SBORNÍK ČESKOSLOVENSKÉ SPOLEČNOSTI ZEMĚPISNÉ
Ročník 1976 • Číslo 1 • Svazek 81

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GEOMORPHOLOGIC „AXIOMS"

Problematics of geography as a whole i. e. of its significance, range, program etc. are often discussed by prominent scientists. On the one hand there are papers on the relation of geography to other branches of natural science, but on the other hand even doubts arise about its scientific independence. The economic part is usually aligned with economics, while geomorphology is hold for an intrinsic part of geology.

Such kind of classification is based only on the specific content of geography i. e. on its subjects. It is only a matter of reorganization. Nevertheless nobody has ever had other characteristics of geography in view — methods of research, of its results and its quality.

If looking at geomorphology just from the latter point of view we must try to distinguish the work of a specialist from that of a scientist, of a philosopher etc. Nobody has at all considered if geomorphology has fundamental characteristics of a science.

The ancient learning of Nature as well as of geography was philosophical in its substance. In ancient works description, simple classification and mainly speculation are predominant. From the epistemic point of view they belong to the first two stages of the process of knowing. These speculations had lacked the third stage of this process i. e. the verification.

In Middle Ages the way of thinking had not advanced. On the contrary, in scientific thinking new prejudical elements had appeared. *R. BACON (the 13th century) says that the world is full of prejudices, of authority, of bas usage, of phrazes and people have only semblance of wisdom. But one must go to sources and not refer to great persons only. Knowledge „per experimentiam" and not „per argumentum" — it is what is needed.*

Bacon's view is not only a criticism of obligatory adoration of authority (Church, Aristoteles) but also an enumeration of negative properties of the representatives of science. He criticizes the retreat of investigation of Nature as well as the speculative interpretation which has no regard to reality. *Such way of „scientific work" was 300 years later criticized by G. BRUNO — the knowledge is true only in the case when it is based on investigation of Nature.*

Can we responsibly affirm in our times, however, that the criticized state belongs irrevocably to the past? The climatic geomorphology originated in the 19th century but it adopted the ancient way how to form precepts. The description of relief and then the speculative interpretation of its genesis — these have always been the main features of the said way. To presuppose the existence of natural processes which have formed the relief is then only something like diagnostics. Of course, such diagnostics can be or need not be true.

Yet such a „scientific" way of work is still hold for a research of nature.

In comparison with antiquity and Middle Ages which had been starting from natural observation there are at hand various analyses, measurements, maps, photos etc. nowadays. But these aids are only a basis for scientific work.

Now let us pay attention to genetic interpretations. They are mere speculations which in most cases have nothing to do with the said analyses, diagrams, etc. Genetic explaining the origin of river valleys can serve as an example. Here from the analysis of accumulation terraces, of their thickness and of absolute or relative height etc. stages of the erosional cutting down are deduced. The discrepancy of this explanation fully escapes our attention. In fact the material of the terrace had been transported here by the river from another place! This material having been analysed, the place from where it was transported can be looked out for. But we learn nothing about how valley had originated and developed. In spite of that we jump from sedimentation at conclusions about erosion and genesis of the valley. Such genetic explanation is commonly used although two phenomena are causally connected which are allied to only by place.

The cutting down of rivers into hard rocks although neither observed, researched nor proved is in consequence of those wrong causal explanations hold for quite a logical natural process. Nobody cares that to no real knowledge but only to speculation is given credit. The erosional process is supposed everywhere, even in the environment where it cannot take place — on the sea bottom, on the moon, on the Mars. Can this way of natural research be called materialistic?

However the river erosion supposed in hard rocks is not the only wrong precept in geomorphology. It comes out now that also the assumption of a continuous continental glaciation in Pleistocene is not true (Volin 1974). Even precepts explaining the eolian activity are influenced by false presuppositions. The analysis of aerial photos from Mauretania has not acknowledged the hitherto used precepts concerning the origin of sand dunes (Clos-Arceduc 1968).

The up-to-now geomorphologic system is getting unstable. The geomorphologists have been persisting in methods of ancient philosophy. Nevertheless it must be stated that the ancient Greeks had not been breaking the laws of logics so frequently as the geomorphologists do: in our time it is on the one hand asserted that meandering water stream cannot cut down in hard rocks, but on the other hand, in the case of antecedence, it is argued that this meandering stream suddenly cuts down with a great power.

The said natural processes have not ever been investigated although such an investigation is not beyond our possibilities. The reason is that the geomorphologic explanations have been voiced as definitive precepts but never as problems to investigate. They are in fact nothing more than widely spread presuppositions of individuals.

Each of those presuppositions has of course its denoting term, so that it becomes a concept in science. Nowadays this simple terminology from W. M. Davis's and his predecessors' times is being complemented by further concepts i. e. by results of the more complicated speculations. However what good is this way of thinking at all? Is this an investigation of nature? Do we know natural processes better than before? To become a science, geomorphology has to study and investigate these natural processes, to look for relations between natural phenomena — all this in order to discover laws of their occurrence or of their course.

Today's geomorphology does not virtually investigate. It only supposes and describes. Giving preference to climatic factors its genetic model of relief becomes one-sided. Nevertheless this model seems quite self-sufficient — it is

independent of laborious investigation of natural processes. Thus it is nothing else than a much easier explanation „per argumentum".

Geomorphology lacks verification of its own precepts as well as it lacks logics. Its approach to investigation of nature is neither dialectic nor really materialistic — it deals with unverified processes which most probably do not exist!

This development of geomorphology is a necessary result of leaving out the last stage in the process of knowing i. e. of verifying our considerations. The call for verification was clearly voiced by V. I. LENIN. Since this epistemic call is of general validity, geomorphology should accept it as other scientific branches do.

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ЛУДВИК ЛОЙДА

ГЕОМОРФОЛОГИЧЕСКИЕ „АКСИОМЫ"

Климатическая геоморфология, как наука, возникла в 19 веке, но способ образования её научных положений переняла собственно с древних веков: это все ещё только описание форм рельефа и спекулятивное изложение их генезиса.

Хотя в настоящее время мы и располагаем анализом, измерениями, картами и т. п., но этот материал возникл в следствии ускоспециальных работ, и для научных заключений служит только как основание. Подлинные генетические изложения - это только лишь спекуляции, кторые в большинстве случаев с этими основаниями не имеют ничего общего. Например, анализ речных террас является основой для эрозионного обьяснения речного генезиса. Здесь каузально соединяются два явления (аккумулятивная терраса и эрозионное возникновение долины), которые находятся в связи только местом и последовательностью.

Также и врезание рек в твердые горные породы, несмотря на то, что никогда никем не наблюдалось, не исследовалось и не доказывалось, принимается за само собой разумеющийся естественный процесс. И то, что он собственно выдумал и что его даже »наблюдают« в условиях, где он происходить не может - на морском дне, на Луне и Марсе - это, по-видимому, никому не мешает. Проверка правильности наших рассуждений просто не делается.

Геоморфология, пользующаяся только лишь спекулятивными приемами, собственно говоря, подобает философии. Разница только лишь в том, что геоморфология не соблюдает законов логики - например, с одной стороны она утверждает, что меандрирующие реки не могут углубляться, а с другой (в случаях антецедентных долин) утверждает, что при одинаковом уклоне якобы углубление происходит очень интенсивно.

Однако, эти часто нелогичные геоморфологические предположения имеют свои »научные« названия. Эта геоморфологическая терминология постоянно дополняется более сложными понятиями. Таким образом, современная геоморфология не исследует природу, а только её описывает и по-своему обьясняет. К такому состоянию непременно должно было дойти, т. к. в процессе познания давно, и по-видимому, намеренно был выпущен последний этап - проверки правильности наших рассуждений! Этот гносеологический познавательный принцип сформулированный В. И. Лениным имеет всеобщий характер, и геоморфологи должны были бы объяснить, почему они его не применяют в своих работах.