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## REMARKS ON GEOGRAPHICAL ENVIRONMENT

In a broader sense the term environment means surroundings. Accordingly, under this term we understand everything that is surrounding us and the phenomena we are going to investigate. We can investigate the surroundings from the viewpoint of their context or composition, processes taking place in them, by describing some distinctive features, and so on.

R. F. Daubenmire (1973, p. 14) introduces the following phraseology to say what the environment is: „Etymologically it denotes surroundings, a term now in general use to express this abstract notion”. Etymological considerations cannot be regarded therefore as a criterion on the basis of which we would be in a position to define the scope of the notion environment.

In geography the term environment has been in use for a very long time. It is usually preceded by an adjective to provide more precision in establishing the scope we have in mind. We can speak therefore of a biological, natural, physical, geographical, primary, secondary, transformed or non-transformed environment, etc. A similar approach is also observed among specialists from other scientific areas, who tend to add relevant adjectives to the term environment too. To quote an example, biometeorologists say “thermal environment”, physiologists distinguish between an external and internal environment. It might seem therefore that the problem is likely to be solved by producing only a suitable kind of an adjective to render the term environment more accurate in its meaning. Unfortunately, that is not the case. For instance, there is a multitude of ways in which the term geographical environment has been understood by the geographers both in its contents and scope.

The term geographical environment was introduced by E. Reclus in 1876. He understood it as an aggregate of natural factors, related to each other in this or another way, like e.g. lithosphere, atmosphere, hydrosphere or biosphere.

D. D. Armand (1957) holds that the nature around us is exactly the geographical environment.

A similar definition has been proposed for geographical environment by S. Leszczycki (1968): "Geographical environment is a synonym for the geographical envelope which, among other things, includes earth's crust (lithosphere), part of the atmosphere (troposphere and the lowermost level of the stratosphere), waters (hydrosphere), soils, flora and fauna". And then he goes on: "Accordingly, geographical environment can be approached to as the nature surrounding men".

Somewhat different is the definition as proposed for the Geographical environment by A. W. Anuchin (1972, p. 172): "Geographical environment represents that part of the earth's landscape within which men can develop and co-act directly with the nature". And further in the text on page 177 we can read: "Geographical Environment consists of three basic complexes of elements. These are: inorganic complex, organic complex and social complex". In his opinion, Geographical Environment must be seen not only as a purely natural category and so be examined exclusively from the point of view of natural sciences. W. A. Anuchin took a similar stand long before, in 1960. Such an interpretation has been opposed by many geographers, among them also by S. Kalesnik (1962) and A. M. Ryabchikov (1964). In their understanding man cannot be treated as a part of his environment. I think that there must be a misunderstanding in this controversy.

An attempt to make this controversy, according to which some of the researchers try to include man and others to exclude him as a community from his environment, clear by regarding man and his environment as a subject and object respectively has been of little use. The problem seems to have as if two aspects. One aspect is the point of definition or scope of the notion we are going to use. This will be, of course, a matter of convention. The term geographical environment is being used in relation to man and it must be strange therefore that while the notion of man arouses no doubts, environment has become so very much controversial. Meanwhile, the controversy we are referring to is to a large extent an outcome of no definition having been given so far for the notion of man. We can use it in a narrower or broader sense. In the former case man will be understood as an individual. In this understanding, there will be no controversy if also all the remaining people are treated as a part of the environment, for people among whom the said individual lives belong to his environment. Should we, however, refer to mankind under the term of man, community cannot under such circumstances form part of the environment.

As the term geographical environment fails to say exactly whether only nature surrounding the man is involved in such a case (the natural environment) or whether it is expected to include community as well (the social environment), it appears that this term should rather be left out at all. While, however; having such a term already in use, it would be equally advisable to give it a more precise definition. If, on the other hand, man in the broader sense of this word remains excluded from our environmental considerations, then such an environment will be referred to as biological, natural or physical. Under the term physical environment only the inorganic part of the nature is sometimes referred to. Its use may therefore lead to misunderstandings. Much the same problem we face in the case of natural environment which is often understood as a primary environment or as an environment not having been transformed by man. There is yet another natural environment which embraces both the organic as well as inorganic world and does not suggest whether this is the primary or the transformed environment with which we have to do. As regards the nature itself, it has been changing all the time; it was changing before the emergence of man and after his emergence, too. Man has grown to be an additional element in this context, affecting the said transformability. And so nature as transformed or changed by man has not ceased to be nature. This is why the term natural environment (from nature) appears to me as the most suitable equivalent to describe the nature surrounding us.

Another problem may arise while having to do with the terms concerning context or composition of the natural environment. The most usual procedure is to assume that an environment is made up of separate parts referred to as elements, components or component parts. All these terms are employed interchangeably as synonyms. They are often called factors, too, but in such a case the scope of the term factors does not coincide in full with the former notions. "We are in a position to distinguish a certain number of factors in the environment, such as e.g. soil, relative humidity, wind, temperature. As a matter of fact, any external force, substance, or the environment **which in itself is made up of all such factors taken together**" [author's remark, Daubenmire 1973, p. 14]. Similar formulations in which „forces, substances and circumstances" are treated as factors and then also as components must lead to misunderstandings and to erroneous interpretations.

A. A. Grigorjev (1937) has introduced the term physico-geographical earth's envelope. This corresponds more or less to what we have denominated as the natural environment. Grigorjev is distinguishing

the following elements of the said envelope: the sphere of energy radiation, force of gravity, atmosphere, hydrosphere, ice, lithosphere and biosphere. Phenomena so different from each other, as the sphere or energy radiation (space, area ?), force of gravity (force) and ice (matter) are regarded by Grigorjev as elements of the natural environment.

According to S. Kalesnik (1964, p. 26), the natural environment which he calls landscape-envelope of the earth consists of the following elements: lithosphere (including its external form i.e. relief), air masses, water, soils, vegetable and animal communities. All these elements form part of the landscape-envelope.

In many dissertations we can find enumerations listing particular environmental elements. Among several propositions one of the most frequently proposed divisions is that distinguishing the following elements: earth's crust (lithosphere or geology), relief, water (hydrosphere), climate, soils, flora and fauna. If natural environment is to be understood as the nature surrounding us with the afore-mentioned elements forming part of it, then it will be easy to notice that the division proposed is erroneous. Relief and climate fail to be parts of nature itself. The nature around us is all matter and so its component parts must be material too. Land relief, i.e. form or shape, is one of the earth's crust features like e.g. the colour or hardness are characteristic features of the rock. Also the shape of plants or animals might equally well be regarded as an element of the environment; likewise relief, and this at first glance seems to be out of the question. To treat climate as an element of nature seems unjust too. It is the atmosphere, and not its current state or the processes taking place in it, that is the element of the environment. Climate, as a matter of fact, should be approached as a state of the atmosphere and as processes occurring in it. *Kratkaya Gjeograficheskaya Encyklopedia* (Concise Geographical Encyclopedia, 1961) points to an erroneous approach to climate being treated as a part of the nature. Under the entry „komponent landshafu” (i.e. landscape component) which is a synonym of the component of a natural complex, and thereby also component of the nature surrounding us, we can find the following explanation: „Landscape components include earth's crust, waters, atmosphere (or only toposphere), soils, plants, and the world of animals. From the viewpoint of geographical envelope, the said landscape components accurately fit the notion of geospheres. The relief, for instance, i.e. the plane of division separating the earth's crust, on the one hand, and the atmosphere with hydrosphere, on the other, is regarded as a separate landscape-component. It also happens that climate instead of atmosphere is referred to as a landscape-com-

ponent and such an approach is unjust for climate itself is nothing else but a collection of various processes only". The author seems to be right in his comment by saying that climate can by no means be regarded as a component, i.e. part of the nature itself. It appears, however, characteristic that relief is regarded to be such a component. It would be otherwise interesting to learn why exactly relief and climate are usually approached to as components or elements of the nature. Why does nothing like that happen to the shape of plants or animals? Equally unjustifiable, as in the case of climate, would be considering the geological or hydrological processes as an element of nature. It would be fairly interesting to follow up the ways in which geological thought has been evolving in time as against the environmental context or nature, and to find out why exactly climate and relief have been classified among the environmental elements.

Another serious problem is emerging when trying to number soils among the components or elements of nature. Our objection to this case is not of the kind that soils fail to be material, but the type of the matter being referred to as "soil" is far from having the same degree of individuality as e.g. the earth's crust, water, or atmosphere have. Soil does not differ in its state of aggregation of the matter (it may be solid, liquid or gaseous) from other elements, like e.g. lithosphere, atmosphere; nor does it exhibit another form of organization (i.e. organic or inorganic). The soil is something as if in between the organic and inorganic matter, but not a sort of transitional form. It is as if a kind of specific mixture of the remaining elements of the natural environment. This mixture has got plenty of features that make it differ from other environmental elements. On the other hand, these features fail to have the same significance as the differences found between some other elements of the environment. Because of difficulties encountered in providing a univocal definition of the soil as a component of nature, one has to look for some additional criterion likely to become a basis for classifying the soil among a set of the natural environment components. The research goal may become such a criterion. If therefore a solution to the problem is to be made dependent on how we are going to handle the soil, the good of such a solution must be decisive for the standpoint taken by us in that case. Such an approach may also be indirectly helpful in learning the nature of both the soil and environment better. This, however, will not bring us very much nearer to the problem of logics and righteousness of the proposed line of division.

Notions such, as the element, component, or component part of the natural environment, are used in geographical dissertations in a dual, narrower or broader, sense. In the narrower sense they are used to denote component parts of the environment, in the descriptions of the context or structure of the environment<sup>1</sup>. In the broader sense, these terms are used as a definition of not only the component parts, but of the particular features or properties of the environment taken as a whole or in part only as well.

Under the term of an element, component or component part of the natural environment we should understand a certain part of it which ought to be material, for the nature around us is material, too. It can by no means, on the other hand, denote a certain feature, property or aspect of the mater. From among the existing propositions for the division of natural environment formally correct seems to be that one in which a line of distinction is drawn between lithosphere, hydrosphere, atmosphere and biosphere.<sup>2</sup>

<sup>1</sup> A. G. Spirkin, *Zarys filozofii marksistowskiej* (Outline of Marxian Philosophy), PWN, Warszawa 1969, gives the following definition: "An element is the smallest component unit of the given system taken as a whole, which performs a well specified function in it" (see page 198).

<sup>2</sup> The term "biosphere" is referred to in this case as having the same meaning as this used already before by J. Mill and E. Suess (see D. Stamp, *A Glossary of Geographical Terms*, London 1961), and as used nowadays by several natural historians, such as, for example A. S. Boughey, *Man and the Environment*.

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