

# Evolution and Ethics <sup>1</sup>

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## **On the origin of morality**

The German philosopher Immanuel Kant held that morality as well as the “categories of realization” (space, time and causality) exist *a priori*, *i.e.* before any experience. He expressed his surprise at the stars in the sky and at the moral law in himself.

In the light of evolutionary epistemology, mainly after the work of Konrad Lorenz<sup>2</sup>, we understand Kant’s “a priori” as a result of evolution. Like the highly developed sensory organs for light which independently evolved in molluscs and vertebrates, the brain, as an organ for recognition, converged with the reality of the environment. Our organ for recognition has proved to be good enough to cope with the environment of hunters and gatherers but, as Kant recognised, is not able to recognise the *Ding an sich* (the thing-in-itself). We are able to think in a linear way in chains of causes and effects, but our ability to understand complex systems is very poor.

The evolutionary strategy of success in primates is based on an efficient brain and a behaviour inventory open to modification by learning. Like most primates, *Homo* lived in small, organized, social groups. Babies of monkeys and humans are dependent on loving care by the mother and friendly treatment by the other members of the group. Evolutionary success is not possible for the individual alone, only for the tribe. Tender loving care for the young and consideration towards the old individuals who carry a wealth of lifetime experience in their brains is thus an essential prerequisite for the success of the tribe.

The “golden rule” – “treat others only in ways that you're willing to be treated in exactly the same situation” – can be looked upon as a “principle of success” in higher social animals because their survival depends on the success of the group. It is an advantage for a tribe if young individuals who require care as well as weak old members of the group who have valuable experience at the disposal of the group are treated in an altruistic way. Altruistic qualities were decisive for the position in the hierarchy inside a tribe. The chief was a successful person who distributed food and other goods to the members of his group. But outside of the group, amongst the tribes of early hunters and gatherers there was severe competition for resources and space.

One important biological function of aggressive territorial behaviour is the even distribution of individuals or social groups in the natural habitat, thus avoiding overexploitation of the natural resources. In *Homo erectus* and *H. sapiens* the development of language and culture became an important factor in differentiation. Morality was restricted to groups with the same language and customs. All others were looked upon as potential enemies, as is frequently the case today.

## **Biological evolution of man has come to a halt**

In human civilisation, natural selection is disabled to a wide extent and there is no hope that biological evolution could improve the moral qualities of man. On the contrary, in modern society egotism and reckless behaviour have become more and more factors of success.

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<sup>1</sup> Paper presented at the International Conference: „Evolution and the Future“, Belgrade, 14.-18. Oct. 2009.

<sup>2</sup> LORENZ, K. (1941): Kants Lehre vom Apriorischen im Lichte gegenwärtiger Biologie. Blätter f. Dt. Philosophie 15, 1941.

As a consequence, the evolution of ethics has to continue on a cultural level in the sense of Konrad Lorenz, who stated: The desperately searched for “missing link” between the apes and the truly “humane” human being – that is us!

### **Cultural evolution and ethics**

The golden rule – in effect only inside the ethnic group – proved of value in early times when population densities were low.

With the agrarian revolution approximately 10,000 years ago and the subsequent rapid growth of the human population, this early morality began to show its shortcomings. Ancient Greek philosophers were confronted with different and often contradictory moralities of other cultures and they began critical comparisons to find out rules for acting which could be universally valid. This was the beginning of ethics (as the theory of morals) or “practical philosophy”.

Technological development and its impact on environment and society overtook traditional (western) ethics. Technical civilisation and its detrimental effects to the biosphere call for the development of an adequate ethics.

### **Towards an ethics for a technical civilization**

As mentioned above, the occidental ethics was mainly restricted to interpersonal behaviour inside a given culture or class. An action was acknowledged as good when the motives behind it were respectable.

This concept of ethics – in German we call it *Gesinnungsethik*, the ethics of the motivation of acting – became more and more inadequate when the side and late effects of human activities began to show up in a global scale. The book *Silent Spring* by Rachel Carson may be one cornerstone in this respect. The ethics of motives has to be complemented by an “ethics of responsibility” in the sense of Hans Jonas (1979). An action can be considered to be good only if it has no serious negative consequences.

Concepts of (environmental) ethics are often distinguished by their comprehensiveness.

The still dominant anthropocentric concept confines ethics only to humans. Other forms of life are considered as having no right to be treated in an ethical way. They deserve protection only if and insofar as they are useful for humans.

Only two decades ago was the future aspect of the environment taken into account by official bodies. In 1987, the United Nations World Commission on Environment and Development defined “sustainable development“ as: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

From an ethical point of view, future generations should not mean a few, but countless ones.

Sustainable development is clearly an ethical concept. One of the basic ethical criteria for evaluating an act is whether those who are affected by the consequences of the act could agree to it. Consequently, we should treat the ecosphere in a way that future generations would be able to give their consent to. Sustainable development is an anthropocentric concept because it takes into account only the wellbeing of humans.

Anthropocentric environmental ethics, however, is not able to attain its own objective. Inasmuch as only human needs are taken into consideration, nonhuman forms of life and ecosystems are only exempted from exploitation and destruction if they are clearly useful to humans. Those judged to be useless will be traded off cheerfully for short-sighted interests. So the narrow-minded egotism of humankind will fail because in our vast ecological ignorance we do not know precisely enough in which ways the web of life supports the existence of humankind.

Consequently a far-sighted anthropocentrism comes close to biocentrism, a position which respects the right to exist of every form of life.

The ethics of Albert Schweitzer (1875-1965) which he called “The ethics of reverence for life” (*Ethik der Ehrfurcht vor dem Leben*) is a much better basis for preserving a rich diversity of life on earth and establishing a humane society. His guiding principle: “I am life that wants to live in the midst of life that wants to live”. This bio-centric position does not accept a ranking of living beings because nobody knows what relevance a species has in the web of life. This position is well established in several religions.

So we have to extend the “golden rule” to all forms of life – to our fellow creatures – and implement a long term perspective.

The potentially grave implications of modern technology make it evident that it is not sufficient to evaluate acts according to the motives behind them. The environmental crisis is not the result of bad will but the consequence of inadequate concepts for improving human life. The widely practiced method of trial and error in combination with powerful technological means can no more be accepted as “progress”. The “linear” thinking of man fails when confronted with the complex biosphere. “Planning replaces chance with error!”

Hans Jonas (1979)<sup>3</sup> postulates a science of the remote consequences of technological action as a precondition for an ethics which can deal adequately with environmental problems.

Actions and technologies are justified only if according to the best knowledge available severe negative consequences can be excluded.

Environmental Ethics give reason for some fundamental Principles:

- ❖ The **Safety Principle**. With respect to the uncertainty of side effects and consequences of human undertaking, we must err on the side of safety. Our aim must be to avoid bad surprises. “Worst case scenarios” therefore have to be considered.
- ❖ The **Precautionary Principle** gives priority to avoidance of damage as opposed to repair. The principle demands that an enterprise that might cause serious damage should not be permitted.

One of the primary foundations of the precautionary principle, and a globally accepted definition, result from the work of the Rio Conference in 1992. "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." As an important condition – in most cases not yet carried into effect – the burden of proof lies with the advocates of an enterprise.

- ❖ The **Polluter Pays Principle** requires — in the sense of the “ethics of responsibility” – that every originator is to be held responsible for damage to health or ecosystems.

This principle – if implemented – would eliminate the widely practiced privatization of profits and socializing of costs and lead to cost adherence of the prices.

It also requires full liability for risky technologies and enterprises.

The survival of the human race is not at stake. *Homo sapiens* is not on the list of endangered species. Quite the contrary. Man with his extraordinary adaptability and invasive power can be labelled as “weedy species”. At stake is the quality of life, a humane society.

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<sup>3</sup> JONAS, H. (1979): Das Prinzip Verantwortung. Versuch einer Ethik für die technische Zivilisation. Frankfurt am Main.

## **Science, Technology and Ethics**

Scientific responsibility today must be more than perfect methodological professionalism in a special field.

To participate in obtaining “the best knowledge” and helping to make it effective in society should be a prime task for the scientist. Science cannot be separated from responsibility. Freedom of science should first of all be the freedom to act responsibly, the freedom to oppose the exploitation of science by corporate and political interests.

Scientists must not play with new possibilities like naive children. If they close their eyes to potential irreversible consequences of their work they have to accept being called ecologically and ethically infantile and retarded.

Science needs control from inside but also from society. This requires openness, and a scientific community that not only communicates with the public but also opens itself to borderline and value questions. Normal science produces knowledge but not wisdom. Critical science in the interest of life has to strive for wisdom, that is the knowledge of how to use knowledge, and so it has a close affinity to philosophy. Perhaps in the long run science can contribute to the justification of our species' name *Homo sapiens*.

### **Ethics and technological assessment**

To consider (and justify) technology from only one aspect is one reason for our serious and complex environmental crisis. The method of trial and error combined with technological progress on a global scale has proved to be catastrophe-prone. Considering only one or a few aspects leads to wrong choices and eventually to ethical nonsense. An example of such a misconception is the assumption that because nuclear power plants do not emit carbon dioxide they can be an answer to the problem of climate change. Since the consequences of climate change are potentially catastrophic on a global scale, the risks of nuclear power seem to be comparatively small, and this may lead us to the conclusion that nuclear power is ethically justified. But a comprehensive analysis of the energy balance of the nuclear power industry as a whole<sup>4</sup> clearly shows that this method of energy production cannot significantly reduce carbon emissions; the opposite is the case. So even if we completely neglect safety and proliferation problems and the long term consequences for human health, nuclear power offers no acceptable perspective. The “ethical” evaluation of misconceptions like this produces pseudoethical nonsense.

Thus technological assessment only can reach reliable results if a comprehensive perspective is applied. Technologies as well as “concepts of progress” have to be looked upon in a broad ecological context and a wide time-horizon.

The decisive criterion for technological assessment is its *relevance to sustainable development*.

Bioethics must not deal with narrow, isolated questions when authoritative answers are required. Bioethics as well as environmental ethics must be based on a solid foundation of scientific knowledge. A comprehensive approach is indispensable. Human Ecology as an integral and value-oriented science has to provide this fundamental systems knowledge for the implementation of technology assessment.

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<sup>4</sup> <http://www.stormsmith.nl/>

**My credo:**

Power does not justify extra rights. Instead it gives reason for extra duties and wider responsibility.

In nature the “right of the strong” predominates. In a human society it is the responsibility of the strong that must prevail. The duty of the weak is to remind those in power to act responsibly, not to stay silent or even pay court to them.

The (environmental) ethical dilemma, which consists in individual responsibility being confronted with powerful, well organised irresponsibility, requires the organisation of responsibility in civil society. This is necessary to create pressure from the democratic base on the political representatives so that they no longer act as marionettes of corporate interests but instead make decisions for the long-term benefit of humankind and the ecosphere.