Remarks on the Term “Environment” 1)

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Abstract: The term “environment” has been used in various and inconsistent ways by scientists from many disciplines and can frequently be regarded as an empty formula. The author argues that this term has an ascertained meaning only within the concept of ecology. Therefore, any attempt to use the relative term “environment” in an absolute way and apart from this context must necessarily lead to its hypostatization, giving it the character of an entity of its own. The different aspects of the ecology concept — here called “dimensions” — should rather be defined according to the specific approaches of particular empirical studies. The paper briefly discusses the meaning of those dimensions which are interrelated and form a multidimensional space. Depending on the position of a particular approach within this multi-dimensional concept, a specific, ontologically neutral definition of “environment” may be developed, whose meaning (in accordance with the scale of reflections) can now be specified.

The Problem

Few terms have been used by so many scientific disciplines as the term “environment”. During the last decades research on this problem has become of great paradigmatic importance not only for ecology and human ecology but also for numerous other disciplines such as anthropology, ethnology, geography, sociology, psychology, etc. It is not surprising, therefore, that due to the wide spread of interests and differing aims of research no acceptable interdisciplinary definition of the term as yet exists and that within one and the same discipline the meaning of the term may show great differences, depending on the particular school or approach. The manifold meanings of “environment” result in the inconsistent use of the term, reducing it progressively to an empty formula. A further difficulty arises from the fact that “environment” has become part of colloquial speech, being used especially in the context of “environmental protection”, “environmental destruction”, “environmental problem”, “environmental crisis and environmental quality”, etc. The meaning here includes political, ideological and normative dimensions in varying degrees. These aspects also become apparent in regional planning and political decisions. As the scientific language of most empirical disciplines contains colloquial elements, it is inevitable that colloquial associations intrude into scientific language thus influencing — to a greater or lesser degree — the meanings of scientific statements. The negative consequences resulting from the mingling of scientific and colloquial meanings in German geography have been proved convincingly in the case of the term “Landschaft” (landscape) (G. Hard, 1970a)

Even in plant and animal ecology it is very difficult to define “environment” in a fairly binding and applicable way. The adoption of the ecology concept by most empirical sciences dealing with man and the use of the term “environment” for human systems causes problems connected with the particular abilities of human beings and lead to differences in the conception of the term “environment” within these disciplines (F. Tretter, 1979).

In the following investigation an attempt is made to discuss some dimensions of the meaning of “environment” that arise from the current use of the term in the different scientific approaches. This, in principle metalinguistically
orientated aspect means that here “environment” is not regarded as an “object” or realistic “thing” but as a scientific concept. This gives an indication of one of the greatest problems in the current discussion about the term “environment” in human ecology and geography. It is the author’s opinion that this problem originates in the hypostatization of the scientific approach thus making a specific way of looking at reality for a “discrete entity” or for an “object-in-itself”.

“Environment” as Part of a Superordinate Scientific Concept

Any reflection on the term “environment” must take into consideration the fact that “environment” is part and element of a superordinate conception and that its meaning may be defined only in relation to, or within, the restricted context of this conception. The concept of ecology as developed in biology distinguishes between a living organism or a homotypical or heterotypical group of organisms and the surrounding environment. The living organism and its environment are thus considered as a functional entity known as an ecosystem. The linking of environment and organism in question is inevitable. This implies that the term “environment” can only be used in connection with the living organism. It is therefore absurd to talk of the environment of a table or of a building. For the same reason the extension of the ecology concept to inorganic or abiatic systems should be avoided. Usage of this sort, derived from the functional-physiological interrelation aspect of the ecology concept, sometimes becomes apparent in geo-ecological studies (critically viewed by H. Hofmann, 1970) or in theoretically and conceptually oriented investigations. F. Tretter, for instance, speaks of the “ecology of medicine” (1978, pp. 198–213) or the “ecology of science” (1977, pp. 14–15). Although these suggestions refer to “science” as a socio-personal aggregation, which seems to justify the analogy, the chosen terminology may be misleading.

The close relationship between a given environment and the living organism connected with it is clearly pointed out in J. v. Uexküll’s investigations (1909, 1928), where “environment” is defined in relation to the sensory system and the perception of the organism. The “Vienna school” of human ecology has explicitly stressed the link between organism constituting the environment “Umwelteigner” on the terminological level: the organism is referred to as “Umwelträger” (environmental pivot) (H. Knötzig, 1972, H. Knötzig and E. Panzhauser, 1976, p. 158). Differing from this conventional use, F.W. Dahmen (1974) termed the organism constituting the environment “Umwelteigner” (environmental owner). In contrast, “environmental pivot” stands for “real things”, such as earth, air, whose parts or qualities are directly related to the environmental owner. The scope of the term “environment” is therefore defined and limited with regard to its meaning and considerations of time and space by the organism under investigation (H. and M. Sprout, 1971, p. 164). But even when speaking of a specific living organism, the meaning of “environment” will change depending on whether the investigation assumes an autecological, demecological, or synecological point of view. As H. Weber (1939, p. 636) pointed out, “. . . ‘environment’ always includes a relationship to a specific organism or specific person; environment is a relative term.”

The relativity of the term “environment” and its incorporation into a superordinate concept exclude an absolute use of the term. In itself there is no environment. All attempts to supply the term with an abstract meaning by defining environment as the sum of all environments are bound to fail, because such an absolute use transcends the limits of the ecology concept and would equate a particular meaning and functional aspect of reality with complete reality.

Any part of the world or of reality exists independently whether a living organism uses it as an environment or not. The world is an environment only insofar as interactions with the organisms are involved. Such functional relationships do not create a specific sphere of existence or a “new reality”. As with the term “system”, “environment” is an ontologically neutral term whose limits and meanings depend on the living organism, on the given functional interactions, on the scale of the investigation, and therefore on the intended resolution level.

In the author’s opinion it is the relativity and ontological neutrality of the term “environment” that has induced scientists from so many branches of science to take up the concept of ecology, which has functioned as a heuristic stimulant for a great variety of scientific approaches. These circumstances may also offer a chance to develop acceptable definitions of the term “environment”.

In ecology and human ecology there exists a very broad definition for the term “environment”. In this version, which can be characterized as universalistic and all-embracing, environment is defined as “world minus environmental pivot”. Within the context of empirical studies a definition of this sort is completely useless. No empirical scientist is able to determine and describe the whole universe as a single “entity” or “wholeness” and therefore nobody can comprehend the whole world even without one of its inconceivably numerous elements as the “games theory obligation” of the theory of science has shown (W. Leinfellner, 1976, p. 16). This kind of definition corresponds to the “cosmic environment” of holocology which is considered as the “cosmic interrelationship with regard to the living organism”. “All processes taking place in the world are interconnected, though often in many devious ways, and are influenced by events beyond the world. This can in fact affect the existence and development of an organism.