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The ecology of science and its consequences for the ecology of language ☆

Peter Finke

Professor Emeritus, Bielefeld University and Witten/Herdecke University, Telgenbrink 79, D-33739 Bielefeld, Germany

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ABSTRACT

Beginning with three preliminary considerations – on the factual role of prejudices (Section 1), on the relation of nature and culture (Section 2) and on the importance of logic (Section 3) – I compare the logical point of view with the ecological point of view for a new understanding of the philosophy of science (Section 4), the core of which is a theory of knowledge. In this view science is an evolutionarily late type of the Batesonian ecosystems of the mind that nevertheless follow many of the old systemic structures developed in the earlier ecosystems of matter. A problem is that in the past decades we have become used to the Kuhnian description of sciences as paradigmatic or longing for a paradigm-change. This entails the mistake of replacing the overall important value of truth by the concept of power (Section 5) which is unacceptable for an ecological point of view. In the ecological view we gain a new criterion for the dependency of science from the surrounding systems (as politics or economics) by judging its relative intactness in pursuing its scientific goals (Section 6). Language is a most important means for structuring human knowledge and science, but linguistics has not yet contributed much to its theory because of the deficits of the language sciences (Section 7). The ecology of language could repair that by resuming and developing ideas of the Humboldtian tradition (Section 8) which have been lost by the Saussurian and Chomskyan schools, especially that of restoring the environments of the language-systems to its important rights. Unfortunately, many ecolinguists do not recognize the importance of the ecological ideas for a progress in the theory of language and even grammar (Section 9). Therefore the power of change that is included in the ecolinguistic perspective – not only to supply a growing core of linguistic knowledge by some ecological additions but to replace it by a better linguistics (Section 10) – is often underrated.

0. Preliminary remarks

The present situation of our knowledge about mankind, the earth and living in general is to a marked extent influenced by the force of evolutionary and ecological thinking.[1] A wind of change is blowing and it pertains to all sciences and our basic understanding of knowledge and science, too. The philosophy of science and the language sciences are considerably concerned by the fundamental shift that these subjects have brought about. In my article, I shall try to explicate this thesis in rather a

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E-mail address: peter.finke@t-online.de

[1] I concentrate in this paper on ecology, but in the beginning I should mark out the fact that evolution is the more fundamental concept. All ecosystems are the result of evolutionary processes, and therefore all considerations of the importance of the change to an ecological point of view must be situated in that context. Only occasionally shall I do so, but the general point should not be overlooked. In some recent literature on the theory of science the priority is very obvious, in the literature on ecolinguistics evolutionary research is nearly absent (cf. Finke, 2008).

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general way. I focus especially on the consequences of the ecological world-view that change many old convictions substantially, in linguistics and – still more fundamentally – in our understanding of the goals, structure, processes and functions of science.

All evolution, the evolution of knowledge included, works on two principles: the production of a manifoldness and its subsequent selection (cf. Finke, 2001). When I wrote my first contributions to the ecology of science and the ecology of language thirty-five years ago,[2] both subjects were non-existent and most colleagues shook their heads about such a strange combination of ideas. Obviously there was not yet a plurality of theoretical conceptions and consequently nothing was to be selected. Today the headshakes of some colleagues are not totally different but the situation has changed considerably nevertheless. Both fields of interest have developed to a remarkable manifoldness, and selection is under way. My present contribution is part of the latter, and it begins with some introductory considerations. In general, it is a summary of arguments that I have put forward during the past three decades.

My main point is that the question what the power of change amounts to is hidden in ecological thinking. There are two possibilities: Either the ecological turn could remain a minor influence by modifying the periphery of a subject (maybe largely) by introducing new subject matters, but leaving many convictions of the subject's core unaltered. Alternatively, the power of the ecological ideas will change even the core. I have never doubted that the latter is possible and therefore a necessity to be strived at. Since for a philosopher of science a general view on science has always priority to the fate of single sciences, my first attention was always paid to our general understanding of what science is and to which changes of its core the ecological challenge amounts to. Subsequently, three special sciences have been of major interest to me: biology (e.g. Finke, 2009), economics (e.g. Finke, 2011; cf. Paech, 2009) and linguistics (cf. Sections 7–10). As the latter is concerned, I felt always sure that ecolinguistics should not be defined by eco-related contents of our problems but enforce a different way of seeing linguistics. The question is: Does it leave the central results of the major revolutions in twentieth century linguistics unchanged, or will a new chapter of linguistics be opened that might resume some forgotten traditions and restore them to a new linguistics of the twenty-first century? I think it will; at least it could. The energy of the ecological change is sufficient for that goal. To achieve it will depend on linguistic ingenuity and creativity.

1. Dealing with prejudices

If, walking in a landscape, you want to reach a certain special point of interest, you have mostly to walk for the first part of the trip on more or less extended paths that will take you there. In science we have a similar problem. Hence, I have to comment on three preliminary issues in order to reach the area of the language sciences. The role of prejudices in science is the first.

I believe in scientific progress, but with many reservations. Although we certainly search for the truth, we normally stumble through a labyrinth of prejudices, fallacies and deceptions. Only analytical truths can be known with certainty. Therefore, Socrates' Dictum "I know that I know nothing", has always been a leading mark for guiding my way in science. Most people – not to say most scientists – behave as if their knowledge is stable and firm, but I think this is dangerous and misleading. If any group of people is bound to lifelong learning and continuous renewal of their assumptions, it is the scientists. We are all filled up with prejudices of any kind, most of which we do not recognize. Most things that we take for being true are probably only partly true or even false. From time to time, to free oneself from prejudices is, however difficult that may be, the first duty of a scientist.

Science is never perfect, neither the philosophy of science, nor any special science, e.g. linguistics. Although generally searching for truth, we live in our sciences within a landscape of assumptions, prejudices, trials and errors. Full of presentiments of the vast complexity of most problems to be solved, we try to reduce it to clear and passable paths, tendentiously forgetting the risks of this method. Often, we overestimate the methodological rationality of our ways of arguing and its distance to our everyday thinking. Modesty would be judicious, but often the contrary seems more attractive.

A radical scientific rationality implies a fundamentally critical attitude, including one's own convictions and those of others. This does not mean that knowledge could not be gained; it only means that knowledge is neither sure nor stable. Knowledge must be prepared to be defended with and against arguments, and it must be changed in the light of better.

Most scientists certainly applaud this as a doctrine. Nevertheless, their behaviour is different. Let me take as an example the attitude to ecology. Natural scientists take it to be a natural science, a part of biology.[3] This is certainly true, but it is only half of the picture. Although they applaud the evolutionary thinking their conception of ecology mostly remains that of a natural science with physics and chemistry as measuring assistants. Physical and chemical processes are registered on matter and

[2] My first explicitly ecolinguistic contribution was written in 1973 ("Talking in a New Paradigm") and appeared three years later in the mimeographed copies of my doctoral thesis as the final chapter of the main text. It appeared in print in Finke (1979): Ch.IIc5, 193–197. Today, I avoid the "paradigm"-concept (cf. Section 5).

[3] One of the founders of modern Systems Ecology, Eugene P. Odum, may be cited as authority. Although he advocates a linking role of ecology between the natural and the social sciences, his description of ecology is entirely physicalistic. Ecosystems are parts of nature, regulated by physical, chemical and biological parameters. They influence the cultural world and are themselves influenced by it, but according to Odum there are no cultural ecosystems or immaterial processes belonging to a thorough description of such a system (cf. Odum, 1971). Even the founder of a first conception of Cultural Ecology, Julian H. Steward, did not perceive of cultures as ecosystems but took them only to be described as affected by ecological (i.e. natural or physical) parameters (Steward, 1955). As the normal scientific perception of ecology as a biology-based natural science is concerned, these references are by no means out of date. Nevertheless, a huge diversified discussion has widened that picture considerably in many directions. It originated not in biology, however, but in the social and cultural sciences. If one looks for a similar powerful role that a single subject may have played in influencing the world of sciences at former times, physics is the only candidate.