Science, law, ethics intertwined in field of biomedical research

EDITOR'S NOTE: This is the 12th of 16 articles in the series, "Moral Choices in Contemporary Society." In this second of two articles on science and morals, Hans Jonas of the New School for Social Research discusses the morality of both the means of biomedical research, which involves human experimentation, and the ends of such research, which include control over birth, behavior, and death.

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In modern science, man's quest for knowledge has lost its time-honored purity and become thoroughly alloyed with mundane action.

Not only in what science seeks knowledge about, but also in how it obtains that knowledge, the line between thought and deed often vanishes.

This merging of thought and action must affect the venerable "freedom of inquiry." We are wary of interfering with this freedom, once painfully wrested from earlier thought control and re-emphasized for us by its shameful repression in the communist east. Yet we must remember that complete immunity of theory from public constraints depends on its separation from practice.

Never has absolute freedom been claimed for action, and surely never been accorded to it.

Thus to the extent that science becomes shot through with action, it comes under the same rule of law and the same social censure as every outward action in civil society. Obviously, this consideration bears on the admissibility of experiements, which are not necessarily innocent because they promote knowledge.

TO MAKE THE point by just citing notorious atrocities is to weaken it. One easily agrees, for example, that one must not, in order to find out how people behave under torture (which may be of interest to a theory of man) try out torture on a subject; or that one must not kill in order to determine the limit of tolerance to a poison.

Remembering Nazi research in concentration camps, we know too well that the perpetrators of such scientific experiements were despicable and their motives base, and we can wash our hands of them. Here was "freedom" of inquiry as shameful as its worst suppression. One might even argue that the case falls outside the realm of science and wholly into that of human depravity.

OUR PROBLEM IS not with that phenomenon, nor with crooked or perverted science, but with bona fide, regular science. Keeping to indubitably legitimate and even praiseworthy goals, we ask whether in their pursuit there are limits to the experiments we may perform.

May one, for example, inject cancer cells into noncancerous subjects, or (for control purposes) withhold treatment from syphilitic patients—both actual occurrences in this country, and both possibly helpful to a desirable end.

I do not rush into an answer, which is in any case not our business here. I do say that here moral and legal issues arise in the inner workings of science issues that crash through its territorial barriers and present themselves before the general court of ethics and law.

Biomedical research, more than any other field of science, involves such moral and legal issues. Medicine, of course, is by definition not a disinterested science but committed to a goal sanctioned by every standard of private and public good.

However, it relies heavily on scientific research that, although geared to those practical ends, has its component of pure theory.

In that respect medicine is a branch of biology. This in turn, once mostly a theoretical discipline, is becoming increasingly pregnant with potentials of use.

Applied biological knowledge, medical or otherwise, is a technology to which theoretical inquiry is then wedded.

What better use can there be for a science than to benefit its very subject when this is life itself? Yet, no scientific-technological alliance is so rife with moral problems (blatant abuses discounted) as that of the life sciences, from the conduct of research all the way down to last decisions on uses.

THE MORAL ISSUE begins even prior to research, with the allocation of finite resources: priorities must be settled among competing projects.

The decisions are societal, not wholly scientific, and cannot fail to be morally weighted.

A crash program in cancer research? Or a general improvement in health services? Here both goals are in themselves flawless.

There are also disputable ones. But whatever the merit of the goal itself, research toward it already poses its ethical problems with its need to experiment on human subjects, present and future. Here a point can be reached where a research goal becomes inadmissible merely because it requires inadmissible experiments.

A case in point is genetic research when it seeks to determine, for example, whether human cloning is possible, or whether the human type can be improved by "genetic surgery," that is, by modifying the gene composition in reproductive cells.

At least one try at real cloning or at really producing a genetically-altered individual is necessary to find out what is possible and what the achieved possibii y is like.....

The very deed eventually to be decided on in the light of knowledge is already committed in the night of ignorance in obtaining that knowledge.

THE CRUCIAL fact is that the first clone or genetic freak, experimentally produced, is as real and definitive as any individual brought forth into the world. Even discounting the overwhelming risk of beginning with monstrosities before the technique is perfected (without the moral freedom enjoyed by hardware engineers to scrap the failures), there is simply no right to experiment on the unborn—nonconsenting by definition.

For this reason alone, the whole venture is ethically unsound. We pass over the more philosophical objections against this kind of goal as such.

Returning from these extravagant, futuristic perspectives of "biological engineering" to present realities, we have the problem of consent, which besets even the most defensible experiments on humans and is bound up with the mechanics of recruiting subjects.

The law prescribes "informed consent." But who can be really "informed," that is, who can fully understand, except fellow scientists who should indeed be the first to volunteer?

In mere point of numbers, however, this recruiting base is statistically too small. Next best for giving informed consent are the educated classes—"professionals" mostly.

They also are socialy best placed to satisfy the second ethical requirement, namely, that the consent be "voluntary."

But for obvious reasons, numerical and other, actual recruiting falls back on more captive populations: students, welfare patients, prison inmates, for whom freedom of consent (which equals freedom to refuse) is questionable.

And for the last two groups, the meaning of "informed" is almost empty. Here lies a twilight zone of great ethical vulnerability for much of today's vital research.

OFTEN THE research goal itself falls into the twilight zone.

For example, prevention and interruption of pregnancy are not, by the original meaning of medicine, properly medical goals, unless pregnancy be equated with disease and the fetus with a tumor. They may be approved, nonetheless, on nonmedical grounds. Pursuing research toward them implies a tacit option for birth control, free sex, free abortion—surely choices in ethics.

Behavior control is another disputable goal. It may be socially useful and easily too useful, for example, for providing more efficient government by engineered docility. But even apart from such abuses (not abuses by the lights of the leading proponent of behavior control, B. F. Skinner), the whole concept of behavior control is in tension with such ultimate values as personal autonomy and dignity.

It is therefore, quite in order to ask whether scientific inquiry should move in that direction at all—again a question of ethics outside the jurisdiction of science.

YET ONE MORE research goal with powerful appeal but ethical pitfalls concerns aging and dying.

Averting premature death is a prime duty of medicine. But, according to latest biological thinking, there is nothing definite about a "natural" span of life; and measured against the theoretical hope for control of aging, every death is "premature."

Leaving undecided whether indefinite longevity is an unalloyed good for the individual, we look at the social price that finite living space will exact: proportinate diminishing of births, and hence of youth and new beginnings in the aging social body, Is that good for the human cause?

Whatever the answer, it should influence the goal choices of scientific inquiry. Here and elsewhere (not confined to the life sciences) we must confront the moral interface between science and society.

NEXT WEEK: Martin E. Marty, professor of the History of Modern Christianity at the University of Chicago and associate editor of "Christian Century," examines American attitudes toward work and play and the need to achieve a balance between these facets of our lives.

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Nobel Prize winner Maurice H.F. Wilkins studies a model of DNA molecular structure in 1962. These cells are responsible for hereditary traits, and recent discoveries about how they work have now made possible the deliberate manipulation of genes and hence the production of new forms of life.