

From Prometheus to Frankenstein

Some of our most pervasive myths concern the ambivalence of human knowledge (The Fall of Man; the Punishment of Prometheus; the Faustus legend; Frankenstein ("the new Prometheus") and his monster.)

At the present time, many voices demand some kind of social control over the potential abuses of new knowledge. These concerns have many sources; many of them are confused and mutually inconsistent -- for example, we may hear demands for the containment of knowledge that are tantamount to the thought control which is the preeminent fear. The most strident abuses are those which, for example in military technology, enhance the actual or self-perceived power of the community itself. The development of nuclear energy and weaponry might appear to be the ultimate unthinkable for the possible abuse of physical science. Nevertheless, the power of nuclear energy is still contingent on a large scale industrial plant, and its control remains within the sphere of geopolitics and international relations.

One can, however, fabricate a compelling example of the necessity of stringent social control of certain kinds of knowledge, for example when we anticipate the possibility of a BBHB (bargain basement hydrogen-bomb), a nuclear weapon for personal use. It staggers the liberal imagination to speculate on the political and interpersonal framework of a world where such a diffusion of destructive power could be contemplated. We may also tax ourselves to begin a critical analysis of the stages of such developments. We would then have to weigh the realistic costs and side-effects of attempts to forestall them, or to establish technical or institutional antidotes.

More recently, the burden of such concerns has shifted to biology and psychology. Some of these concerns have a realistic basis -- for example, the germ weapon might still be the political equivalent of the BBHB. (President Nixon's policy statements in recent months about U.S. investment in BW research are the first encouragement that we are not actively dissipating the main barriers to a biological BBHB). The analogous challenges from the behavioral sciences are tempered more by their complexity than their potential gravity. One hears of "control of mind"; but it is hard to draw a sharp line to distinguish this from logically inevitable socialization, education and acculturation of the young, ideological recruitment and indoctrination, and the manipulation of information, opinion and belief through the mass media. The survival of personal freedom is here closely bound up with the structure of systems of communication.

Public thinking tends to confuse these mass influences with isolated interventions that follow from experiments in biology, and almost inordinate attention has been given to issues like genetic engineering. This has much the same relationship to the manipulation of the human being as does surgery or pedagogy. There is no doubt that great mischief can ensue if you put your child in the hands of an incompetent or malevolent doctor (= "teacher"). A dictator could also doubtless enforce a program of mass lobotomy to tranquilize his subjects. (He has, of course, circuses and drugs as easier ways). We must look again to the protection of individual freedom in the face of potential manipulation of any kind -- informed consent is the key, which invokes responsibilities far beyond the legal forms of due process. We must also inform, and we can hardly do this until we have educated ourselves.

Among the indictments of scientific progress, many are spurious; some are paradoxical, and some are real. Of the latter, anomalies of power, and deceptions about true costs are the main categories that first come to mind.

We have still to build a science for the orderly classification of the abuses of power and knowledge.

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