# The Place of Morality, Curiosity and Utility in the Ethics of Science and Technology¶

## *BİLİM VE TEKNOLOJİ ETİĞİNDE AHLAK, MERAK VE YARARLILIĞIN YERİ*

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**Summary**

The place of morality, curiosity and utility in the ethics of science and technology is pointed out in this paper. Religious and deontological moralities set ill-defined goals and poorly justified limits to scholarly work. Utility, along with curiosity, should be allowed to define the aims of research, and negative utility, or harm, is the clearest imaginable indicator to mark the boundaries between acceptable and unacceptable scientific work. In this article, all these subjects are stressed in detail.

**Key Words:** Morality, Curiosity, Utility, Ethics of Science

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**Özet**

Bu makalede ahlak, merak ve yararlılığın bilim ve teknoloji etiğindeki yeri vurgulanır. Dini ve deontolojik ahlaklar, bilimsel çalışmayla ilgili kötü tanımlanmış hedefleri ve zayıf doğrulanmış sınırları gösterirler. Merakla birlikte yararlılığı araştırmanın amaçlarını tanımlamasına izin verilmelidir veya negatif yararlılık veya zarar kabul edilebilir ve kabul edilemeyen bilimsel çalışma arasındaki sınırları işaretlemede en açık hayal edilebilir indikatördür. Bu çalışmada, bütün bu konular detaylı olarak belirtilirler.

**Anahtar Kelimeler:** Ahlak, Merak, Yararlılık, Bilim Etiği

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### Three Ethical Approaches

The ethical questions involved in the practices of science and technology can be approached from roughly three angles. First, the so-called deontological moralists usually seem to assume that, in the ethics of science, human curiosity and the short-sighted pursuit of utility must be moderated by categorical, absolutely binding and universally valid moral rules which prohibit certain lines of research and restrict the methods and scope of others without any reference to human well-being or happiness. This attitude is, no doubt, a hangover from the era when the Christian church and the first modern scientists fought over the fundamental principles of the structure and dynamics of the universe. Since this theoretical battle was so clearly won by the scientists it would, I think, be natural to assume that the deontological line of thinking would by now be extinct, but at least three factors have kept the option alive.

The first is, of course, that despite the triumph of science in many areas of life Christianity has still retained its position in people's minds in many parts of the world when it comes to issues regarding right and wrong, good and evil. The second factor is that many secular philosophers have contributed to the survival of deontological and semireligious thinking by creating more and more sophisticated theories concerning our inalienable rights and categorical duties. These philosophers include, for instance, John Locke (1), Immanuel Kant (2) and, more recently, John Rawls (3). The third, and only legitimate, reason for the appeal of absolutist ethics is that numerous scientific and technological innovations have been and are disturbing or frightening, sometimes even positively dangerous. Many people feel, quite

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rationally it seems, that least some unconditional limits should be set to these unnerving activities (4,5).

The second main approach to the ethics of science and technology is the one which is often assumed by those who are themselves engaged in scientific work, and which could be titled "the hands-off model of moral reasoning". The core idea of this approach is that since science aims at increasing human knowledge and since this is always a good goal, no external limits should be set to the work done by scientists. This line of thinking, which most people would condone when it comes to, say, early theoretical physics or astronomy, has become more suspect in the context of modern technology with the development of nuclear explosives, genetically altered organisms, and the like (6). As an alternative to deontological or religious thinking, however, it was a prerequisite for the rise of our present, science-based way of life.

The third approach to the ethics of scientific and technological work is consequentialist, or utilitarian. Moralists who have assumed this view believe that careful calculations of well-defined utility and disutility guarantee the ultimate value of human actions. Jeremy Bentham (7) and John Stuart Mill (8) are the classical figures of this line of thinking. Scientific and technological projets are, according to this doctrine, worthy of serious consideration only if they are useful in terms of increased welfare and happiness now or in the foreseeable future. Even useful scientific work, on the other hand, must be restricted on utilitarian grounds if harm would otherwise be inflicted on innocent living beings either during the research or as a side effect of the ensuing innovations (9-11).

## The Goals and the Limits

The deontological, hands-off and utilitarian models of the ethics of science are not, however, straightforwardly comparable, because their focuses as well as their normative contents vary. Deontological ethicists mostly concentrate on the extrinsic *limits* of scientific work, and argue that absolute morality provides the adequate principles. Proponents of the hands-off model, in their turn, focus mainly on the intrinsic *goal*, or aim, of scientific pursuits, which in their view is set by the urge for truth, knowledge or information -in other words, by human curiosity. And utilitarians believe that *both the goals and* the limits of all our activities, including scientific research, must be assessed by their positive and negative utility.

A more detailed view of the different approaches to the ethics of science and technology can be created by cross-fertilizing the intrinsic-extrinsic division on the one hand and the morality-curiosity-utility variation on the other. The result can be presented in the following schematic form (Table 1).

Since the goals of today's scientific work are usually set by curiosity and utility rather than traditional morality, the most viable prevailing ethical approaches in this context are depicted in squares four to nine.

## Moralism, Aestheticism, Technocratic Pragmatism and Consequentialism

In squares four and seven, jointly dubbed "moralism", a typical issue could be whether or not

**Table 1.** Nine approaches to the ethics of science and technology, as defined by morality, curiosity and utility as their goals and limits.

| | Goals set by morality | Goals set by curiosity | Goals set by utility |
|---|---|---|---|
| Limits set by morality | 1. (Ideological fanaticism) | 4. Moralism | 7. Moralism |
| Limits set by curiosity (or the lack of it) | 2. (Ideological dogmatism) | 5. Intellectual aestheticism | 8. (Technocratic pragmatism) |
| Limits set by utility (or controllability) | 3. (Ideological pragmatism) | 6. Consequentialist ethics | 9. Consequentialist ethics |

scientists should be allowed to "play God" by attempting to reveal the secrets of the human genome, or by trying to cure genetic disorders in the light of the achieved knowledge. The arguments that the proponents of moralism employ in contexts like these are often marked by two characteristics, namely theoretical ingenuity and practical inapplicability. It is one thing to assert that human beings should not play God, or ought to treat each other as ends in themselves, or to respect each others' inviolable rights, and to devise fantastic doctrines to support these assertions, but quite another to explain, in simple terms, why a person should be denied accessible medical care merely because this would go against somebody else's moral ideals. If I had a serious but curable genetic disorder which threatened to cripple me in a few months' time. I would most certainly refuse to listen to anybody claiming that I must accept my fate since to treat me by the methods of genetic engineering would be an unlawful instance of playing God.

Those, again, who subscribe to the view I have labelled as "intellectual aestheticism" in square five believe that knowledge should be pursued for its own sake without external limitations. It is a matter of some dispute whether knowledge can, in fact, be pursued purely for its own sake, as it seems that both individual scientists and larger scientific communities always have other aims and motives besides the urge for truthful information. Furthermore, knowledge can often be used as a means to other ends. The information produced by the natural and social sciences, for instance, can in many cases be used as a basis for predictions that may help us to control our natural and human-made environment. But these remarks do not in any way undermine the existential, or theoretical, respectability of the position I have called intellectual aestheticism. The point of the doctrine is not so much that truth or knowledge are the *only* legitimate goals of scientific work as it is that this work should not be restricted by the demands of either deontological or consequentialist moralities. The validity of this view is, I believe, suspect, but on moral, not on conceptual, grounds.

The attitude dubbed "technocratic pragmatism" in square eight is not a genuine ethical model at all, but rather an unspoken way of thinking, a hybrid of short-term utility seeking and intellectual sloppiness which manifest themselves in the exclusive attempt to attain immediate practical aims at the expense of beneficial future innovations. The technocratic pragmatist tends to forget that useful products cannot be created unless all the theoretical problems underlying the production have first been solved. To prefer short-term utility to the search for truthful information can be economically profitable for a while, but it can also lead to great future losses in terms of human well-being as well as academic scholarship.

The separation of the two types of consequentialist thinking in squares six and nine marks a hazy distinction between the ethics of pure science and the ethics of applied research or technology. The exact differences between pure science, applied science and technological work are often unclear in concrete situations, but the intuitive idea behind the partition I have made is, I presume, self-evident. While bridges and nuclear submarines, for instance, are not normally built out of mere curiosity, the practical utility of knowing, say, the temeperature on planet Mars in late November this year is so predominantly intellectual that it ceases to be a utility in the sense assumed by most consequentialist moral theorists. Anyway, the main normative point of both positions (squares six and nine) is that wel - motivated scientific work ought to be constrained only if it is concretely harmful to non-consenting humans- or possibly other sentient living beings.

## Three Historical Paths

In addition to the three most prominent prevailing approaches to the ethics of science and technology, namely moralism, intellectual aestheticism and consequentialism, my table of moral standpoints also illustrates three historical continuums that I think are interesting.

The first is the story of standard responses towards scholarship and science since the dawn of modern times. This story proceeds diagonally from

squares one through five to nine. According to the official *medieval* ethos, the goals of learning, as well as its limits, ought to be set by moral considerations, or, more precisely, by the current doctrines of the Catholic church. The *Renaissance* ideal, in its turn, was a search for knowledge, unlimited by the mundane qualms generated by religious or moral reflections. The treatment of human beings in medical experiments demonstrates how this way of thinking has survived at least to the days of the Nuremberg Trials in 1945-46, and the indiscriminate use of experimental animals shows that it is still alive in some quarters of the scientific community. Perhaps the most widely-spread *modern* notion of ethically acceptable work in science and technology, much criticized for its one-sidedness, is crudely utilitarian, and states that usefulness is the only fitting criterion of morality in this field, both when it comes to the aims of science-related activities and when it comes to their moral assessment.

The second continuum proceeds directly downwards from square one to square three. This is the story of the probable historical development of morality-induced sciences, or pseudo sciences, like Christian theology, Marxist social science and psychoanalysis. The aim of these branches of learning is the ethical improvement of humankind, in Christian theology through the examination of the will of God, in Marxist thinking via a better understanding of the dialectics of history, and in analytical psychology by an exploration of the subliminal areas of the mind. In the initial, fanatic phase of these doctrines the only moral critiques that are considered relevant come from within the school. Thus, for example, only more authoritative theological views could be employed in arguments against medieval Catholic credos. When the most intense zeal wears off, the moral limits of these activities are gradually redefined by the lack of curiosity people feel towards them. It will presumably be easier, say, to practice unorthodox Marxist sociology in a world where the political strength of the creed has considerably decreased. And when, finally, the approach has lost all its potential to hold an intellectual monopoly in its field, it sinks among other outmoded theories, and its proponents try to minimize the damage by arguing that they never actually meant their doctrine to be universally valid in all areas of life. Even people who continue to believe in the therapeutic possibilities of Freudian psychoanalysis have long ago ceased to claim that all mental disorders could be cured by this method.

The common denominator of the sciences, or pseudo sciences, that I call morality-induced is that their aim is to liberate people from something evil. Christian theology tried to free people from sin, Marxist political science attempted to liberate us from the grip of our unconscious impulses and drives. Those who think that these doctrines are pseudoscientific have often noted that theology, Marxist scholarship and analytical psychology do not produce genuine predictions, and are not therefore open to falsification like scientific theories should. The explanation for this is that if the ultimate aim of a process is to liberate people from evils they themselves scarcely recognize, it is presumably impossible to forsee exactly what the result of that process will be.

The third story that can be illustrated by my table of ethical positions is the history of the antagonisms and alliances between religious moralists, modern scientists and consequentialist philosophers. When the ideological fanatics of the Middle Ages took on the intellectual aesthetes of early modernity, the disagreement seemed unsolvable. Centuries later, however, theologians and natural scientists have reached a mutually acceptable consensus, which divides the objects of human study into two classes. The material world can, even according to the theological authorities, be examined scientifically, as long as the spiritual world consisting of gods, souls, angels and other invisible entities is left untouched. What scientists do is their own business unless their work, especially on human beings, involves serious violations of traditional ethical rules. The natural sciensits, for their part, have been happy to leave spiritual and moral matters in the hands of the clergy, and to concede that the "language games" of science and theology simply function in different ways.

Consequentialist philosophers, who are relative newcomers in the scene, are habitually rejected by both natural scientists and theological moralists. To intellectual purists, the idea of setting the goals of scientific work by its utility is abominable, and to dedicated experimentalists the proposal that harmful research should be restricted is intolerable. Where deontological moralists usually prohibit only the disrespectful use of human beings in experiments, many utilitarians also advocate the rights and protection of other sentient living beings -a position that would hinder many biological and medical projets markedly. The case of religious ethicsts against consequentialism is based upon their reluctance to stand competition in moral matters. It is understandable that they fell threatened by a doctrine that demands clear and concrete arguments for and against moral choices, and does not sanction appeals to supernatural beings or received traditional wisdom.

## Conclusions

In conclusion, what are the proper places of morality, curiosity and utility in the ethics of science and technology? In the light of my remarks, religious and deontological moralities set ill-defined goals and poorly justified limits to scholarly work. If the rules referring to inalienable rights and categorigal duties sometimes seem legitimate, this is because they are implicitly founded on the consequentialist principle of equal respect for the welfare of each living being. Curiosity, in its turn, is an excellent setter of goals, but an inadequate guardian of the limits of scientific activities. Utility, along with curiosity, should be allowed to define the aims of research, and negative utility, or harm, is the clearest imaginable indicator to mark the boundaries between acceptable and unacceptable scientific work.

## REFERENCES


1. Locke J. Two Treatises of Government. Everyman's Library. London: JM Dent&Sons Ltd, 1690: 1924.
2. Kant I. Kritik der praktischen Vernunft. In: Thom M, ed. Leipzig: Reclam, 1788:1983.
3. Rawls J. A Theory of Justice. Oxford: Oxford University Press, 1972.
4. Chadwick R. "Playing God". Bioethics News 1990; 9(4):38-46.
5. Häyry M. "Categorical objections to genetic engineering-A critique" In: Dyson A, Harris J, eds. Ethics and Biotechnology. London and New York: Routledge, 1994:202-15.
6. Häyry H. "How to assess the consequences of genetic engineering?"In: Dyson A, Harris J, eds. Ethics and Biotechnology. London and New York: Routledge, 1994: 144-56.
7. Bentham J. An Introduction to the Principles of Morals and Legislation. In: Burns JH, Hart HLA, eds. Reprinted with New Introduction. London, New York: Methuen, 1789: 1982.
8. Mill JS. Utilitarianism. In: Ryan A, ed. Reprinted in Mill JS, and Bentham J. Utilitarianism and Other Essays. Harmondsworth, Middlesex: Penguin Books, 1861: 1987.
9. Harris J. Wonderwoman and Superman: The Ethics of Human Biotechnology. Oxford and New York: Oxford University Press, 1992.
10. Häyry M. Liberal Utilitarianism and Applied Ethics. London and New York: Routledge, 1994.
11. Häyry M, and Häyry H. "Genetic engineering" In: Chadwick R, ed. Encyclopedia of Applied Ethics. San Diego, California: Academic Press Inc, 1997.


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