

CRITICAL PERSPECTIVES ON EVOLUTIONISM

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Abstract. *Our research includes a discussion of certain culturally embedded aspects which have great relevance on the way language is conceptualized, taught and learned, along with some (un)desirable consequences envisioned from an educational and axiological point of view. The meaning of the notion "evolution" is at the core of this critical analysis, as we highlight some of the relevant consequences set into motion by the accepted scientific approach. Despite the postulation that scientific concepts maintain neutral value, it may be demonstrated that these are interpretations based on given assumptions, which generate a consequential assessment of the nature of reality. Our assumptions and perspective on the world narrow down the meaning of reality or that of certain concepts which experts have agreed to accept as valid. The study points to the materialist approach of traditional scientific discourse which often reduces higher-level realities to explainable hypotheses. However, scientific reductionism is currently challenged, as it has failed to provide an accurate and complete account of our human story. Holistic and transdisciplinary perspectives have now taken centre stage, as well as new post-Darwinist and post-Newtonian paradigms of thought. Secondly, we analyze scientific discourse from the point of view of the history of science and one of its foremost proponents who approached the theory of evolution According to Karl Popper, the central problem in the philosophy of science is that of demarcation, of distinguishing between science and what he calls non-science. Popper argued that Darwinism is more a metaphysical research program than a scientific theory and natural selection cannot be tested because biological evolution is a unique historical process. He pointed out that there are evolutionary trends, but these do not prove the existence of evolutionary laws. A trend is existential not universal. Popper argued that evolution theory predicts accidental mutations and thus accidental changes.*

Keywords: *Darwinism; eco-linguistics; cognitive linguistics; philosophy of science, Karl Popper; semantics.*

INTRODUCTION

Within a cognitive semantic framework, the paper examines the conceptual implications underlying a pivotal notion in life sciences, which has also been borrowed by the social sciences and applied in a largely consequential manner over the past century: *evolutionism*. Although Darwinian and later interpretations differ widely, some of the core tenets of evolutionism are conducive to significant ethical consequences and correspond to a certain worldview. We advance a critical analysis of this worldview as it has been employed and applied in a reductionist framework, from the point of view of ecolinguistics and the more holistic outlook across disciplines of contemporary trans-disciplinary cultural studies.

A coherent systemic framework integrates all dimensions of life, including cognitive and social aspects. Given the main task of the humanities and educational research, this approach is also aiming to contribute in the building of sustainable communities and communicational networks. The evolutionary phylogenetic perspective has led to a hierarchical outlook on life, which went beyond Darwin's initial intentions. As social designers took up this worldview, 20th century institutions were based on limitless growth, competition, and exploitation, which is now deemed incongruous with the order of nature. What we are striving

for in ESP classes is to enable students understand that we are in a process of learning from nature and we are in a need of understanding how genuine communication operates. In the new paradigm, evolution is no longer seen as a struggle for existence, but a cooperative exchange of resources because isolated organisms are unsuccessful in nature. It does not mean competition is not acknowledged in striving for optimal results, but it is focused on improving the overall state rather than on exploitation of the others and of our resources. We need to establish a new worldview which understands interrelatedness, networking, and cooperation – also the basic principles we endeavour to apply in our teaching. Understanding evolutionism in a traditional materialist manner leads to destructive tendencies weeding out those who are not “fit” to compete and survive.

Both Darwinism and evolutionism are among the most highly cited notions in the study of science and the conceptual framework they uphold has become paradigmatic for the language of numerous sciences. The materialistic paradigm upholds Darwin’s theory of natural selection, based on mutation and the selective pressures of the environment. Thomas Kuhn has warned against the danger of some paradigms that become like a rigid box and reject any critical analysis. MICHAEL RUSE (1977), a leading evolutionary philosopher, admits that for many evolutionists, evolution plays the role of a secular religion. Thus, evolutionism becomes a new form of “orthodoxy”, in which the law of evolution plays more or less the role of a deific actuality, presented as a real force in the universe.

However, the new ecological interpretation brings a holistic dimension where living things, including humans, co-evolve together, influence, affect, and depend on each other. Hierarchic reasoning and eugenic temptations are replaced by horizontal networking, where every form of life becomes a centre of the universe and all organisms communicate and are interrelated. A deep scientific understanding brings us to a reverence for nature and other forms of life, which we are unquestionably dependent on. From a pedagogical and ethical standpoint, a consequence of this understanding would be the learning of empathic and compassionate communication, and the reintroduction of the age-old tenet which suggests treating others as you wish to be treated. We suggest that when science and education operate based on this ecological conceptual framework, it can lead to improved communication and higher level functioning in the social and natural world. If we teach and learn this worldview before teaching anything else, new generations of learners will become conscious participants better equipped to adapt and evolve with respect for (human) nature, leading to a morally enhanced meaning of evolution. The fact that we are beginning to learn more from indigenous cultures sadly considered “primitive” or less “evolved” until very recently, points to the relative meaning of the notion of *evolution*. As society has evolved technologically, human beings have become more disconnected from our roots, leading to a sense of alienation and other imbalances. It is this ethical aspect that we scrutinize as we put forward a more consistent outlook on the meaning of *evolution*, as we plead for a new understanding of the term in relation to higher consciousness.

MATERIAL AND METHODS

The proposed discussion relies on semiotic analysis, within the ecolinguistic framework, which can be considered a branch of ecosemiotics (SELVAMONY, 2007). From the standpoint of eco-critical discourse analysis, language and use of metaphor, as well as its underlying implications, are analysed in relation to nature and the environment (HARRÉ ET AL. 1999; STIBBE, 2005). Also, our approach takes into consideration the growing relevance of maintaining researchers and disciplines in close contact. Trans-disciplinary considerations

often hold the key to more effective communication of what we, on a global level, perceive as true or meaningful.

RESULTS AND DISCUSSIONS

Ecolinguistics puts forward examinations of discursive constructions of nature, among other applications related to ecology, where it highlights the consequences of these conceptual frameworks upon ecosystems. This paradigm of linguistic research is highly relevant in that it takes into account the larger context language is embedded in, socially, as well as ecologically. HALLIDAY (1990) first pioneered the contextual analysis of language with its consequences on how we frame meaning and how we understand life. His analysis pointed to the destruction of ecosystems based on our conceptualisation of words like *growth*, *evolution*, *progress* which were correlated with positive concepts, while having destructive consequences (HALLIDAY, 1990: 175).

The linguistic paradigm came under Wittgenstein's focus in the *Tractatus*, 4.11: "The totality of true propositions is the total natural science (or the totality of the natural sciences)." (1922:44). Under his influence, positivists adopted empirical verifiability as the criterion of demarcation between science and non-science. A claim is scientific if and only if is empirically verifiable. POLANYI (1958) argued that positivism supplies a false account of knowing, which if taken seriously undermines humanity's higher purpose of comprehending the truth. Thus, our understanding of reality and the most significant facts of our lives is altered by reductionist assumptions which we accept as the prerequisites of paradigmatic inquiry or scientific discourse frameworks. However, materialist assumptions trigger the reduction of higher-level realities into meanings of lower order, a process which generates what Polanyi views as a case of moral inversion (*ibid.*).

Going against logical positivism, Karl Popper argued in terms of empirical falsifiability instead of verifiability, on the ground that general law claims can be proved false by a single counter-instance, but any number of confirmations could not establish them as having truth value (NICKLES, 2013). Thus, from the point of view of falsifiability, the fact that a statement or event is falsifiable does not necessarily mean it is false, but rather that if it is false, some observation experiments will produce a result in conflict with it. Popper first approaches the theory of evolution in his book *The Poverty of Historicism*, which sets out to demonstrate that there is no human progress law: "There can be no prediction of the course of human history by scientific or any other rational methods." (POPPER, 1964:v). As a corollary, Popper argues that there is no law of evolution, given the fact that laws require repeatability, whereas evolution is a unique historical process.

Karl Popper was aware of distinction between the unique historical process of evolution and a theory of evolution which would claim to elucidate how evolution took place. However, the possibility of some laws involved in the evolution process, such as the laws of mechanics, chemistry, heredity, or segregation, are not denied. Despite admitting that the history of evolution identifies many trends, Popper considers that these cannot prove the existence of evolution law, given that "trends are not laws"; so their value is "existential and conditional, not universal and determining" (POPPER 1964: 129). Since the theory is difficult to test, Popper points to the fact that a law such as "the survival of the fittest" is unfalsifiable, which is conducive to the conclusion that "there exists no law of evolution, only the historical fact that plants and animals change, or more precisely, that they have changed" (Popper, 1963: 340). What is more, this generates the reasoning that "Darwinism is not a testable scientific theory, but a *metaphysical research programme* – a possible framework for testable scientific theories" (POPPER, 2009: 167).

From a wider perspective we are putting forth in the present paper, the ecological shift of paradigm has also brought about a change of metaphors in the language of science from the world as a mechanism, based on a the fundamental law of evolution, to an organic view of Gaia, a living self-regulating system (LOVELOCK, 1979). New implications of *evolution* are emerging, meaning not just random change, but creative unfolding of life towards increasing complexity (CAPRA, 1996). F. Capra (*ibid.*) highlights creativity and brings a new reading of Darwinian evolutionism, building on Darwin's insight that all living organisms are related by common ancestry. This holistic outlook deploys a planetary network of interconnected beings.

Meaning and truth

We may ask the question: what has been the direction of evolution? There has been controversy over its progressive or neutral meaning, whether it points to meaning or it is merely accidental and meaningless, according to selective pressures. Given either the lack or presence of meaning, we have certainly evolved to perceive and also to create meaning. The corollary of whether something may be meaningful in different ways to different people is conceptually conducive to the idea of a plurality of meanings, not to a lack of meaning. Only those of our ancestors who found meaning in an approaching predator were able to pass down their gene to us, which has selected the ability to decode meaning. If the prevailing outlook on evolutionism regards natural facts as meaningless in themselves, it may be concluded that the predator's presence is meaningless and only receives meaning from the point of view of the other, thus meaning is emergent from contiguity. This line of binary reasoning may be an unnecessary hurdle in the controversy of whether there is (no) meaning in the universe. The fallacy of binary thinking perceives only the extremes: meaningful (as interpreted by the prey/human) or meaningless (in itself). It is noticeable how much this depends on personal outlook and preference, so that issues of similar sort remain unresolved.

However, we suggest that binary reasoning can be overcome by acknowledging a convergence of meanings simultaneously, instead of deducing meaninglessness from an absolute point of view. The absolute (or "neutral" point of view is inappropriate, given that the materialist scientific worldview has already postulated the absence of a God-figure. If the point of view or the perspective of the onlooker is wrong, the reasoning may be correct, but conducive to inaccurate conclusions. If every form of life is regarded as a centre in itself and a carrier of meaning and relevance in the web of life, we can gain a higher understanding of how all forms of life in the global web partake in the co-evolution of meaning. This perspective on meaning implies a highly creative potential which arises from interaction and goes beyond the implications of contingency or selective necessity.

CONCLUSIONS

In its most widespread form, the theory of natural selection states that all organisms and all forms of animal behaviour have evolved as a result of natural selection. Although it seems to be supported by a large number of cases, the natural selection theory is not universal, as shown above. Students must understand all underlying assumptions of fundamental concepts they are taught and they must be able to discriminate among various perspectives, which may (not) correlate with the current materialist trends.

The fact that our underlying assumptions shape our perspective on the world and the meaning we assign to "reality" brings us to the conclusion that teaching the vocabulary of science and the corresponding conceptual framework comes with a degree of responsibility. Certain culturally embedded aspects may take on consequential roles in the conceptualization of life and its potential evolution in the future. Given the growing mistrust in scientific reductionism which cannot provide a complete account of our human story, we partake in the

holistic approach of Ecolinguistics, which we are striving to apply in the ESP language class. On a conceptual plane, understanding the interrelatedness of life is also correlated with improved communication and higher relational satisfaction. For this purpose, we teach the conceptual frame of holism, not separation, in the hope that we may contribute to the current revolution we are witnessing in the emerging trend of scientific, humanistic, and trans-disciplinary education.

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