that antimilitarism, far from being an aberration, is reflective of a basic American trait that subsided with World War II and the ensuing Cold War period. This book should be required reading not only for academics and policy makers but for all concerned citizens. It tells as much about hypocrisies and myths in contemporary American society as about the inequities in our military services.

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Designing Doctors

Interns. From Students to Physicians. EMILY MUMFORD. Harvard University Press, Cambridge, Mass., 1970. xiv, 298 pp., illus. $8.50. A Commonwealth Fund Book.

This book is a study of the way the training and experience of interns vary from one hospital to another. Essentially, it contrasts the experience of interns in a 1200-bed university hospital with that of interns in a somewhat less than 400-bed community hospital with no medical school affiliation, reinforcing these case studies by reference to less intensive data obtained from visits to other teaching hospitals and from a national survey of interns and residents. However, it does more than merely describe some of the problems of postgraduate medical education: in the course of its exposition it sketches out two increasingly separate traditions in medical care, and questions the desirability of their separation.

Each of the two hospitals where interns were studied intensively represents one of those traditions. On the one hand there is academic medicine, highly specialized and intellectualized, committed to meeting the challenge of "interesting cases" and bored with, even contemptuous of, the common, everyday illnesses with which most people are afflicted. Its commitment is to the study of diseases and conditions, not to the people who suffer them. On the other hand, there is everyday community medicine, which while increasingly specialized must nonetheless for economic survival deal with people as people, and deal with ailments because they are important to those who suffer them rather than because they are interesting.

Each hospital seemed to push its interns in a separate direction, toward a different standard of medical care. At the university hospital, great stress was placed on keeping up with the latest research findings, on maintaining careful and extensive medical records, on teamwork and consultation with colleagues and seniors, on routine review of one's work by others, and on the uncertainty and deficiency of available knowledge, which preclude dogmatism in medical opinion. Research, teaching, and specialization were emphasized, and the interns were far more prone to respect and defer to their senior colleagues on the house staff and to the full-time teaching and research staff than to the physicians in local practice who came into the hospital to visit and treat their "private" patients. These interns came to aspire to enter a residency so as to develop a medical specialty, tending to prefer a career of research and teaching over one of everyday community practice.

In contrast, at the community hospital medical records were seen more as obnoxious administrative necessities than as valuable aids to the treatment of present and future patients, reading journals for up-to-date information was given low priority, and relations with fellow interns were more competitive than cooperative. Independence and decisiveness rather than caution and further study were emphasized as desirable, and the attending physician was respected both for his personal clinical experience and for his capacity to serve as patron to the young doctor who would be seeking a practice of his own after concluding his training. Little attention was paid at the university hospital to problems of managing patients, whereas great attention to it was required at the other. Interns at the former expressed contempt for the dated scientific knowledge of the attending physicians in local practice; interns and attendings at the latter considered the knowledge and capability of the "professors" to be impractical and narrow.

In a sense the book portrays the old conflict between town and gown, marketplace and academy, action and idea. But in the case of medicine it is no longer the pragmatic practitioner but rather the scientific academy that provides the criteria of knowledge and skill for adequate care. However, when the academy emphasizes solely technical and intellectual features of knowledge and skill it does not actually equip its trainees to apply what they have learned to human beings. Conversely, when the community practitioner is sensitive to the demands of his patients but approaches therapy incautiously and on the basis of out-of-date knowledge, his patients may not survive their "warm" and "friendly" care. Clearly, the two must be brought together, in and out of training.

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An Ethical Question

Research and the Individual. Human Studies. HENRY K. BEECHER. Little, Brown, Boston, 1970. xxii, 362 pp. $15.50.

Poverty amidst affluence, environmental pollution, population explosion, crime and violence, racial conflict, drug addiction, campus turbulence, a generation gap more like a gulf, limited war and the ever-lurking threat of all-out holocaust, theological upheaval, moral decay concomitant with scientific and technological burgeoning—any may be the lodestar of tomorrow's historian as he seeks the chief influence in today's maelstrom. But another candidate for first place—one apparently destined to increase even as the others (one hopes) diminish—is the threat to the autonomy of the human person.

Whether experimentation on humans turns out to be a significant part of that threat depends on science's and society's answer to the incisive question posed by the author of this book: What are the permissible limits to and the proper conditions for experimentation on human beings? It is a hard question, and the author deserves respect for his learned, wise, and courageous attack on it. On the one hand,

> It must be evident that human experimentation that has already proved its essential usefulness must increase. . . . Medical science is economical; every new fact is multiplied—not divided—as it is disseminated and utilized down the years. It is not possible for medical research to stand still. If it fails to progress, it will regress . . . [pp. 4, 10].

On the other hand the author, who for 40 years has been not a philosopher or moral theologian but an investigator studying man (he is a professor of research in anesthesia at Harvard), acknowledges that science is not the highest value to which all other orders of value should be subordinated (p. 3).

As Sir Theodore Fox has put it, "We shall have to refrain from doing things merely because we know how to do them."

Beecher places the problem in historical perspective:

> It was the practice in ancient Persia for the king to hand over condemned criminals for experimental purposes in science. The Ptolemies used criminals in Egypt, and so did Fallopius in Pisa during the Renaissance. . . . In 1722, inmates of the infamous Newgate prison volunteered to be innoculated for smallpox—as an alternative to hanging, it might be added [pp. 5–6].

Nor does he spare the ethician the shock of confrontation with experimentation's past realities:

> Beriberi was a particular problem. In December, 1905, William Fletcher took the lunatics in an asylum at Kuala Lumpur, marched them to the dining room, and numbered them off. The odd-numbered patients were given the regular hospital diet of uncured rice, and the even-numbered received cured rice, containing sufficient vitamin B to prevent beriberi. Some 43 of the 120 patients on uncured rice developed the disease, and 18 of them died. No patient of the 123 on the cured rice died, and only 2 developed beriberi. (They had it on admission.) [p. 11].

Particularly timely and helpful is the discussion of the problem of free, voluntary, informed consent to experimentation. Among the criteria of the validity of human experimentation—which include adequate preparation by animal experimentation, a consensus of informed medical opinion as to its legitimacy, and absence of legal prohibition—certainly consent by the subject is one of the most important. If the author fails to crystallize a certain norm of voluntary "informed consent," settling for the notion that it is a *"goal toward which we must strive"* (p. 28), who can blame him? Are we much more specific or meaningful with our concept of "voluntary confession" in criminal law administration? He does warn against the myth that rigid codes emphasizing consent will guarantee security. He sees wisdom in the common-law method of evolution of principle from case to case.

At times the discussion fails to suggest the clear-cut distinction which, this reviewer believes, should always be maintained between (i) experimentation for the benefit of a particular patient in a patient-physician relationship, and (ii) experimentation for the general interest of scientific learning in an experimenter-subject relationship. Indeed, at one point the author asks:

> Does it really make a difference in the relationship whether the beneficiary is a man or the beneficiary science in general? The physician's qualities and qualifications of probity, discretion, honesty, skill, knowledge, and insight, which are the bed-rock of the doctor-patient relationship, have not altered as he proceeds from directly benefiting his patient to generally benefiting science [p. 89].

But is it not a sufficient answer that the rights of the recipients of the services *are different*? The author's own statement of "Some Guiding Principles for Clinical Investigation," 1966, reproduced in appendix A, clearly delineates the two types of experimentation. (This appendix, whose contents range from the Hippocratic Oath to the 1968 Code for Self-Experimentation of NIH, is a rich source for the scholar.)

The most timely and significant discussion is that concerning the ethical problems of transplantation, including the question of restating the criteria for pronouncement of death. This, coupled with the concluding chapter, "Science in relation to moral, ethical and religious issues," often strikes at the core problem of the dilemma of human experimentation. The rapid, perhaps precipitous facilitation of transplantation by almost overnight adoption throughout the states of the Uniform Anatomical Gift Act, or similar statutes based on its premises, leads this reviewer to hope that soon the author, eschewing the modesty that causes him to announce he is only an investigator, not a philosopher, will focus his experienced and informing light on even more basic problems of transplantation: How good is it psychologically and morally for people to continue on with the hearts or other vital organs of other people? How desirable is such extraordinary prolongation of life in today's assumedly exploding population? How much expense can be justified from the social viewpoint to keep extant life that nature would forfeit? When does the time come to surrender one's claim upon the earth to the needs of new life? Is the distinction between ordinary and extraordinary means a viable basis for determining when the resuscitator may, or should, be turned off? Is not the *motive* for transplantation the potentially corrupting factor that makes too simplistic such statements as that in the Harvard Medical School Report of the Ad Hoc Committee to Examine the Definition of Brain Death (reproduced in appendix B; the author served as committee chairman): "Obsolete criteria for the definition of death can lead to controversy in obtaining organs for transplantation"?

And, finally, his insights would be valuable on perhaps the ultimate question: Is the noisy rush to the scientific wonder of transplantation blurring a possible threat to the autonomy of man?

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The Falconiformes

Eagles, Hawks and Falcons of the World. LESLIE BROWN and DEAN AMADON. McGraw-Hill, New York, 1968. 2 vols., boxed. 946 pp., illus. $59.50.

This authoritative, definitive (and weighty: 12½ lb in slipcase) treatise comes at an opportune time. Many of the better-known (and who knows how many of the lesser-known?) birds of prey such as the osprey, the bald eagle, and particularly the peregrine falcon have recently suffered drastic reduction in population and curtailment of range over much of the Northern Hemisphere. Little is known about conditions in the Southern Hemisphere, but the heavy and increasing export by the U.S. chemical industry of "hard" pesticides to countries in South America and Africa leaves little doubt that major problems in species survival are arising in those regions. It is now generally believed that much or most of the high concentrations of pesticide residues in Arctic populations of the peregrine falcon are acquired while the birds are on their wintering grounds in South America, as well as through feeding upon migrant species of birds in the Arctic which have acquired *their* residue concentrations in South America.

The peregrine and many other birds of prey are at the upper ends of food chains and are therefore most vulnerable to ecosystem poisoning. But man has been unconcerned with and largely ignorant of this upper region of the ecosystem; his historic exploitation of such lower-level herbivores as cattle and sheep and his longer history of the hunting of such trophically low-level animals as deer and rabbit have conditioned him to viewing the higher-level consumers such as wolf and eagle as competitors. Today sheep and goat raisers in Texas and New Mexico make war by gun, trap, and poison on the golden eagle, and even more bitter persecution is suffered by the wedge-tailed eagle in Australia; in each case