be entirely surprising that—as Dr. Tilney shows—some of its practitioners were surpassingly arrogant.

The battle for immunosuppression finally became winnable after 1972, when the Swiss biochemist Jean Borel discovered cyclosporine A, a fungus-derived substance that inhibits T-cell activation. When the drug was marketed in 1983, it revolutionized the field of transplant surgery. In the '90s, other immunosuppressive agents were discovered with increasing frequency (see "Pork Futures," page 76).

Nowadays, 40,000 transplant surgeries are performed annually worldwide. For recipients, of course, these deeply invasive surgeries and the immunosuppressive treatments that follow are lifesaving. But it could be argued that the number of lives that transplant surgery saves annually is statistically insignificant—so why has this specialist medical subculture garnered such public attention? Partly, as *Transplant*'s subtitle suggests, the notion of transplantation is itself epic, something only capricious gods could achieve. Partly too, an exotic caste of specialists glamorized the surgery because it was fascinatingly difficult and they wanted to attract talented interns.

These days, recipients rarely die and organs rarely fail. Ahead for transplant surgeons, as Dr. Tilney writes, lies the promise of bioengineering to create replacement tissues and even whole organs. In the meantime, he notes, surgeons must face such problems as too few organs, too many patients, and continual financial pressure. For these reasons, in some countries, it is becoming difficult to recruit transplant surgeons. In the United States, overall numbers are steady, but many physicians are leaving to pursue other specialties, frustrated that the unrelenting clinical pressures of transplant surgery under managed care leave them no time to pursue laboratory research. From myth to reality indeed!

New & Noteworthy

EIGHT PREPOSTEROUS PROPOSITIONS
From the Genetics of Homosexuality to the Benefits of Global Warming

By Robert Ehrlich
Princeton University Press
360 pages, $28

In his much-anticipated sequel to *Nine Crazy Ideas in Science*, physicist Robert Ehrlich takes on such widely bandied-about pop-science topics as the effectiveness of placebo cures, the dangers of cholesterol, even the possibility of extraterrestrial life. An entertaining guide geared mainly toward nonscientists, this book serves as a primer for evaluating the plausibility of ideas and the trustworthiness of so-called experts by way of the author's flakiness-rating scheme, on a scale of zero to four.

THE IMMORTAL CELL
One Scientist's Quest to Solve the Mystery of Human Aging

By Michael West
Doubleday, 256 pages, $25

The founder of Geron and Advanced Cell Technology portrays himself as a onetime creationist who began his quest into therapeutic cloning and anti-aging research after the death of his father. Disingenuous? Perhaps, but whatever you think of Michael West's motivations, it's irrefutable that he and his current company are lightning rods for the anti–stem cell research lobby. Though light on some of the not-so-positive details (his contentious departure from Geron, for example), this brisk memoir is important reading for anyone who wants to know more about stem cell science from one of its most important and controversial players.

BUILDING GLOBAL BIOBRANDS
Taking Biotechnology to Market

By Francoise Simon, Philip Kotler
Free Press, 400 pages, $35

Delving into plenty of examples and case histories, these dual marketing strategists and business professors write that biotechnology may already account for "a third of world GDP." Even if it's not quite that much yet, there's no doubt the sum total is extraordinary. Their centerpiece is the idea of a global "targeted" model, and they deftly illustrate it with their discussion of the launch of such blockbuster drugs as Viagra, Lipitor, Rituxan, and Gleevec. Required for anyone with even a passing interest in biotech.