

On Human Ecology

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What is Human Ecology?

When we ask: What is physics? What is biology? What is sociology? What is psychology? then we always get an answer that shows that the field of knowledge in question deals with certain aspects of this world within defined boundaries. This is not the case when we ask the question: What is human ecology? because especially in Germany and, to some extent, in Europe at large it is not a generally recognized subject in the academic canon. Although the situation outside of Europe is to some extent different, an ignorance about human ecology prevails, and this is probably due to the fact that it is a field of activity that, unlike the disciplines mentioned above, cannot be easily pigeonholed. The designation “human ecology” in itself clearly conveys that it must be about people's relationships with their environment. The big question, however, is how these relationships should or can be investigated, because we are dealing with an extremely complex situation here. Not only the relationship of the individual human being to his natural environment should be studied, but also the one to the social environment, including the built environment, and beyond that the one to his own inner self. At the same time, the relationship between human society as a whole and nature must be considered at a higher level. From this perspective, human ecology actually has to do with everything that happens on this planet with the participation of humans or, conversely, everything that is of natural origin and influences human life. From a scientific point of view, it is therefore interdisciplinary, but depending on the degree of holism it strives for, it must on the one hand cross borders into philosophical realms and on the other hand, in the sense of transdisciplinarity, deal with non-academic practical everyday or indigenous knowledge (see Unuigbo 2023). Human ecology is based on a world view that sees humans as responsible respectful co-creators, not as dominators and ruthless manipulators of the earth's ecology, and calls on them to act accordingly.

“New Human Ecology”

Today's human ecology is a child of concern about the constantly deteriorating basis of life on this planet as a result of human activity. Although there had been warning voices for some time, it was not until the epoch-making book *Silent Spring* by Rachel Carson (1962), the Club of Rome report *Limits to Growth* (Meadows et al. 1972), the first Earth Day celebrated by 20 million people in the USA in 1970 and the first UN environmental conference in Stockholm in 1972 that a real awakening took place. Environmentally oriented social movements and non-governmental organizations were formed and courses in human ecology were introduced at some universities, also in Europe. In addition, specializations focusing on human-environment relations emerged in established human science disciplines, such as environmental medicine and environmental economics early on, followed by environmental psychology, environmental philosophy and, after some delay, environmental sociology. In some cases, this resulted in fruitful connections to human ecology, but in other cases these representations remained trapped within their disciplinary boundaries. In addition to uncovering and criticizing the social and environmental damage caused by our activities, human ecology today is increasingly concerned with the question of how social change can be initiated and shaped to lead to a positive, damage-free or at least damage-minimizing future. Important directions for a human ecology that aims to tackle today's problems are listed in the [Manchester Declaration](#) of 2009.

What About Sustainable Development?

The obvious question is: why are we promoting a human ecology when the concept of sustainable development is now being followed everywhere, including at universities, in view of the ecological crisis we are in today? The answer is already in the last sentence of the first section. The basic problem is that this is not an ecological concept, but an economic one. How can this be, when the well-known three-pillar model with the ecological, social and economic areas postulates equivalence? Even if this were the case, there would be a problem that few people would notice. Klaus Michael Meyer-Abich (2003, 179-180) has noted: "The error of the three-pillar theorem consists ... in giving equal weighting to (1) the whole of nature, (2) a part of this whole, namely human societies, and (3) a part of this part, namely their economies, when weighing up interests. Instead, it would be appropriate to subordinate the parts to the whole!" In addition, in cases of conflict there is a tendency to give priority to economic interests. Furthermore, the term "development" still contains the idea of growth, as expressed in No. 8 of the UN's Sustainable Development Goals: "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all." Of course, individual sectors can grow and others can shrink. However, the idea that the economy as a whole must constantly grow and accumulate more and more resources in the process is highly problematic. And of course there are companies that have managed to achieve truly sustainable operations. Unfortunately, however, large corporations and investors are still the dominant players. They are tied to a fossil-fuel-driven and resource-devouring industrial society that has become increasingly widespread, especially in the 20th century. The aim here is to achieve positions of power that enable control over what happens on this planet, which at the same time means that consideration for human rights and environmental standards is largely ignored. Of course, there are committed teachers in the education system, which is fully committed to the concept of sustainable development, who interpret it in a human-ecological sense. The problem arises where the understanding of "business as usual, now simply sustainable" has the upper hand. As long as this view dominates, the whole thing is a sham, which is an illustrative example of the upside-down state of our civilization mentioned below.

"Classical Human Ecology"

Before the aforementioned more recent development of human ecology, there existed already a "classical human ecology" that played an important role, particularly in sociology and in the various research and teaching disciplines in the so-called Social Science Building at the University of Chicago (see Serbser 2004a). The classical phase lasted from around 1909 to 1940, but had predecessors and successors and was also accompanied by representatives of social philosophy and social psychology (for the entire history, see Serbser 2021). It was primarily about people living together in a socially very diverse community under the conditions of the time. Chicago served as a "real world laboratory" for the investigation of the social problems that arose from the coexistence of inhabitants of different classes and immigrants of different origins. The outstanding figure was Robert E. Park (see Serbser 2004b). He drew on Darwin's theory of evolution to show that human societies cannot be regarded to be in opposition to nature, but that they are parts of the earthly ecosystem. He investigated whether the principle of the struggle for existence, which plays a role in evolution, is still effective in the human context. His result: there is a biotic substructure in which primeval competitive behavior is still relevant and represents a component of economic behavior. Higher up, however, there is a cultural superstructure that uses explicit laws and regulations and implicit customs to curb excessive free action and steer it in the direction of mediation, cooperation and inclusion (for Park's significance for human ecology, see the collection of his writings in Park 1952). Also in the USA, courses in home economics had been offered at various universities since around 1900. Over time, it became clear that this was human ecology on a small scale, family ecology, and the branch of science concerned with this was renamed

Human Ecology (see Bubolz 1991). Uri Bronfenbrenner (1979) specifically investigated how family members develop psychologically through internal and external interactions. Finally, in cultural anthropology, the study of the role of culture in the interaction of humans with their natural environment goes back a long way to Franz Boas, the American anthropologist of German origin (see Boas 1938). More recently, the term “cultural ecology” has been coined for this problem area (see Netting 1986).

How Resilient is the Earth?

In the current situation, an essential question is the Earth's carrying capacity. Of course, the size of the world's population plays a role here, but above all the environmental impact of the exorbitant consumption of the westernized part of it. Talking about the “part” is therefore also a reminder of the resulting unequal distribution in rich and poor countries. It stands to reason that part of human ecology is concerned with the related issues, in particular the environmental degradation caused by the consumption of resources and the production of waste. Examples include the books by Paul R. Ehrlich et al. (1973) and Wolfgang Nentwig (2005). In the latter case, the chapter headings are typically: Population, Food, Energy, Raw Materials, Waste, Life Cycle Assessment, Environmental Impact of Chemicals, Impact on Atmosphere and Climate and Environmental Change. Efforts of this kind could be described as superficial human ecology, insofar as the background of the social factors causing them is not addressed or only mentioned in passing. Here Stephen Boyden (1987) goes one step further with his evolutionary approach: his starting point is biological evolution, which has given man a capacity for culture that has enabled him to grow out of biological bottlenecks, but at the same time to damage his own livelihood under certain circumstances. Boyden cites as an example the developing addiction to technology (technoaddiction), which has led to a growing extrasomatic material metabolism (technometabolism) and mountains of waste. With all our demands on the earthly conditions, we are now in the process of exceeding planetary boundaries, which means we run the risk of triggering massive negative changes at tipping points (e.g. rapid decay of the remaining rainforest in Amazonia) (see Rockström et al. 2023).

Evolutionary Perspective: our Civilization is Upside Down

It is of course possible that a damaging technology can be replaced by a gentler or even harmless one. The quickly determined corrective reaction to the occurrence of polar ozone holes is an example. Unfortunately, however, this is an exception. With our current biggest problem, climate change, we do not seem to be able to significantly reduce CO₂ emissions fast enough. Some countries, such as Germany, are on the right track, but globally, emissions in 2023 have reached a new maximum. A committed human ecology must therefore take a close look at the obstructive social conditions. It can follow on from Boyden's evolutionary perspective, but must extend it. We can imagine a human society as being made up of three key areas. At the bottom we have the economic sphere, which ensures the supply of material goods taken from nature, at the top the cultural sphere, which gives us orientation, today by means of religion, philosophy, science, art and education, and in between the socio-political sphere, which shapes and regulates human coexistence. The material flow from bottom to top has a constitutive character, while the spiritual flow from top to bottom has a regulative character. If a human collective is to be able to survive in the long term, the latter flow must be fed by an orientation towards what is happening in nature. However, this is not or no longer the case today. In the course of cultural evolution, there was a change, beginning in the late Neolithic, from manageable communities - first groups of nomadic foraging peoples, then village communities with horticulture - to growing

societies with urban centers and political institutions (prime example Mesopotamia, see Serbser 2008). Today, this has developed into a globalized economic society with all-round trade and an unleashed monetary economy. Our entire civilization is dominated by an economic profit motive that sets no limits. This was already an issue in the Chicago human ecology described above under the designation »robber baron economy«! This development also means that the focus of orientation, which once had its place in the cultural sphere and was based on acting in accordance with nature, is now determined by the economy. As a result, our civilization is upside down and has lost its foothold (see Steiner 2008 & Steiner 2021, video). Accordingly, there has been occasionally talk of the “*hors sol* society”.¹

Radical Human Ecology

In this evolutionary process, a distinction is usually made between two revolutions: the agricultural revolution in the Neolithic period and the industrial revolution that began in the 18th century. Mostly ignored - with the exception of feminist literature - is a transition that can be described as a gender revolution, the change from egalitarian or even matricentric communities to patriarchal, i.e. male-dominated societies. This began in different regions in the Neolithic period and continued into the Bronze Age (see Meier-Seethaler 2011). As a result, our social structures, especially economic structures, are still male-dominated today. This is one of the most fundamental causes of our current problems. If we do not simply want to combat the symptoms in the form of environmental degradation - as is often the case with the concept of sustainable development mentioned above - we must focus on changing the structures and putting civilization back on its feet. »Overshoot will end, either by design or disaster«, is the repeated message of the Global Footprint Network. If we want to adhere to the former and avoid the latter, we need a combination of enormous political efforts at the top and massive pressure from below. First and foremost, the way in which the economic system functions – the system that prevails since industrialization – must undergo a fundamental change. A preceding alteration in awareness and thus a guiding education play a decisive role in this. Human ecology, insofar as it deals with and engages with issues in this area, is called “radical” (see Williams et al. 2012).

The Human Ecological Approach to the World

Garret Hardin (1985) has described human ecology as both conservative and subversive. This sounds paradoxical, but of course the two attributes refer to two different areas. It is conservative in that it advocates the preservation of the natural foundations of life, and subversive in the conviction that the functioning of our civilization must be changed in order to do so. In the latter sense, Gerald Young (1991) lists a number of characteristics of human ecology that he calls “slightly heretical”. This is in comparison to the normal scientific enterprise. Let us summarize some important aspects. As can be seen from the first paragraph, human ecology claims to view the world in a connective, integrative, synthetic or holistic way (see Steiner & Nauser 1993), although reductionist perspectives are of course not excluded for the purpose of analysis. Researchers working in human ecology should do so in a humanistic and anthropocentric sense. “Humanistic” refers to an attitude that takes the whole person as its starting point. It is not only a rational thinking being, but also a being guided by feelings and intuitions. Of course, “anthropocentric” here does not mean that humans regard themselves as the crown of creation, but rather the realization that they have a limited capacity for

¹ *Hors sol* literally means “outside the soil”. The term is used for soil-free vegetable cultivation in greenhouses, where the plants are rooted in substrates such as coconut fibers and supplied with nutrient solutions

knowledge in accordance with their dispositions. However, this state can - although Young does not recommend this - be softened through Deep Ecology by attempting, in the sense of Arne Naess (1989), to expand one's own self and to view components of the environment with which one is in relationship as parts of oneself, so to speak. This gives the relationship to the world a spiritual touch.

Alternative Science

A humanistic-anthropocentric attitude in the above sense also means that science takes on a different character. Conventional theory demands that science be conducted objectively free from bias, emotions and values. Of course, one should not proceed from preconceived opinions, but as far as possible from established facts. However, if we recognize that the phenomena of the natural world have an inherent value, we cannot possibly operate without emotion and value. In view of the desirability of social change, the consequence is that human ecology views the world not only descriptively, but also normatively. The functioning of nature should once again serve as a model. Ulrich Loening (2025) has compiled a list of characteristics worthy of imitation under the title "Harmonise with Nature". The most important of these is probably natural circularity (example: waste avoidance), which stands in contrast to the prevailing linearity of civilization.

Conclusion

After the 1992 UN Conference on Environment and Development in Rio de Janeiro, at which the idea of sustainable development was propagated, there was a great sense of optimism. However, this faded after a while. The change of course in the economy propagated by Swiss entrepreneur Stephan Schmidheiny (1992) did not take place. To the extent that there have been positive developments since then, they have mostly been politically initiated and represent a drop in the ocean. However, it is precisely when the feeling that things are going wrong prevails that it is advisable to work with vigor to reverse the trend. This is where the function of human ecology in the education system comes into play. As a brochure from the College of the Atlantic puts it, it should change lives and change the world!

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