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TOWARDS A MODERN PHILOSOPHY OF NATURE

(Seven Theses*)

In this paper I want to outline the issues and the methods of a modern philosophy of nature. In recent years 'nature' has become a popular topic for philosophical discussions (I suppose: not only in West Germany). This is mainly a consequences of environmental problems, and so very often contemporary philosophy of nature seems to be mainly a practical enterprise, which is in many respects opposed to the sciences. In opposite to this popular opinion I want to argue for a theoretical philosophy of nature which is not opposed to science but nevertheless distinct from both methodology of science and the sciences themselves. I shall summarize this programme in seven theses¹.

First thesis: *As a consequence of the history of science and philosophy in the 19th and beginning 20th century, there seemed no place left for a philosophy of nature going beyond science or logical analysis of science.*

It was supposed, that the subjects of the older philosophy of nature are now performed partly by the sciences and partly by the logical analysis of science².

Second thesis: *There are problems emerging out of the sciences which can neither be solved by sciences themselves nor merely by the tools of logical analysis.*

At the same time, when philosophers proclaimed the end of philosophy of nature, scientists with interest in philosophy started to discuss philosophical

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¹ An extended version of this paper including two detailed examples will appear in „Philosophia Naturalis“ 1989 (*Was kann man heute unter Naturphilosophie verstehen?*).

² Cf. A. G. M. van Melsen, *The Philosophy of Nature*, [in:] *Contemporary Philosophy II*, ed. R. Klibansky, Firenze 1968, p. 151.

consequences of theories like quantum mechanics or Darwin's model of biological evolution. There is a rich literature on the role of the observer and his consciousness in quantum theory. Present examples for philosophical discussions emerging from special scientific theories are the debates on the so called „Anthropic Principle“ in Cosmology³ and on the impact of sociobiology on ethics⁴.

Third thesis: *The philosophical problems raised by special results of physics or of biology are an important part of a modern philosophy of nature. Other tasks are the assessment of metaphysical presuppositions of scientific theories and the comparison of different conceptions of nature.*

Fourth thesis: *Considering the success of science in describing nature, a modern philosophy of nature should not compete with science and should not contradict reliable results of scientific theories. Questions which can be answered by science, should be answered by science.*

In this conception philosophy of nature depends on the changing theories of the sciences and therefore is not an a priori enterprise for finding eternal truths. In general, philosophy of nature connects empirical knowledge with other parts of human knowledge, or deals with problems like the direction of time, in which several disciplines are involved. Scientist could, but must not be interested in such problems. Using scientific knowledge for solving philosophical problems probably does not make much sense to people holding a purely instrumentalistic conception of scientific theories.

Fifth thesis: *Philosophy of nature is more than methodology or logical analysis of science.*

Philosophy of nature deals with the content of scientific theories and often uses their results to solve philosophical problems⁵. People working in the foundations of physics or in the foundations of biology must have fairly good knowledge both of science and philosophy. This might warrant the reanimation of a special discipline „philosophy of nature“.

Conceptually separating philosophy of nature from philosophy of science might be considered as a little bit strange, especially by people having a broad conception of philosophy of science, which is different from the more methodological oriented German concept „Wissenschaftstheorie“. Without doubt a good deal of work which has been done under the heading of philosophy of science falls also into the scope of philosophy of nature. Generally, philosophy of nature stresses more ontological problems, the

³ See J. D. Barrow, F. J. Tipler, *The Anthropic Cosmological Principle*, Oxford 1988.

⁴ Cf. L. Krüger, *Ethics According to the Nature in the Age of Evolutionary Thinking*, „Grazer Philosophische Studien“ 1987, No. 30, p. 25–42.

⁵ For a useful distinction of analytic and synthetic philosophy of science; cf. J. J. C. Smart, *Between Science and Philosophy*, New York 1968, p. 6, 8.

connection to classical philosophical problems, and relations to common sense pictures of nature and to nonscientific experience.

Sixth thesis: *Philosophy of nature is applied philosophy*⁶.

Within mathematics and the sciences we are used to distinguish pure and applied disciplines. Transferring this distinction we should classify philosophy of nature as a applied discipline which uses methods of pure philosophy (like methods of ontology or epistemology) in solving special problems, related to our understanding of nature and man's place in nature.

From a methodological point of view philosophy of nature does not reign a territory of its own. Doing philosophy of nature is doing epistemology or ontology or some other pure discipline of philosophy at the same time. So a plurality of methods is unavoidable. There is no special starting point for philosophical arguments, but a transfer of knowledge between common sense knowledge, science, and philosophy. The methodological standards of philosophy of nature are mainly the methodological standards of the affiliated pure disciplines. So in many respects „philosophy of nature” is similar to „philosophy of mind” or „philosophy of religion”, where we have a similar exchange of empirical and philosophical problems.

Seventh thesis: *In a wider sense there could be a practical philosophy of nature, considered as ethics applied to nature. But if we understand 'nature' in a more narrow sense as 'nature independent of human interference', it does not seem necessary to separate a practical philosophy of nature from ethics.*

Even if there is some mixing of empirical and normative problems for example in environmental ethics, moral philosophers are on the whole dealing quite well with these problems. Descriptive knowledge of nature does not help so much in discussing the normative aspects of moral problems. In addition I believe that such practical problems are quite independent of theoretical philosophy of nature. Especially I do not believe that giving up our „Cartesian view of nature” or something like that would solve any real problem.

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SIEDEM TEZ NA TEMAT NOWOCZESNEJ FILOZOFII PRZYRODY

W myśl obiegowej opinii filozofia przyrody stanowić ma przede wszystkim przedmiot zainteresowań filozofii praktycznej, a tym samym nie mieści się ona w obszarze zainteresowań właściwych nauce. Autor, występując przeciwko tej opinii, broni teoretycznej filozofii przyrody,

⁶ Cf. M. Bense, *Der Begriff der Naturphilosophie*, Stuttgart 1953, p. 20, 99.

wskazując zarazem na konieczność odróżnienia jej od metodologii nauk, jak też samej nauki. Za zasadnością i możliwością wyodrębnienia teoretycznej filozofii przyrody przemawia m. in. to, że sama nauka (czy to fizyka, czy biologia) rodzi problemy teoretyczne, których nie jest bynajmniej w stanie rozwiązać za pomocą narzędzi analizy logicznej, jak też opiera się ona w swym postępowaniu teoretycznym na pewnych przesłankach metafizycznych, tudzież bazować może na różnych koncepcjach przyrody. Z drugiej strony, filozofia przyrody musi korzystać z osiągnięć nauk empirycznych i na ich ustaleniach musi się też w znacznej mierze opierać. Filozofię przyrody można i należy zdaniem autora uprawiać we współpracy z naukami empirycznymi z jednej strony i z filozofią praktyczną i etyką z drugiej.