Center for Open Access in Science

Open Journal for

Studies in Philosophy

2022 ● Volume 6 ● Number 1

https://doi.org/10.32591/coas.ojsp.0601

ISSN (Online) 2560-5380

OPEN JOURNAL FOR STUDIES IN PHILOSOPHY (OJSP)
ISSN (Online) 2560-5380
https://www.centerprode.com/ojsp.html
ojsp@centerprode.com

Publisher:

Center for Open Access in Science (COAS)
Belgrade, SERBIA
https://www.centerprode.com
office@centerprode.com

Open Journal for Studies in Philosophy, 2022, *6*(1), 1-38.
ISSN (Online) 2560-5380

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ISSN (Online) 2560-5380

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ISSN (Online) 2560-5380 ▪ https://doi.org/10.32591/coas.ojsp.0601.01001e

A Critical Analysis of Marx's Dialectical Materialism

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Received: 29 March 2022 ▪ Revised: 21 June 2022 ▪ Accepted: 12 July 2022

Abstract

This paper examines how the concept of dialectical materialism has evolved in the history of philosophy and its distinct features based on the work of Marx and Engels. Dialectical materialism, as a fundamental philosophical outlook of Marxism, is one of the greatest contributions of Marx and Engels in the history of philosophical discourse. The importance of dialectical materialism is far beyond imagination in analyzing the nature of things and human social development in a manner that conceiving social development against a linier and disconnected mode of cognition and things. As being foundational to Marxian thought, dialectical materialism deal in wide range of subjects, such as understanding of the nature of things and change, the nature of man and also the nature of social development. The aim of this paper is, therefore, to critically analyze the concepts of dialectical materialism in terms of its origin, evolution, and how it was understood by Marx and Engels in connection with its divergence from both mechanical materialism and metaphysical conception of the nature of things.

Keywords: dialectics, dialectical materialism, idealism, materialism, metaphysics.

1. Idealism vs. materialism

From the history of philosophy, one can witness that every philosophical system, though with its own distinctive marks in a particular epoch and place, has to a large extent recourse to either of the dominant strands of philosophy-idealism and materialism. Since antiquity philosophers have sought answers to the fundamental question of philosophy-the nature of connection between consciousness and being, without which it is hardly possible to address the other problems of philosophy. In this regard, Engels says:

> The great basic question of all philosophy, especially modern philosophy, is that concerning the relation of thinking and being. …the answers which the philosophers have given to this question split them into two great camps. Those who asserted the primacy of spirit to nature and therefore in the last instance assumed world creation in some form or another…comprised the camp of idealism. The others, who regarded nature as primary, belong to the various schools of materialism (quoted in Cornforth, 1997: 20).

Indeed, both trends are as old as philosophy itself. Plato is lined up with idealism, and Democrats and Epicurus were classical founders of the materialist school.

The question whether those things referred as material things exist only in the mind (consciousness) or not, and whether which is prior or foundation to the other, is the locus of the difference between idealism and materialism. Materialists argue that everything that we

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commonly regard as the external world exist objectively "out there" independently of man's consciousness. Accordingly, the external world is the primary foundation of everything that exists. For materialists, "mater is eternal, that no one had ever created it and that consciousness is the product of the historical development of matter" (Afanasyev, 1980: 15). Idealists, on the other hand, give a different solution to the fundamental question of philosophy. They insist that the material world is the product of "idea" or "consciousness", which has a primacy over matter. Though this is the central tenet of all idealist philosophers, they are divided on the question what kind of idea (consciousness) is responsible to create the external world. As a result, there are two versions of idealism – subjective and objective idealism.

2. Subjective idealism

Subjective idealism is a philosophical doctrine which denies the objective existence of the material world independently of the perceiving mind. George Berkley, the British empiricist, is the one who fiercely expounded the views of subjective idealism. Berkeley, a subjective idealist, argues that everything normally regarded as the material world exists only in the mind of the perceiving subject. Can things really be "out there" without being perceived by anybody else? Berkeley answers the question by saying "no". For him, nothing could exist without being perceived by somebody. His line of argument goes like this: we all know about the external world through our sensations and impressions, and theses sensations are found only in the mind of the perceiver. Thus, what we know about things is perceived through the sensations of our mind.

For the reason that all objects are the combination of sensations in the perceiving subject, Berkeley draws the conclusion that nothing could exist besides the perceiving mind. He says, "…all those bodies which compose the mighty frame of the world, have not any substance without a mind…" (Berkeley, 1967: 49). This means there is no any difference between material things and sensations.

However, Berkley further argues that something which seems self-contradictory to his thesis that nothing exists besides the perceiving mind. To him and most of us, it is undoubtedly true that sensations appear and disappear without the will of the perceiving mind. This is to say, it is not in our intention that sensations come to appear to the senses and disappear, rather sensations come to us and vanish against the will of the perceiver (Whether we be conscious of it or not). In this regard Berkley says:

> …the idealist actually perceived by sense have not a like dependence on my will. When in broad day light I open my eyes, it is not my power to choose whether I shall see or not, or to determine what particular objects shall present themselves to my view; and so likewise as to the hearing and other senses, the ideas imprinted on them are not creatures of my will (*Ibid*.: 53)

From this one can draw a strange conclusion which might seem self-contradictory to Berkley's famous dictum, that is, 'to be is to be perceived'. From this it follows that besides the perceiving subject there exist things which are acting upon our senses, causing sensations. If we accept that sensations are emerged and vanished independently of man's will, then it might be logical and consistent to argue that there are things independently of the perceiving subject. He defeated solipsism * by postulating the concept of 'God', an absolute perceiver. As such, things persist to exist even if they are not perceived by anybody else.

3. Objective idealism

Unlike subjective idealism, which denies the objective existence of the material world independently of the perceiving mind, objective idealism recognizes the independent and

objective existence of the material world apart from the perceiving subject. This kind of idealism is found in the thoughts of Plato and Hegel. According to their reasoning, sensory experience could not furnish the essence of things which is only possible by forming concepts. It asserts that the kind of knowledge that we can obtain through our senses is very limited and superficial one, for the object of sensory experience is a specific object which is transient and temporal. From this premise they inferred that the essence of things is grasped by concepts which are derived from the common feature of particular isolated objects.

Plato, a classical objective idealist, argues that sensory experience tells us only what an individual isolated things look like. In other words, the object of our sensory experience is an isolated individual thing which is subject to perpetual flux and motion. In order to penetrate and discern the essence of things, one should be aware of the immutable, eternal, and common qualities which manifest themselves in isolated individual objects. This means, essences are grasped through thought alone. Besides the enumerable specific particular things which are the object of sensory experience, there are objective "Ideas" which are found "out there" being the ultimate basis of all intelligible things.

It is through Hegel in the nineteenth century that the views of objective idealism became dominant in the western philosophical system. For Hegel, the essence of a thing is neither perceived by the senses nor imagined; instead, it is grasped only in thought alone. How does Hegel come to arrive at this conclusion? According to Hegel's reasoning, we cannot comprehend the essence of a "table" by perceiving its perceptual qualities. Rather this is possible only by comprehending the features that are common to all "tables", which is not the object of sensory experience but of thought alone. From this Hegel draws the conclusion that concepts are the underlying reality of everything that exists. They are found objectively "out there" independently of the perceiving subject. "Since theses 'ideas' embrace the whole world, they must clearly be the ideas of some 'spirit'" (Afanasyev, 1980: 17). Hegel calls it "World Spirit" or the "Absolute Idea". According to Hegel, "the Absolute Idea and the world are identical. Nature is the other-being of the Absolute Idea and we should…speak of nature as a system of unconscious thought, as fossilized intelligence and man as the "conscious idea" (*Ibid*.). This is the gist of objective idealism which holds that the world is based on the "Absolute Idea", rather than, on man's subjective consciousness.

4. Dialectical materialism

Dialectical materialism, as a fundamental philosophical outlook of Marxism, is one of the greatest contributions of Marx and Engels in the history of philosophical discourse. Though "dialectics" and "materialism" had been pertinent to the long tradition of philosophical discourse, it was Marx who synthesized the terms together to signify the fundamental nature of things- the nature of natural and social development. I think, in order to understand the nature of dialectical materialism, one should first recourse to inquire and investigate the way materialism had been understood by Marx's predecessors.

Materialism has a long history even before Marx and Engels. Indeed, its inception is dated back to the philosophy of ancient Greeks, though in a naïve and crude form (Waddington, 1974: 33). Philosophical thoughts beginning from Thales to Epicurus and Democritus had primarily preoccupied with ascribing the nature of things from a basic primordial material substance (Thales – 'water', Heraclitus – 'fire', and Epicurus and Democritus – 'atoms'). These philosophers had tried to explain the nature of the world without giving concession for any mysticism, God or any ideal expressions.

A different sort of materialism, more scientific and profound than the ancient Greek materialism, emerged in the enlightenment period. In the 16th and 17th centuries – mechanical

materialism – often associated with the emergence of bourgeoisie society flourished in Europe (Cornforth, 1976: 31). Mechanical materialism, as a new model of explaining the nature of things was the result of various social and scientific incidents. It was not emerged spontaneously, rather it is accompanied by various scientific and social movements developed during the period. With the rapid growth of science and technology, especially mechanics, philosophers and scientists sought to adopt the principles and laws of mechanics so as to understand the nature of society and institutions.

As the collapsed of feudalism, the birth of modern science and development of the bourgeoisie class, mechanical materialism, as a new form of materialism, came into being in the 16th and 17th centuries (*Ibid.*). The new science which viewed the world as the mechanical interaction of various particles was used by the bourgeoisie to fight against feudalism and idealism. The bourgeoisie used the new mechanical conception of nature to give meaning and direction for abolishing the old feudal system which was marked by considering things as being God-given and immutable (*Ibid.*). In other words, mechanical materialism was used to undermine the long-existing feudal idea which conceives the world as simply a hierarchy of beings having a permanent and eternal place in the universe, and in this hierarchy, God is put at the top and everything beneath him have also their own respective positions and obligations (Cornforth, 1976: 32).

This conception of the world was also reflected in the social realm in which the feudal lords put at the top and the serfs were treated as subordinate and destined to be the servants of the lords. Mechanical materialism, on the other hand, "considers things to exist, not in a God-ordained relationship to each other, but in a mechanical relationship (Waddington, 1974: 35). It conceives that the world is a totality of distinct particles in interaction, and this interaction is governed by mechanical laws. Mechanical materialism recognizes the movement of things as a result of the application of external forces which trigger any motion and movement in objects. This conception of nature, in fact, overlooked the inherent inner motion of objects and phenomena in the universe, for nothing move without the application of external forces. It views the world as a machine which is composed of various distinct parts interact each other by mechanical laws, and once the machine has set in motion it continues to exhibit the same kind of mechanical motion eternally.

Marx and Engels rejected the sort of materialism which conceives the world as a totality of distinct particles interacting together due to the application of external causes. In the account of Marx, mechanical materialism has shortcomings which could perhaps be diametrically opposite to the view he endorses in dialectical materialism.

Marx's materialism is dialectical. Both Marx and Engels claim that the mechanical conception of the world which is characterized by the interaction of distinct particles governed by mechanical laws open up the door for idealist mysticism and religion (Waddington, 1974: 37). If the world is like a machine which had been set in motion some unknown time in the past, then this will certainly lead us to raise the question who has set the "first impulse" (*Ibid.*). In fact, this question will ultimately call for the insertion of the idealist supposition that "God" or "Absolute Spirit" could be considered as the first impulse responsible for any movement and motion in the world.

The other shortcoming associated with mechanical materialism is the view which depicts the reluctance to recognize new developments and the emergence of new qualitative changes in motion (Cornforth, 1976: 36). Though mechanical materialism acknowledges the motion and movement of particles in the universe, it considers this movement as the repetition of the same forms and qualities (*Ibid.*). Mechanical materialism recognizes only a cynical repetition of things which is quite outlandish to the dialectical conception of nature, which characterizes the

birth of new qualities from the demise of the old. Things in their interaction with each other not only repeat the features they hold, but also assume new qualitative changes and new features.

Marx and Engels put themselves in a distance to mechanical materialism due to the later rejection of the existence of inner contradiction inherent in objects (Waddington, 1974: 37-38). For mechanical materialism, everything is at rest where nothing external force is applied to them. But Marx and Engels recognize the inseparability of matter and motion (*Ibid.*). They concede the inner motion of things being responsible for the emergence of new qualitative changes and development. This is to say that there is motion in things even in the absence of the application of external forces. Ultimately the mechanical materialist conception of nature opens the door for reactionary theories.

5. Dialectics vs metaphysics

Dialectical materialism, as it is viewed by Marx and Engels, is not only distinct from mechanical materialism but also from the metaphysical conception of cognition. The metaphysical conception of nature, as opposed to dialectical materialism, considers things or phenomena in isolation from other objects or phenomena (Cornforth, 1976: 58). In other words, it treats things in themselves by undermining their dialectical connection and relationship with other things in the universe. By studying things in themselves, the metaphysical conception of nature fosters the view which "fixes" the characteristics of things permanently and once for all by considering them at a particular historical period (*Ibid.*). For dialectical materialism, on the other hand, things constantly modify and change their qualities or nature while interacting with other objects. Since things manifest different nature at different historical period, it is hardly possible to "fix" permanent characteristics of things by ignoring their interaction and connection with other things. In other words, dialectical materialism abandons the metaphysical claim that it is possible to "fix" the characteristics of things in the absence of their interaction and connection with other objects. Engels rightly expressed the transient nature of everything in the universe as follows:

> The world is not to be comprehended as a complex of ready-made things, but as a complex of processes, in which the things apparently stable no less their mind images in our heads, the concepts, go through an uninterrupted change of coming into being and passing away (quoted in Waddington, 1974: 40).

Contrary to metaphysics, dialectical materialism claims that it is hardly possible to treat things in isolation from the process they have come into being. The characteristics of things or objects cannot be understood without recognizing their relationship and interaction with other objects. The nature of things cannot be known without giving due regard to the connection, contradiction and processes by which they have come in to being. Marx's rejection of the metaphysical understanding of things can be understood from the way he shattered the view which conceives the nature of "man" abstractly. For Marx, it is impossible to talk about the essence of "man" without giving due emphasis to the social system that largely make men who they are. In this connection, Marx denied the long existing tradition of the western philosophy which "sets" certain characteristics to be the eternal and unchanging essence of human beings.

Dialectical materialism conceives a continuous change and movement of things by virtue of their connection and relationship with other objects. Thus, proper understanding of things requires us to inquire the historical process by which they have come into being. But this view is not tenable for dialectical materialists, for one and the same object might have different qualities depending upon the interaction that a thing has with other objects at different period.

Things come into being as a result of the connection, process and interaction they have with other objects or phenomena. Things are continually changing, so that we cannot "fix" permanent characteristics once and for all to them by studying at a specific historical period,

rather their quality has to be studied in connection with the historical process they have come into being. Dialectics, therefore, rejects the view which claims that the universe is a totality of ready-made objects which could be studied in their own without stressing their interaction and connection with other objects.

6. Hegel's influence on Marx

Dialectics and materialism were not the invention of Karl Marx. The word "dialectics" is of ancient Greek origin. "Initially it meant the ability to conduct disputes and bring out the truth by disclosing and resolving contradictions in the arguments of the opponents (Afanasyev, 78: 19). Dialectics and materialism had been developed by Marx's predecessors Hegel and Feuerbach respectively. It is from Hegel that Marx borrowed the concept of dialectics. Although Hegel has been credited as a prominent figure in western philosophical systems, the idea of dialectics is dated back to ancient Greek philosophy. Some Greek philosophers upheld the perpetual change and flux of everything. For them, things appear and disappear, are connected in one way or another and marked by inner contradictions. Heraclites was one of those philosophers who conceived a continuous change and motion in things. He recognized the pinner contradiction of things as a source of motion and change. From this, therefore, one can say that dialectics at least in its crude form was developed by the thoughts of ancient Greeks.

In modern philosophical discourse, Hegel was the first and most ardent philosopher who worked out the basic laws of dialectics which govern the movement of thought and knowledge. Marx was substantially influenced by the thoughts of Hegel, especially by his dialectics. Though Marx concedes the importance of Hegel's conception of dialectics, he shattered his idealism all together.

Everything in the world is in a continuous interaction and change. The world is in a state of perpetual interaction and exhibits inner contradiction as a result of which new entities and phenomena come into being. Hegel recognized the inner contradiction of the world as a source of change and development. Nothing stands still; things are in a continuous interaction, connection and processes. These perpetual interaction, connection and processes give rise to new developments and new forms. Marx and Engels acknowledged the revolutionary character of Hegel's philosophy, for it challenged the previous philosophers who had conceived the world as a totality of "ready-made" objects and concepts (Booth, 1976: 18). "Every historical stage is necessary and reasonable for a given epoch, but it is also transient and must give way to another stage, which in its turn must also pass away" (*Ibid.*).

In light of this dialectical philosophy, Engels notes "nothing is definitive, absolute, and sacred; it reveals the transient nature of everything and in everything. Nothing can stand up before it paves the uninterrupted process of becoming and passing away" (quoted in Blooth, 1976: 18). But Hegel sees this historical movement in idealist terms. "The subject of historical movement is the Absolute Spirit. History is the process of the Spirit's self-knowledge. Men, in a mass, are the material for this movement of the spirit. The Absolute Spirit finds adequate expression only in philosophy which knows and perceives this movement" (*Ibid.*).

Although Marx appreciated Hegel's effort to come up with the basic laws of dialectics, Hegel's thought was not taken up completely by Marx due to Hegel's emphasis on idealism. Marx and Engels see a contradiction in Hegel's work which contains two contradictory views that Hegel's emphasis on the idea of dialectics in the one hand and his view which conceive his philosophical system as the final and all-embracing knowledge which depicts the attainment of absolute truth (Waddington, 1974: 38).

Though Hegel believes in infinity of development, the Absolute Spirit in his philosophical system comes into its final development where knowledge cannot develop any

further. Hegel should have endorsed either his dialectics or abandoned the idea that the culmination of the development of the Absolute Spirit. Marx and Engels have claimed that Hegel should have endorsed either one of the two, for both are incompatible. If the dialectic is to be maintained, it must be forgone beyond the Hegelian scheme. In short, "Hegel considered his philosophy to be final, all-embracing knowledge, while he considered the society in which it was evolved to be the crowning stage of mankind. But a system of natural and historical knowledge, embracing everything, and final for all time, is contradictory" (Ilitskaya, 197: 68-69).

Similarly, Booth maintained that:

> If mankind has arrived at the point where it knows the Absolute Spirit (i.e., Hegelian philosophy), then this philosophy becomes absolute Truth. Therefore, knowledge cannot develop any further: once the Absolute Spirit knows itself, the movement of history ceases. But this, of course, means that the dialectics must be eliminated. If the dialectics is to be maintained, it must therefore, be taken beyond the Hegelian system. The Hegelian system itself turns out to have been a necessary but merely temporary stage which must in its turn be surmounted (1976: 17).

The second inconsistency that Marx and Engels discerned in Hegel's work is about Hegel's conception of philosophy. The fact that Hegel conceives philosophy as the organ through which the Absolute Spirit knows itself breaks the dialectical unity between theory and practice, knowledge and change (Booth, 1976: 19). The ability of philosophers to influence and direct the movement of history is very limited even null in the Hegelian idealist scheme, for the real movement of history is accompanied by the Absolute Spirit unconsciously. That is why it is said that the Hegelian philosophical scheme shatters the dialectical unity between theory and practice, knowledge and change. Hegel puts philosophy out of history, for he fails to appreciate the active contribution of knowledge for natural and social transformation (*Ibid.*). History, as Hegel conceives, is the process of the spirits self-knowledge through the medium of philosophy. As such, the philosopher is simply an outside passive spectator of the self-realization of the Absolute Spirit without taking active part and influencing the movement of history. Thus, Hegel overlooked the dialectical unity between knowledge and change, theory and practice. In this connection, Marx states:

> The philosopher is simply the organ through which the creator of history, The Absolute Spirit arrives at self-consciousness in retrospect, after the movement has ended. His participation in history is reduced this retrospective consciousness, for the real movement is accompanied by the Absolute Spirit unconsciously, so that the philosopher appears post festum…For as the Absolute Spirit only becomes conscious of itself as the creative world spirit post festum in the philosopher, so it's making of history only exists in the consciousness, in the opinion and conception of the philosopher, i.e., only in the speculative imagination (quoted in Booth, 1976: 19).

Hegel's idealist philosophy overlooked the active side of men in influencing and changing the natural and social environment they live in. by this Hegel undermined the place of philosophy (knowledge) in influencing and changing the movement of thought (history). "He thus locates philosophy outside history, instead of seeing it as a part of history" (*Ibid.*). This is, in fact, the point where Marx tries to reconstruct the bridge that Hegel disconnects between knowledge and change, theory and practice. "He [Hegel] fails to point out that knowledge is a factor in history, that knowledge is not purely contemplative but has also a transformative function" (*Ibid.*).

Knowledge has contribution in the making of history. Hegel's view that men have little ability in directing and changing the natural and social environment in which they live is flawed. Man is not simply being influenced and directed by the natural and social environment, but he has also the capacity to transform and direct environment in a dialectical sense. Thus, knowledge and change are closely intertwined in a dialectical way. Consequently, Marx abandoned the Hegelian

idealism owing to the fact that it creates a loophole to deny the dialectical unity between theory and practice, knowledge and change.

7. Feuerbach's influence on Marx

The work of Feuerbach was as important as Hegel in shaping the thoughts of Marx and Engels. As Feuerbach puts himself in a distance from the materialism of his predecessors and his strong criticism towards Hegelian idealism and theology (religion), makes him to be warmly welcomed by Marx and Engels. Although Feuerbach shattered Hegelian idealism, for the reason that it is a "philosophical apology of theology", he filed to integrate the important aspect of Hegel's philosophy-dialectics into his work. It is, in fact, this failure of Feuerbach to take up the idea of dialectics that was identified as a shortcoming of Feuerbach's materialism by Marx and Engels.

Feuerbach's critique towards idealism and theology uncovers the mystical elements embedded in the works of Hegel's Absolute Spirit. Amounts to this fact, Feuerbach says, "modern philosophy is simply theology resolved into philosophy" (quoted in Booth, 1976: 32). For Feuerbach, the essences attached with the concept of 'God' are merely abstractions of the human essence. As a result, Feuerbach moves contrary to idealism. He claims that it is not thought that determines being, instead he stresses the primacy of being, that is thought is simply the product of the concretely existing individual (Ilitskaya, 1978: 65-66).

For Marx, however, did not want to endorse Feuerbach's characterization of human essence. Marx made a critique of Feuerbach on Theses on Feuerbach in which he provided a couple of fundamental objections which could be taken as Marx's divergence from Feuerbachian materialism. In fact, Marx acknowledged the steps that had been taken by Feuerbach as important to criticize Hegelian idealism, he did not take over Feuerbach's materialism altogether. With this regard, Marx draws a point which could possibly be said contradictory to Feuerbach regarding the essence of man.

Unlike Feuerbach, Marx has a very different conception of the essence of man. This essence shows that man as a social being, being subjected to both natural and social laws. "Feuerbach's concept of man was abstractly philosophical: Marx drew his from real life and made the concept concrete" (Booth, 1976: 24). On the 6th thesis on Feuerbach Marx says,

Feuerbach resolves the religious essence into the human essence. But the human essence is no abstraction inherent in each single individual. In its reality it is the ensemble of the social relations. Feuerbach, who does not enter upon a criticism of this real essence, is obliged:

> (1) To abstract from the historical process and to define the religious sentiment regarded by itself, and to presuppose an abstract isolated human individual
>
> (2) The essence, therefore can by him only be regarded as "species", as an inner "dumb" generality which unites many individuals only in a natural way.

In the 7th thesis Marx also strengthens this point. He says, "Feuerbach consequently does not see that the 'religious sentiment' is itself a social product and that the abstract individual that he analyses belongs in reality to a particular social form".

There is no abstract human essence to which we appeal as the ultimate basis for knowing man. Feuerbach regarded the human essence "as the being of an isolated man, dominated exclusively by natural laws" (Booth, 1976: 24). Marx, on the other hand, makes the point clear that the idea to define the essence of man in isolation with the real historical process is bound to be easily swayed into the break of the dialectical unity between theory and practice. In other words, For Marx, the essence of man cannot be established simply by estrangement from the social production of life that people enter into aiming at their sustenance. Man is a social being subject

to both natural and social laws. In this regard, Marx's rejection of a definite human essence is stated as follows:

> Man is no abstract essence perched somewhere outside the world. Man is the world of man, the state, and society.... The individual is the social being. His life, even if it may not appear in the direct form of a communal life carried out together with others, is therefore an expression and confirmation of social life (quoted in Booth, 1976: 25).

For Marx, when people enter into social production of life, they are not only producing their means of sustenance but the process also defines who they are. Marx says, "...world history is simply the production of man through their labor" (*Ibid.*). Marx regards man not merely as the product of nature but as the product of social, human labor.

Feuerbach was also criticized of taking reality simply being an object of contemplation, instead of taking it as a form of conscious human activity. Marx considers Feuerbach's materialism as something which conceives human beings simply as passive beings determined by circumstances. This denies the active side of men in changing the circumstances they live in. Feuerbach by taking reality simply as an object of contemplation ignores human's ability to transform and change their natural and social environment. Marx did not like Feuerbach's materialism which estranged theory from practice. Men are not only the product of their environment; they can in turn influence the circumstances they live in. In the 3rd thesis Marx says:

> The materialist doctrine that men are products of circumstances and upbringing, and that, therefore, changed men are products of changed circumstances and changed upbringing, forgets that it is men who change circumstances and that the educator must himself be educated. Hence this doctrine is bound to divide society into two parts, one of which is superior to society. The coincidence of the or self-change can be conceived and rationally understood only as revolutionary practice (Marx, 1845: 156).

Marx recognizes the active side of development in idealism, though formulated abstractly. This is, in fact, a point where Marx gave a high regard for the conception of revolutionary practice. Man is not so helpless to be fatalistically determined and influenced by natural laws, instead, men are said to be active beings who could alter and influence their natural and social condition.

> The chef defect o all hitherto existing materialism ... is that the thing, reality, sensuousness, is conceived only in the form of the object or of contemplation, but not as sensuous human activity. Practice not subjectively. Hence in contradistinction to materialism, the active side was developed abstractly by idealism- which, of course, does not know real, sensuous activity as such. Feuerbach wants sensuous objects, really distinct from the thought objects, but he does not conceive human activity itself as objective activity... (*Ibid.*).

Human beings are not simply mechanically determined beings who merely act in accordance with the mechanical laws operating in the universe. Rather they can modify and change their circumstance by their conscious activity. Thus, reality is not only an object of contemplation as it is being changed and modified through human conscious activity. Men are not merely passive being fatalistically determined by circumstances, rather they are active in changing and modifying the circumstances that condition them. Cognizant of this fact, Marx stepped ahead from his predecessors, and emphasized the importance of praxis in bringing natural and social development. This is why Marx says, "... philosophers have only interpreted the world in various ways, the point is to change it" (*Ibid.*).

8. Conclusion

Consistent with the materialist interpretation of history, Marx's ruthless objection of any form of abstraction is evident in his works. It is due to his objection towards any form of abstraction that Marx gave emphasis to the concretely existing individuals in their particular circumstances. This should be, according to Marx, a departure points for any philosophical as well as scientific inquiry. He denounced any attempt to discern men in abstraction, apart from their particular social role, status and class position. Marx's insistence on the concretely existing individuals has implication on his concept of human nature. For him, man has no fixed and enduring essence which transcend historical and economic horizon in which men live in. This is to say that man is not always the product of his own choice nor wholly determined by the external world. Rather man's essence is continually changing as a result of his dialectical interaction with the environment.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public commercial, or not-for-profit sectors.

The author declares no competing interests.

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Center for Open Access in Science ▪ https://www.centerprode.com/ojsp.html
Open Journal for Studies in Philosophy, 2022, *6*(1), 13-20.
ISSN (Online) 2560-5380 ▪ https://doi.org/10.32591/coas.ojsp.0601.02013m

Indigenous Philosophy and Multiple Modernities

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Received: 30 June 2022 ▪ Revised: 23 July 2022 ▪ Accepted: 30 July 2022

Abstract

The inception of the project of modernity resides in the projection of a self-fulfilling subjective rationality that leads both to better self-understanding as well as a control of the environment. Still, failing to serve a truly universal human agenda, modernity narrowly propagated the values of Western culture. Part of justifying such an ideological status quo is made possible by the colonial sciences that ascribed reason, logic and objectivity to Westerners and emotion, affection and oneness to the "other". Operating within a binary framework of tradition and modernity and emotion and rationality, the colonial sciences like anthropology and ethnology created the notion of an indigenous culture and knowledge that is strictly traditional, static, oral and non-progressive. As such, rather than studying others in their entire milieu, the colonial sciences propounded an antithesis between traditional indigenous culture which is a seat of mythology, and scientific modernity that is empirical and technical. Such a quest systematically degrades indigenous knowledge, culture and philosophy for the paradigm of scientific and technological rationality. This paper argues that the solution to such Westernization of all human knowledge resides in the concept of multiple modernities which situates alternative movements in the world of globalization as attempts to contextualize modernity in different sites of knowledge and also allows for different cognitive dimensions that are mutually incommensurable. This allows for the contestation of indigenous, scientific, secular and other modes of knowledge.

Keywords: colonial sciences, myth of indigenous knowledge, multiple modernities.

1. Introduction

The contemporary engagement with a critique of grand metaphysical schemes, projects of modernization and adaptation of the latest achievements in science and technology reveals that, the 'other' of the main stream discourse is reexamining the confines of its existential condition. Here, transcending the value free and objectivist conception of the natural and social sciences, the role of ideology, power and knowledge nexus and the colonial sciences in creating relations of hierarchy is emerging as a focal point of analysis. At such a stage, the interrelated notions of indigenous knowledge and philosophy help to contest Western ideology concealed in a form of universal truth and dialogue. Hand in hand with such a critique, the positive inputs of respective cultures and civilizations must be utilized within the horizon of multiple modernities that contextualizes the questions of modernity in different soils. This paper tries to interrogate the role of the colonial sciences in creating relations of otherness and also proposes a research project centered on the affirmation of indigenous knowledge in diverse modern projects.

The paper starts off by introducing the opposition between modernity and indigenous knowledge. This is furthered by a discussion of the colonial sciences which seek to legitimate the

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status quo, affirm euro centrism and degrade nonwestern cultures. Finally, I will try to elucidate the positive contribution of indigenous African and Ethiopian philosophies in countering the grand narrative of modernity as a Western project.

2. Indigenous knowledge and modernization

According to Brouwer (1998) there is a current emphasis on the role of local indigenous knowledge for global society, hand in hand with exploring the technical aspects of indigenous knowledge and the centrality of local wisdom in proposing alternative versions of development and relations to the physical environment. Here, the major alternative conceptions of indigenous knowledge are "academic (ethno-science and human ecology) and development focused (farming systems and participatory development)" (Brouwer, 1998: 351). He further observes that indigenous knowledge these days is seen as the solution to the contradictions of development through an emphasis on sustainable development and harmonious coexistence as a solution. In the process, it is redefining the very notion of development driven by capitalism and is universalistic, consumerist and instrumentalist in its orientation. Thus, "in contrast to the past, when traditional knowledge was typically seen as obstacles to development, it is now claimed by some that these are pivotal to discussions on sustainable development resource use and balanced development" (*Ibid.*: 661).

Upon a recognition of the failure of developmental schemes, quantitative models of development and problems in the adoption of developmental schemes, indigenous knowledge is presented as an alternative paradigm and inclusive in realizing participatory development. Thus, "recognition of indigenous knowledge presented the development community with alternative experiences with which to challenge conventional development praxis" (*Ibid.*: 662). In order to add a holistic dimension to the conception of indigenous knowledge, there is a need to mediate the conceptual quest for knowledge with instrumental considerations and theoretical frameworks with technical efforts. Furthermore, a methodological orientation that seeks a true appropriation amongst indigenous and other systems of knowledge as well as translation must be practically instituted. There is a need to institute legal mechanisms to protect indigenous knowledge from piracy in the world of global capitalism and also to see the validity of indigenous knowledge in a fresh eye that goes beyond the Eurocentric perspective.

In considering the utility of indigenous knowledge, Morris (2010) argues that the essence of indigenous knowledge must be contextualized in the various practices of a culture towards the immediate environment. Upon recognition of the failure of conventional and Western systems of education, there is a current focus on indigenous knowledge and local philosophical thoughts and ideals. Still a lack of conceptual clarity exists in the field. Here, going beyond the ideological usage of indigenous knowledge as a category to degrade Non-Western cultures, Morris argues that indigenous knowledge "simply means the knowledge that ordinary people have of their local environment: environs meaning what is around us" (Morris, 2010: 1). Although there is a debate regarding whether the practitioners of indigenous knowledge are situated within the natural or human environment, one needs to affirm the intrinsic relation between the two. As such, "essentially humans are both natural and social beings, we are both actively engaged with the world and we view this world with a detached contemplation" (*Ibid.*: 2) Some of the main features of indigenous knowledge include local cultures and their crucial role in the construction of ideas, its dissemination to local cultures, verifiability, practical utility, non-systematic nature, dynamism and furnishing either a man-centered or bio-centered approaches toward the environment. Here one needs to ponder the viability and practical utility of indigenous knowledge in the African context.

For Derman (2003) the prospect of indigenous knowledge in Africa is presented in terms of the opposition between progress and tradition, modernity and culture. In Africa, the

indigenous knowledge of local communities is associated with oneness with nature, sustainability as an alternative model of development and resisting of Western influence. Thus, "development has overwhelmingly been viewed as antagonistic to indigenous peoples and knowledges" (Derman, 2003: 68). Furthermore there is an emphasis in peace and harmony brought by indigenous knowledge sharply contrasted to the conflict and chaos brought by Western technical knowledge. Still, what accounts for the instrumental and technical dominance enjoyed by Western systems of knowledge?

Based on the arguments of Doxtater (2004) the Western intellectual enterprise is characterized by the primacy of reason and logic as the sole gateway to the truth over other modes of cognition as well as an absolutist tendency that seeks to degrade other indigenous, local and alternative forms of knowledge. As such, "Western knowledge rests itself on a foundation of reason to understand the true nature of the world" (Doxtater, 2004: 618). Furthermore, the Western colonial paradigm envisages a hierarchical structure between Western and non-Western cultures, seeing Western knowledge as progressive and novel and non-Western ones as unchanging, fixed and uncivilized. Subsequently indigenous knowledge tries to counter the image of non-Westerners as innocent and uncivilized and serves as a model of resistance. Thus "indigenous scholarship argues against the homogenizing euro-master narrative that seeks to colonize indigenous knowledge" (*Ibid*.: 620). Because of Western bias and prejudice, indigenous knowledge is treated as illogical and non-objective and being unable to cope with the dynamics of nature and superiority of other civilizations. Furthermore, Western knowledge structure is characterized by the will to dominate other models of knowledge seeing itself as the litmus test for all knowledge systems and seeing indigenous knowledge as traditional and backward. Accordingly, "Euro-scholarship ignores indigenous knowledge for the purpose of promoting its own narrative structures based on Western knowledge that decides what is true" (*Ibid*.: 629). At such a point, one needs to assess the impact of trade policies of liberalization and free market economy on indigenous culture, philosophy and knowledge.

The increasing impact of liberalization and commodification of knowledge in the global world signified a narrow focus on scientific, technological considerations in higher education on the expense of indigenous knowledge. Seeing Western scientific knowledge as the ultimate standard, indigenous knowledge is seen as communalistic and underdeveloped. As such, "Despite growing support for the principles and practice of equal opportunity and multiculturalism, and the growing appreciation and apparent accommodation of Indigenous knowledges in Western institutions, higher education is still dominated by a Western worldview that appropriates the views of other cultures" (Morgan, 2003: 36). For a genuine participation of indigenous knowledge in today's world, indigenous knowledge needs to transition from an object of analysis into an active enquiry.

Historically it was through both violent and peaceful mediums that indigenous knowledge was being transferred. The violent mode entailed the usage of non-Western resources to build empires whereas cultural contacts also led into learning from alternative modes of indigenous knowledge. Thus, "Occurring simultaneously with this process has been the appropriation of wisdoms and knowledges in the uses of medicinal herbs, hunting animals, and obtaining of "local knowledge" of edible plants and animals to allow survival in environments alien to Western understanding" (*Ibid*.: 37). Hand in hand with a dissatisfaction with dominant models of development, an attempt has been made to accommodate indigenous and other forms of knowledge. Still, such an accommodation required the search for cultural values harmonious to different systems of knowledge as well as the need to bridge the local with the global in the context of higher education. One also observes an antithesis between the goals of modernization and the inputs of indigenous knowledge within Western paradigms of development.

As McGovern (2000) puts it, there is a discord between indigenous knowledge that is seen as local and modern knowledge that is disseminated through the imperialistic intentions of

the West and its modernization schemes. Thus, "The form of education provided in schools has not been in and of itself beneficial for indigenous peoples. Modern forms of knowledge have been taught outside of the context in which they were developed" (McGovern, 2000: 526). Going beyond mere imitation, there is a need to understand the emergence and function of indigenous knowledge as well as its dynamism with alternative modes.

3. The colonial sciences and the antithesis between traditional indigenous culture and scientific modernity

Upon recognition of the role of the sciences in justifying colonialism and imperialism, there are different ways in which the notion of a colonial science is being understood. For some it refers to the body of knowledge produced in the age of colonialism in diverse contexts and for others it refers to the type of scientific enquiry carried out within the colonies. Within such a complex identifying the questions of oneness and otherness, the beginnings and ends of the colonial sciences and its diverging theoretical and practical manifestations is difficult. Also, for Schiebinger, "historians of colonialism recognize the problems of periphery models" (Schiebinger, 2005: 53).

The study of colonial practice and the way in which the sciences legitimized colonialism needs to be approached from social, political, economic and cultural angles amongst others. As Pels puts it, anthropology as a study emerged within the colonial discourse and its practitioners are still trying to dissociate themselves from such a colonial legacy. Thus "the discipline descends from and is still struggling with techniques of observation and control that emerged from the colonial dialectic of Western governmentality" (Pels, 1997: 164). Pels further adds that the three dominant ways in which anthropologists conceptualize colonialism end up legitimizing colonialism. First of all, some anthropologists see colonialism as an integral aspect of history and a way of refining human relations and civilization. Secondly, others perceive colonialism as a conscious procedure and operation which requires subjugation for the advancement of societies. Thirdly, others see colonialism as a manifestation of the fact that societies progress through adaptation. Lewis also charges anthropology with euro centrism and legitimating colonialism since as subject anthropology deliberately creates the notion of otherness, propagates perceived notions regarding the inferiority of others, provides an intellectual justification for colonialism and justifies the ill treatment of others in the name of scientific inquiry. Thus, "it is common for some anthropologists in the applied field, to attribute a group's behavior in a particular situation to cultural conditioning, often viewed as highly resistant to change, and to ignore extra cultural factors which may be far more significant" (Lewis, 1973: 584).

Going beyond anthropology Sheperd identifies the colonial spirit of marginalization in the introduction of archaeology in Africa. Diversely phrased in terms of Africa as the cradle of humanity, precursor to human civilizations, the archaeological studies neglect genuine diversity and end up establishing Europe's quest for self-affirmation. Thus, "such sites of political identification span the issues of the rang of culture, race and identity, and have placed archaeologically constructed knowledge in relation to phenomena of colonialism, nationalism, apartheid, slavery, and neocolonialism" (Sheperd, 2002: 189). Currently, in the world of globalization, Whitt argues that there is a continuation of the colonial science complex in a form of bio colonialism which perpetuates a false sense of otherness and exploits indigenous knowledge in a form of patent rights and commodification of indigenous knowledge and resources. As such, "this time around, it is not land or natural resources that imperialism has targeted, but indigenous genetic wealth and pharmaceutical knowledge" (Whitt, 2009: 15).

Amongst others, Emmanuel Chukwudi Eze saw an intrinsic relation with the modern European concept of reason which contains within its tenets both the European notion of the self and the world, and the physical and ideological conquest of the African. Thus, Eze maintains "the

single most important factor that drives the field and the contemporary practice of African / a philosophy has to do with the brutal encounter of the African world with European modernity-an encounter optimized in the colonial phenomena" (1997: 4). For Eze, contemporary African philosophy needs to address the tragic history it shares with modern Europe. To this extent, Eze argued that modernity and colonialism cannot be separated. In the modern period "calculative rationality" which fostered instrumental relations to the world was developed, and this was particularly destructive to the fate of the African (Eze, 2008: 25).

For Eze, behind the greatest modern European philosophies and philosophers, was held an exclusivist assumption that Europe possessed the greatest achievements in human history, and that it should be imitated. For these views "Europe is the model of humanity, culture, and history in itself" (Eze, 1997: 6). Eze holds that, African philosophy labors under a betrayal of modern reason which meant freedom and emancipation for the European, and exploitation for the other. Furthermore, the Eurocentric assumptions are being echoed in the dominant philosophical, artistic, literary and economic models these days which all posited Europe as the normative ideal. Currently, abiding by Western models, Africans are trying to imitate liberal democracy, free market economy and an education guided by a science and technology that is detrimental to Africa's own indigenous forms of knowledge and philosophy.

For another African philosopher, Mogobe Ramose, in order to actualize indigenous forms of knowledge and philosophies in Africa, on one hand one needs to expose the degrading of African local cultures and knowledge systems in the world of colonialism and neo-colonialism, and on the other hand research programs and projects must study and revisit previously suppressed African forms of knowledge. Ramose inaugurates the "authentic liberation of Africa" as a "two-fold" task (Ramose, 2007: 36). Critique starts with a questioning of "European epistemological paradigm" implanted on the African through colonialism, developed in the enlightenment and still functioning to yield the exploitation of the African. Secondly, there is a need to participate in the creation of "common universe of discourse" which renders justice for the oppressed taking into account asymmetrical power relations which led to the impoverished condition of the African (*Ibid*.: 36).

The limited status given to indigenous philosophy, culture and knowledge in Africa could be explained by the creation of the modern vs. traditional, individualistic vs. communal and indigenous vs. global dichotomy that serves Western ideology. For such an ideological structure, whereas indigenous philosophy and knowledge are non-technical, emotive and backward, modern scientific knowledge is instrumental and progressive. Here, one needs to look at the modern-traditional dichotomy introduced by modern European reason. Accordingly, "in the modern era of European philosophy, modernity appropriated knowledge for itself along with science, and left only dogma, mysticism, and mythology (also excluded from knowledge) for culture and tradition to be concerned with" (Eze, 1997: 74). Modernity degraded the status of indigenous knowledge and philosophy as the irrational and non-Western societies were portrayed as following ritualistic, religious and mythological ways of being. On the contrary, modern Europe and its rationality were developed as reflectively individualistic and as representing the most refined forms of civilization in human history.

Supporting such an argument, Mudimbe also claims the minimal role of African and traditional systems of knowledge emerges from the Western 'colonizing structure'. In The invention of Africa Mudimbe characterizes by the 'colonizing structure' the general body of theoretical and practical knowledge which facilitated the physical and mental conquest of the African. This consists of forceful conquest of the continent, penetration of ideological constructs in the African mind and finally radical adaptation of indigenous forms of life to alien ways of being. "Thus, three complementary hypotheses and actions emerge: the domination of physical space, the reformation of native minds, and the integration of local economic histories into the Western perspective" (Mudimbe, 1988: 2). Accordingly, alongside physical conquest one witnesses

extermination of indigenous knowledge and forcefully subsuming indigenous cultures and philosophy into the Western ideological structure.

4. Multiple modernities and the contribution of indigenous philosophy

The idea of multiple modernities conceives modernity as emerging in a particular cultural, social, political and institutional framework. The conception also doesn't necessarily assume that diverse modern projects will converge on a historical path. Thus, "The core of multiple modernities lies in assuming the existence of culturally specific forms of modernity shaped by distinct cultural heritages and sociopolitical conditions" (Eisenstadt et al., 2002: 1). Starting from the year 2000 and the appearance of the notion of multiple modernities in the Journal of the American academy of Arts and Sciences, one witnesses a wide usage of the term in the analysis of modernity and discussions in the social sciences.

Conventional conceptions of modernity are informed by the bias of eurocentrism that sets Western culture as the apex of human civilization. Here one needs to analyze the connection between the affirmation of one's national identity and a quest for modernity. Discontent with Western narratives of modernity and attempts to find a space for multiple horizons of modernity led into the inception of multiple modernities. Thus, "the theory of multiple modernities has been developed out of a deep sense of frustration with the conventional or classical theories of modernization which, in some scholars' eyes, have failed to explain the diversity of modern societies found across the globe, especially in the second half of the twentieth century" (Ichijo, 2013: 27-28). The thesis of multiple modernities empirically affirms the existence of diverse modern projects and also challenges the normative prioritization of Western culture. Although it doesn't deny the successive development of Western modernity in different stages, still multiple modernities doesn't set such a project as a worldwide phenomenon or the litmus test for diverse modern projects.

Diverging interpretations of modernity emerge from the conflict between diversity and oneness, experience and seclusion and partiality and objectivity. For Eisenstadt, the world of globalization doesn't constitute the emergence of modernity in a global scale, conflicts among ideologies or a zeal for the past. On the contrary, one witnesses attempt to reground the project of modernity in different soils and cultural programs. As such, "all these developments and trends constitute aspects of the continual reinterpretation, reconstruction of the cultural program of modernity" (Eisenstadt, 2003: 517). Using the notion of multiple modernities one could explore the existence of an indigenous philosophy and outlook in the African and Ethiopian contexts.

Philosophically speaking, the existence of an indigenous philosophy reflecting on the fundamental questions of knowledge and born out of the local is questionable. Here, whereas the Universalist position claims that all philosophy as a rational exercise is global in its nature, the historicists emphasize the local, cultural and relative experience. Thus, one should ask," Is the nature of philosophy purely speculative, practical, or both?" (Medina, 1992: 373). What further complicates the issue is the fact that whereas culture is necessarily bound to a temporal location, the philosophical quest always contemplates the universal.

Concerning the possibility of an indigenous philosophy in Africa, the question arises, is philosophy a mere contemplation that is purely abstract or is it dictated by cultural constructs, to what extent are philosophies driven by modes of cognition and not by external social and political considerations? The conception of indigenous philosophy in Africa is mostly narrowly conceived as a situated form of knowledge limited by space and time. Thus, one asks how independent indigenous knowledge is from culture and local values. Furthermore, indigenous philosophy in Africa is part of a critique of colonialism where the indigenous is the foundation of uniqueness, freedom and emancipation. Thus, "The debate over the role of indigeneity in African

philosophy is part of the larger postcolonial discourse" (Masolo, 2003: 22). Furthermore, using the Khunian conception of a paradigm, an attempt is made to identify the mutually incompatible and incommensurable nature of African indigenous and Western scientific knowledge thereby complicating attempts of communication and translation amongst the contending approaches. Resisting the attempt to confine indigenous philosophy to the local, all philosophy including the indigenous one for Masolo should be founded on our experience, interaction with others and the rational accounts of the human condition.

5. Conclusion

The genesis of the colonial sciences resides in the bias of Eurocentric modernity that bifurcates between modern, technical, subjectivist and progressive Western rationality with communal, affective, emotive and illogical cognition of the nonwestern world. In the African context, such a dichotomy has been used to legitimize the morality of colonialism and its contemporary dominance in a form of neocolonialism. Through contesting the notions of otherness, indigenous knowledge and philosophy, one could unravel the asymmetry that underlies the relation between the Western world and the others. On a positive role, indigenous philosophy also serves as a model of emancipation and the affirmation of uniqueness if successfully divorced from the myth of euro centrism that permeates the sciences.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public commercial, or not-for-profit sectors.

The author declares no competing interests.

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Center for Open Access in Science ▪ https://www.centerprode.com/ojsp.html
Open Journal for Studies in Philosophy, 2022, *6*(1), 21-38.
ISSN (Online) 2560-5380 ▪ https://doi.org/10.32591/coas.ojsp.0601.03021r

The Language Origin Paradigms: Conceptual Typologies, Results Accumulation, and Theoretical Perspectives

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Received: 16 June 2022 ▪ Revised: 18 August 2022 ▪ Accepted: 25 August 2022

Abstract

Studies of the origin and early evolution of language are undergoing rapid development. New directions, topics and methods of research are appearing. It becomes necessary to structure the research field, as the formation of a single space of intellectual attention contributes to a more productive communication between different groups of scientists, better mutual understanding, and strengthened arguments. The article proposes the grounds for typologizing the concepts of the origin of language and identifies three main paradigms on the basis of these typologies. The sharpest disputes are between Continualism ("human language is only quantitatively different from animal language") and Saltationism ("human language is so fundamentally different from the communicative systems of animals, that it could only appear as a result of some amazing leap or unique mutation"). Continualists usually focus on the communicative and cognitive abilities of different species (with a clear preference for apes). Saltationists focus on the linguistic, mental and cognitive structures of humans. Both of these polar approaches are opposed by the Multistage ecosocial paradigm, which emphasizes a long, multistep process of glottogenesis with behavioral adaptations of hominid groups to the changing natural and social conditions of their existence. A list of the most plausible, theoretically substantiated propositions is given, as well as research results supported by a variety of circumstantial data. The theoretical and methodological perspectives of the multistage ecosocial paradigm related to overcoming from its drawbacks are presented. A generalizing conceptual framework corresponding to the basic principles of evolution, the laws of social interaction should be constructed. The extremely heterogeneous arsenal of methods should also be structured in a single scientific logic.

Keywords: language origin, glottogenesis, stages of language evolution, cognitive evolution, typologies of conceptions, research programs, nomological approach, cultural drive, gene-cultural coevolution.

1. Introduction

The explosive growth of scientific interest in language origins during the last three-four decades has led to an abundance of conceptions (ideas, versions, hypotheses, approaches) of varying degrees of plausibility and validity. If we apply Herbert Spencer's well-known principle to the evolution of glottogenesis research itself, then differentiation must necessarily lead to integration, designed to reconnect a multitude of separated elements. In this regard, along with the emergence of new synthesis reviews,[1] the formation and development of the project Causal

[1] Many works give informative reviews, particularly (Bickerton 2009; Fitch 2010; 2017; Bernabeu & Vogt 2015).

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Hypotheses in Evolutionary Linguistics Database (CHIELD, https://chield.excd.org/) seems natural, claimed, and promising. The project

> "...allows users to apply computational search and visualization methods, in order to express, explore, and evaluate hypotheses" (Roberts et al., 2020: 3).

CHIELD aims to collect and process information about thousands of variables, many thousands of relationships between them,[2] to test many hundreds (thousands in perspective?) of hypotheses and theories. Such a bold project deserves all the support it can get. However, does its current version integrate the efforts of very heterogeneous research groups and centers?

In his *Sociology of Philosophies*, Randall Collins convincingly demonstrated the need for a focused field of intellectual attention and competition of opposing positions to scientific and philosophical creativity (Collins, 1998). According to the "law of small numbers," there should not be many such positions (no more than 5-6), only then the attention of many researchers remains focused, and the probability of successful advances in epochal thought turns and discoveries increases.

It is convenient to represent "scientific research programs" (Lakatos, 1978) as "conceptual paradigm + methodological approach" pairs as such positions. The first component includes basic ontological notions expressed in initial principles, concepts, categories, schemes. The second component includes ways of judgments justification, rules of correct, reliable research methods, truth criteria.

It is hardly possible by the early 2020s to speak of holistic, structured research programs in the field of language origins, which different scholars and groups perceive as distinct positions opposing each other. For such a structure of the intellectual attention field to emerge, it is necessary to identify the main aspects and lines of separation. Let us first consider the fundamental ontological aspects. If it is possible to compile aspects and typologies covering the most significant glottogenesis conceptions, then definite combinations of types from different typologies form the initial versions of alternative paradigms.

The reasoning becomes too abstract, so let us give the main typologies of evolutionary concepts of glottogenesis (may I hope the reader will forgive the complete neglect of non-evolutionary, i.e., creationist ideas). The names of well-known authors and their publications indicate the conceptions corresponding to the individual types of conceptions.[3]

2. Typologies of conceptions

Structure of evolution and the problem of language Rubicon:

- *Continualist conceptions* — multiple features of sound communication, already present in animals, naturally developed, combined in human ancestors, and as a result turned into articulate speech[4] (Darwin, 1871/1981; Christiansen & Kirby, 2003; Turner

[2] "Version 1.1 of CHIELD includes 400 documents and 3,406 causal links between 1,700 variables" (Roberts et al., 2020: 9).

[3] Almost all conceptions are multi-component and do not have to fit seamlessly into one type, so the same authors appear in different typologies and types. Consequently, there is no claim to an exhaustive listing of the literature: authors' names and references only play the role of illustrative examples.

[4] "It is not the mere power of articulation that distinguishes man from other animals, for as everyone knows, parrots can talk; but it is his large power of connecting definite sounds with definite ideas; and this depends on the development of the mental faculties" (Darwin 1871/1981: 54).

& Maryanski, 2008; Fitch, 2010; Turner & Machalek, 2018). Adherents of these concepts either do not mention the *language Rubicon*[5] or explicitly reject its existence.

- *Saltationist conceptions* — a single mutation or a crucial cognitive invention led to the emergence of language with syntax, recursion (Bickerton, 1981; Chomsky, 1986; 2016). In one term or another, the authors insist on the cardinal importance of the language Rubicon, on its insurmountability through evolutionary development as a gradual adaptive change.[6]

  - *Variant*: the faculty of language in the broad sense (FLB) developed gradually from animal communicative abilities, and the faculty of language in the narrow sense (FLN) with recursion emerged through rapid mutation processes and computations outside of the domain of communication (Hauser et al., 2002). In other words, FLB developed without any essential barriers (continualism), but FLN appeared just in a disposable and dramatic crossing the language Rubicon (saltationism).

- *Multistage conceptions:* there are some steps[7] of preparation for the speech, breakthrough to speech, and increasing complexity of language (Donald, 1998; 2001; 2017; Jackendoff, 2002; Bickerton, 2009; Wildgen, 2012; Dediu et al., 2013; Sterelny, 2016; Fitch, 2017; Gabora & Smith, 2018). The language Rubicon is real and substantial, but our ancestors overcame it evolutionarily through multiple stages and over an exceedingly long time.

Direction of causality:

- *The causality "bottom-up" and "inside–out"*: from parts, elements to a whole system, from quantity to quality, from a mechanism to a process. *Change of a structure → selection*. This type includes explanations based on ideas of Neo-Darwinism (random mutations + natural selection), "natural" anatomical and physiological changes. The continualist and saltationist conceptions are usually inclined to such internalism.

- *The causality "top-down" and "outside-in" means* from a whole — to a part, from a system — to an element, from a process — to a mechanism, from a function — to a structure. Such schemes as *function→adaptation (a providing structure* in a wide sense*)* and *challenge→response* also belong to this type. A tension (a need, disturbance of homeostasis) leads to mass behavior activity, subsequent changes in abilities, and organic prerequisites. Such external explanations usually presuppose climatic and/or geographical determinism.

- *The cyclical causality and spiral development* emphasize feedback loops, interactions between environment and populations, functions, activity, and structures, between "outside-in" and "inside-out" impacts. Multistage concepts focusing on the interconnection of environmental, technological, social, and communicative drivers tend to elaborate ideas of coevolution and spiraling development (Donald, 1998; 2001; 2017; Bickerton, 2009; Dor, 2015; Sterelny, 2016; Laland 2017).

Ontological levels of "springboards to speech" and main drivers:

- *Biology: anatomy, physiology, neurosciences, genetics:*

[5] The "language Rubicon" means the qualitative boundary between the communicative systems of animals and human language.

[6] See the recent criticism in (de Boer et al., 2020).

[7] Punctuated equilibria which hold that evolutionary transformations took place in sudden, radical steps (Gould & Eldredge, 1977).

- Brain growth, enlarged Broca's area, the action of "mirror neurons," overlapping neurons (Deacon, 1997; Kay et al., 1998; Dunbar, 2003; Givón, 2009; Arbib, 2005, 2017; Gabora & Smith, 2018);
- A consequence of laryngeal transformation, increase in thoracic vertebrae size that enhanced breathing control (Maclarnon & Hewitt, 2004; Fitch, 2010);
- The emergence of *FOXP2* (Enard et al., 2002).

- *Ecology, environment, climate, demography* (Alexander, 1990; Lovejoy, 2009; Bingham, 2010; Bickerton, 2009; Powell et al., 2009; Richerson et al., 2009; Laland, 2017; Page & French, 2020).

- *Material technology, cultural innovations, symbolism:*
- "Labor theory" going back to the ideas of L. Geiger and L. Noiret; action planning and imagining the future product (Engels, 1884/2010; Iriki, 2005; Stout, 2002; 2005);
- Need to teach mastery (Morgan et al., 2015; Laland, 2017);
- Cultural innovations (Richerson et al., 2009);
- Symbolical activity (Donald, 1998; Henshilwood & Dubreuil, 2011).

- *Linguistics*: the genesis of syllable and sound distinctions, protosyllables, their chains, the identification of relics in modern languages, analogs in pidgins[8] and creole languages, in deaf languages, in various speech disorders in patients, in babbling, the first speech of children mastering a language (Jackendoff, 2002; Dessalles, 2007).

- *Psychology: cognition, memory, attention, emotions* (Luria, 1981; Byrne, 1996; Breyl, 2021).

- *Social relations and processes, interactions within and between groups:*
- Gesturing, facial lip movements (Arbib, 2005; Corballis, 2010; Heyes, 2012);
- Grooming (Dunbar, 1996; 2003; Wildgen, 2012);
- Singing, recitatives, rituals, games, and other "useless" practices (Darwin, 1871/1981; Burling, 2005; Power, 2014);
- Parenthood, learning (Hrdy, 1999; Lovejoy, 2009; Power, 2014; Morgan et al., 2015; Laland, 2017);
- Changes in gender relations have led to the need for flirting, seduction (Lovejoy, 2009; Deacon, 1997; Miller, 2000; Burling, 2005; Power, 2014);
- Collaborative activities include mobilization in the struggle for prey, recruiting, group hunting, keeping the fire going, and cooking (Bickerton, 2009; Wrangham, 2010);
- Violence, dominance, leadership, "Machiavellian reason," conspiracy (Byrne, 1996; Wrangham, 2019);
- The result of coalition dominance over singles, self-domestication [Belyaev, 1979; Bingham, 2010; Hare et al., 2012; Dor, Jablonka, 2014; Wrangham, 2019].

[8] Pidgins are languages formed between representatives of foreign language groups, for example, in cross-border trade). Pidgins lack syntax and grammar but use simple word order schemes (e.g., "subject-action-object," "subject-predicate") that allow communicating effectively simple meanings when the context is known to interlocutors.

- Joint intentionality, normativity, interactive rituals, rephrasing and guessing (Christiansen & Kirby, 2003; Knight, 2006; Tomasello, 2008; Zlatev, 2014; Rozov, 2022);
- New economy with deferred liabilities, exchange, gossips (Sterelni, 2016).

For obvious reasons, specialists in their fields focus on analyzing, describing, and searching for the drivers of glottogenesis in their respective types of processes. However, there is no doubt that processes in all ontological levels took part in the origin and evolution of speech and language. Let us now consider the main methodological approaches.

Empirical, inductive, and idiographical approaches

- *Reconstructions and path tracking* of the emergence of speech and language development without any attempt at explanation, but with only a description of successive phenomena: "how it probably happened." The majority of springboard conceptions use this type of narrative
- *Particularist ad hoc explanations* pretend to justify judgments about consequences by judgments about concrete local causes; there are no general hypotheses or laws on which these conclusions are at least implicitly based; the approximate formula of such explanations is: "certain conditions arose at that time and place, and so the old structure developed (transformed) into a new one."
- *The use of analogies* includes observations of the development of the speech abilities of young children, studies of patients with aphasia, languages of the deaf, the development of pidgins and Creole languages, and animal communication.

Modeling, experimental, and deductive approaches[9]

- *Experiments with analog models;* the reasoning includes phenomena similar in some features to language emergence and evolution: mastering speech by children, adult subjects' mastery of making tools, using abstract symbols, teaching, f. e., chimpanzees or bonobos using sign-labels (Morgan et al., 2015; Tamariz & Kirby, 2016; Kirby, 2017; Lloyd, 2004; Rumbaugh, 2013; 2015; Fitch, 2017).
- *Experiments with robots* that can interact and communicate (Nolfi & Mirolli, 2010).
- *Abstract computer simulations* (Markov & Markov, 2020).

The synthesis of inductive and deductive approaches:

- *Systematic comparisons using general principles* (Turner & Maryanski, 2008; Cavalli-Sforza, 1997; Richerson & Boyd, 2005; Irvine et al., 2013; Dediu et al., 2013; Dor & Jablonka, 2014; Donald, 2001, 2016, 2017; Roberts et al., 2020).

3. Three approximate paradigms of glottogenesis

As discussed above, no self-conscious and opposing research programs have emerged. A massive portion of the concepts form the following potential paradigms:

- The Continualist-Biological paradigm:
  - neglecting or rejecting the language Rubicon;

[9] Most conceptions combine two or more approaches, principles of explanation; therefore, the given examples of publications play only a tentative illustrative role.

- focusing on anatomy, physiology, brain, tools;
- causality is mainly *"bottom-up," "inside – out"* (genetics), and *"outside-in"* (selection);
- reconstructions, path tracking, and particularist explanations.

- The Saltationist-Cognitivist paradigm:
  - the emphasis on the language Rubicon as a barrier that could not be overcome evolutionarily;
  - focusing on language and cognitive structures;
  - causality is mainly *"top-down"* (from a mind to a brain, speech behavior) *and "outside-in"* (from functions in the environment to a mind);
  - modeling, experimental, and deductive approaches.
- The Multistage-Ecosocial paradigm:
  - the language Rubicon is real, but it was overcome through several evolutionary stages;
  - focusing on interaction and coevolution of all ontological levels and structures (niches, social orders, behavior, mentality, language, brain, neuron ensembles, anatomy, physiology, genetics);
  - causality is multilevel, based on feedback loops, coevolution, and spiral dynamics;
  - the synthesis of inductive and deductive approaches, systematic comparisons, testing hypotheses.

The third paradigm seems to be the most reasonable and promising, and I will further present it in more detail. If the provisions of the first two paradigms will ever be systematized, their adherents will best do it. Let me cite a critique of my conception (Rozov, 2022) from both sides to argue for their existence. The anonymous American reviewer writes explicitly from the position of biologically oriented continualism:

> "All Great Apes – Chimps, Gorillas, and Orangutans – have the neurological capacity for language. They can understand English or any language if raised in an English-speaking environment from infancy. Moreover, they can "speak" through sign language of the death or type their speech on a computer with dedicated icons denoting meanings […] So, I suspect that this is an author who has read a lot, but who also does not know a key part of the literature on the origins of speech and cognitions. He apparently does not understand that speech evolved out of a pre-adaptation among great apes (with whom humans share a common ancestor), and so language was not the problem, but rather articulated speech because great apes do not have the capacity […] And even in the proposal there is some obvious ignorance. For example, whether Neanderthals had speech is ridiculous; they had a 1600 cm^3 brain, much larger than humans, and you bet that they could talk."

Well known in Russia biologist Evgeny Panov who authored many books about anthropology and cognitive evolution, criticizes my conception from the opposite position:

> "Is it possible to believe that the transition period from the early precursor to the late precursor took about a million years? In my opinion, it is admissible to suppose that the jump-like emergence of linguistic abilities occurred for the first time as a result of an epiphany of some prehuman Einstein, who realized that a sound signal is a sign-symbol of something existing in its environment (for example, a rock or a tree),

> something that we call a signal referent. If such a step was taken in understanding the underlying meaning of a single protophrase, the transition to the formulation of protophrases must hardly have stretched over a million years."

Here I am not going to argue with my critics. The quotations are just illustrations of the actual existence of the first two paradigms. The third one is in the crossfire of both.

It is a particular topic how the paradigms connect with different research activities and how is it possible to relate each paradigm to some extensive, long-run scientific research program in terms of Imre Lakatos (Lakatos, 1978). Research possibilities of the first two paradigms seem somewhat limited. The continualists usually focus on various species' communicative and cognitive abilities (with evident preference to apes). The saltationists concentrate on human language and mental and cognitive structures, emphasizing their absolute specifics.

Only the Multistage-Ecosocial paradigm is sufficiently wide to embrace many research tasks and approaches. Now there is no definite self-conscious scientific research program for this paradigm. Nevertheless, most accumulated ideas and results are mutually compatible. Structuring them opens the vast space of prospective research directions. Arguments are in the cited works.

4. The Multistage-Ecosocial paradigm: main ideas and results

1. Speech and language[10] appeared as an *adaptation (a providing structure)* during biological, social, and cultural evolution. The studies and results (Alexander, 1990; Pinker, 1994; 2010; Jackendoff, 2002; Bickerton, 2009; Bouchard, 2013; Dediu et al., 2013; Dor et al., 2014; Henrich, 2015; Sterelny, 2016; Laland, 2017) include the following interrelated trends and principles:

- an increase in the number of putative stages (phases, steps) of language evolution; addition of initial stages up to the epochs of Heidelbergians, Habilises, or even Australopithecus (0.5, 1.6, or 4-6 mya[11]);
- attention to *constructing new techno-natural and social niches;*
- significance *of social relations and orders,* greater attention to intragroup and intergroup interaction and communication under the *multilevel selection mechanisms;*
- the close connection of language with other cognitive abilities and spheres (consciousness, memory, culture, thinking, searching, and constructive activity).[12]

[10] Here and below, speech and language are distinguished quite traditionally according to F. de Saussure (Saussure, 1986). Before the appearance of writing, speech as a behavioral process of speaking/recognition and language as a coherent set of sign and semantic constructions were just two aspects of a holistic phenomenon. Speech always used language components at any stage of its development, including the most ancient ones. Language manifested outwardly only in speech and was transmitted across generations exclusively through speech. The same attitude took place at all stages of glottogenesis. All new language structures were born in speech, reproduced in it, and served as "springboards" (ingredients) for forming linguistic innovations again in the speech processes.

[11] From now on, "mya" means million years ago, and "kya" indicates thousand years ago.

[12] "The problem with many efforts to understand the evolution of language is that the lenses used are often focused too narrowly. By placing language within the context of our species' overall repertoire of communicative abilities and then seating this within culture-gene coevolution, we can begin to see the synergistic relationships between tools, practices, norms, communication, and language. Languages are a subset of culture that are composed of communicative tools (words) with rules (grammar) for using those tools" (Henrich, 2015: 232).

2. Speech and language at each stage of evolution belong not to an individual, brain, or organism but to community (group, union, population, society) [13] members who use the sign and semantic system for communication, remembering, the transmission of experience. Language is in some sense a "social technology,"[14] but it does not mean that hominids and Sapienses (before the invention of writing) ever focused attention on it as something separate from their interaction.

3. As in other aspects of sapientation*, functional changes preceded structural changes, and behavioral innovations preceded genetic shifts*. The *function→adaptation* scheme usually accompanies the *"top-down"* and *"outside-in"* causality principle. Challenges to the living system come from outside, or from needs of "higher" processes to "lower" mechanisms, from needs, concerns, stresses related to survival in a given niche to providing structures: behavioral, mental, physiological, anatomical, genetical (Givón, 2009; Bickerton, 2009; Dor, 2015; Laland, 2017).

4. *"Bottom-up"* and *"inside-out"* causality is also significant since the supporting elements, connections, structures are not entirely plastic. All of them have some degree of rigidity, limits of variability. They are more able to change in some directions and less able to change in others. Therefore, the "underlying" mechanisms set the framework of variability (a "channel," a "track") for the "overlying" processes but can also provide the latter with new "beneficial" opportunities (in terms of delivering functions, needs). Providing structures of different nature (from genetic to anatomical and psychophysiological) appeared through mechanisms of *gene-cultural coevolution* and *cultural drive* due to attempts, i.e., definite mass behavior of multiple generations to respond to various challenges and difficulties (Wilson, Lumsden, 1983; Dediu et al., 2013; Laland, 2017).

5. At the initial stages, speech abilities already developed through *positive feedbacks* with morphological changes of the larynx, brain enlargement, especially frontal (volitional) and temporal (speech) areas, neural and muscular mechanisms of breathing control. Modern dating of hominid anatomical changes related to speech ability is based on archaeological data (Deacon, 1997; Martínez et al., 2004; Wood & Bauernfeind, 2012; Boer, 2011; 2017). Consider the following summary with all concessions concerning approximation and differences in the dating:

- from 1.6 mya to 100 kya, the vertebral column (the thoracic vertebrae) developed steadily, allowing *control over breathing*;
- between 400 and 300 kya, the skull changed, indicating the *lowering of the larynx*, this shift is considered a prerequisite for the ability to articulate speech;
- ca. 300 kya, *the sublingual nerve canal increased* and approached the size characteristic of modern humans, indicating the possibility of controlling fine motor skills (Donald, 2011; 2017);
- specific sapient changes in the "speech gene" *FOXP2* appeared ca. 300-200 kya (Enard et al., 2002);

[13] "Not all human minds have language, but all societies do […] All human societies use different variations of the same technology, locally designed by cultural evolution for the universal function of the instruction of imagination. This is an *absolute universal*" (Dor, 2015: 150).

[14] "The question of the evolution of language is no longer a cognitive question: it has to do with the evolutionary history of the technology – its invention, development, propagation, and diversification, the social contexts within which it emerged in ancient human communities, the ways it changed society once it was established, and so on. It is a question about the *social-technological* development of humanity. The question of the evolution of human minds (in the plural) and their relations with the emergent technology is thus secondary: it has to do with the involvement of individual human minds in a technologically-driven process" (Dor, 2015: 190).

- the structure of *the hyoid bones* (nerve channels) in the remains of Protosapienses or Early Sapienses, dating from ca. 100 kya became identical to humans.

6. *The formation of joint intentionality* and basic *moral rules, norms*, especially those related to solidarity, communication of meaningful information, kinship relations, regular collective actions. This mutual assistance became a necessary condition for speech development (Tomasello, 2008; 2019; Stringer, 2012; Zlatev, 2014; Dor, 2015).

7. Regular suppression, prevention of in-group aggression and violence evolutionarily led hominids to self-domestication (Belyaev, 1979; Hrdy, 1999; Lovejoy, 2009; Bingham, 2010; Hare et al., 2012; Power, 2014; White et al., 2015; Wrangham, 2019). These structures included:

- the practice of cooperative threats and collective violence against abusers;
- egalitarian (including female) coalitions;
- ostracism of rapists and brawlers;
- norms of sharing the spoils.

8. Speech abilities, and hence the linguistic structures (distinctions, units, constructions) appeared separately over an exceedingly long time (hundreds of thousands of years); alternation of breakthrough and long cumulative periods in language development is supposed by analogy with the development of stone technologies (Bybee, 2002; Burling, 2005; Bickerton, 2009; Bouchard, 2013: 211-215; Donald 1998; 2001; 2016; 2017; Dessalles, 2007; Hurford, 2012; Fitch, 2017; Gabora & Smith, 2018):

- hominids consistently and concomitantly reached certain stages in the development of language and consciousness;
- there was coevolution in aspects of articulation, meaning understanding, verbal memory, the ability to describe distant events, to identify relationships, and to switch contexts;
- the likely stages of increasing linguistic complexity were protowords, pidgin-sentences (without word order), sentences with syntax and grammar, logical models including recursion, rhetorical constructions, adornments of speech, professional terminology;
- along with the multiplication of elements came various convolutions, which enabled complex content to be conveyed and understood by simple means, using subconscious structures and skills.

9. The step-by-step development of speech abilities (and relevant language structures) retook place *through positive feedback* to several fundamental processes of *social and mental sapientation*:

- in the establishment and expansion of *social norms* in sexual and parental relationships (Hrdy, 1999; Lovejoy, 2009; Heyes, 2012; Power, 2014; White et al. 2015);
- *in planning, coordinating group actions*, including protection from predators, finding, and cutting up carrion of animals, hunting, finding new types and sources of food, gathering, *maintaining fire and cooking*, organizing stays, dwellings (Gärdenfors & Osvath 2010: 104-114; Bickerton, 2009; Wrangham, 2010);
- in the exact copying of complex actions, including tools making (Morgan et al., 2015; Laland, 2017: 188-207);
- in establishing *relations of prestige and leadership* in the group (Zlatev, 2014; Laland, 2017: 267; Tomasello, 2019);

- in providing relations of *exchange, kinship* within and between groups, in discussing and resolving conflict situations (Stringer, 2012; Sterelny, 2016);
- in *gossip, wit, and courtship* (Miller, 2000; Dunbar, 2004; Power, 2014);
- in a variety of types of *symbolic behavior*, including early art forms, burials with inventory, magical and religious rituals (Dor et al., 2014: 208-248);
- in the accumulation of a wide variety of cultural patterns or memes, in the learning, socialization, and enculturation of younger generations, respectively, in the *generational reproduction of culture* and social experience, with *language development reducing the costs of growing memory and the difficulty of transmitting experience* (Falk, 2004; 2016; Morgan et al., 2015; Laland, 2017: 184, 266; Markov & Markov, 2020).

10. In "here and now" micro-situations, processes of emotionally intense interaction *like rituals* usually accompanied the use of speech (Deacon, 1997; Collins, 2004; Laland, 2017; Tomasello, 2019); probably, the development of speech and language was profoundly connected:

- with the *emotional intensity* of initial speech communication, with difficulties of understanding, *with repetition*, with the use of facial expressions and gestures;
- with *systematic correction of each other's mistakes*, the joint concentration of attention, synchronization of rhythms, emotions, and simultaneous actions.

Appearance and evolution of language as a "technologically-driven process" (Dor, 2015: 190) had primary causes and drivers in changing ecological (techno-natural) niches and changing social orders. Figure 1 presents a model of interaction between phenomena of distinct ontological levels.

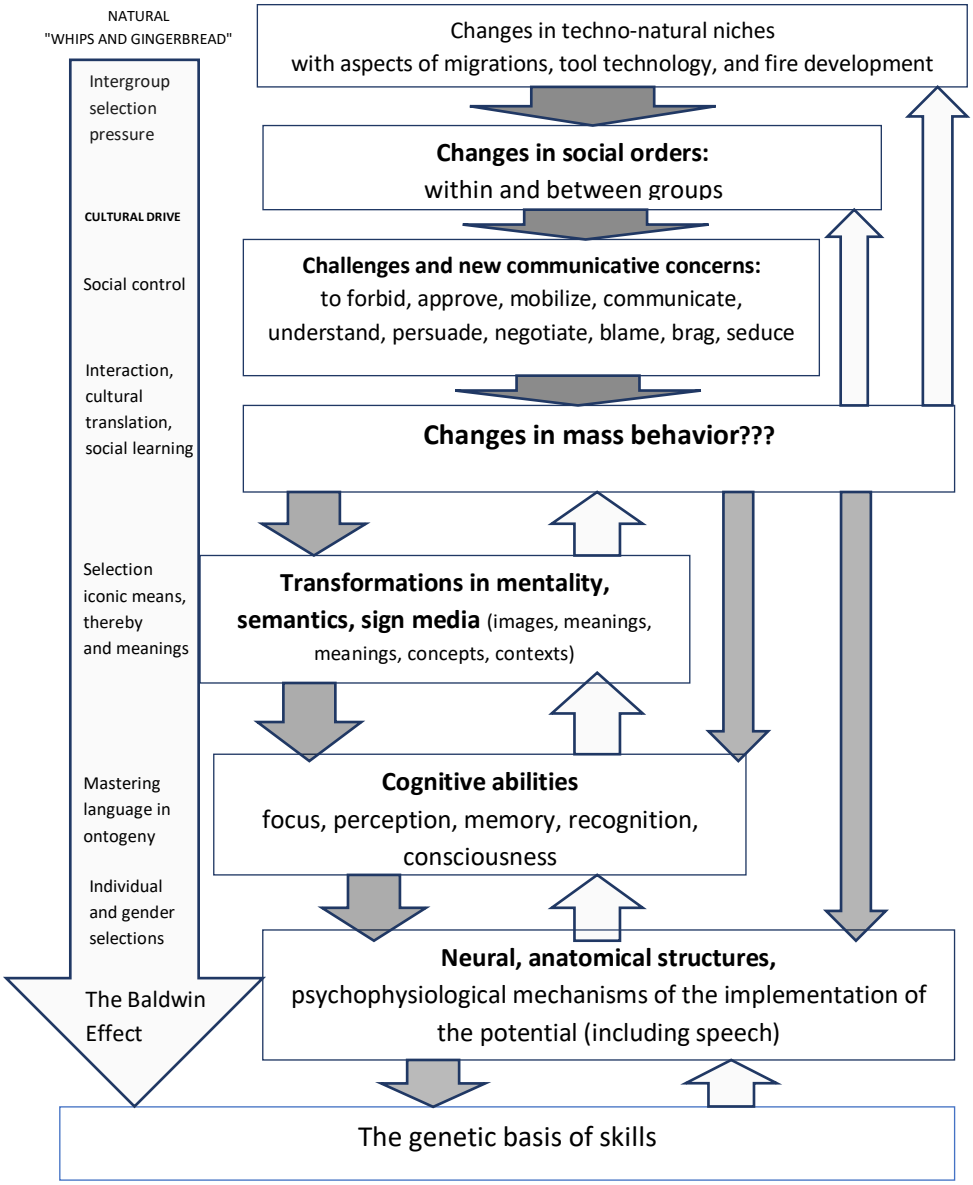

Figure 1. Levels of changes in glottogenesis and causal links between them

In the Figure 1, the shaded arrows mean causal influences "from the top-down" and "from the outside in": from processes to mechanisms, from functions, needs, concerns – to providing structures. White arrows mean the reverse causality vector – costs, constraints, and opportunities "supplied" by structures. The levels in bold are the focus of this study. This model serves as a starting point for the multistage conception unfolded in (Rozov, 2022).

Attention should be paid to the block "Changes in mass behavior" (with question marks). It is central to the diagram since it is the source of causal connections to the rest of the blocks. According to the Multistage Paradigm, the central problem of glottogenesis is as follows: *what shifts in hominid mass behavior led to the progressive development of language and consciousness* (see points 1-10 above), *and what were the driving forces behind these changes at each evolutionary stage?*

5. Theoretical and methodological perspectives

Despite solid research findings and the level of agreement on principle points reached, the emerging paradigm is far from complete. Instead, it represents a kind of springboard for another advance in knowledge. New research goals are related to the main difficulties and shortcomings of the paradigm: the absence of a generalizable conceptual framework,[15] the extreme heterogeneity of methods and research directions, no correlation or weak connection between interpretative aspects.

These difficulties and the conducted typology of concepts allow us to formulate the following requirements for the further development of the Multistage Ecosocial paradigm:

- articulated principles of evolution;
- a basic conceptual construct (scheme, set of models) capable of encompassing all stages of glottogenesis;
- the sequential transition from stage to stage according to general hypotheses or laws correlating with evolutionary principles;
- inclusion of processes of all levels of movement (from genes to intergroup interaction) into conceptual "cells" with causal, functional, structural, or other links;
- the possibility of including versions of "springboard" concepts from various spheres of our ancestors' life during the anthropogenesis epoch (interaction with the natural environment, instrumental activity, relations in groups and between groups, spheres of subsistence, security, sexuality, parenthood);
- a methodological approach encompassing multiple methods of obtaining, interpreting indirect data on glottogenesis, turning them into a kind of megamachine for hypothesis making and testing, is needed. It is necessary to present the regular connections between the phenomena in a pair of theoretical and empirical hypotheses for each stage.

Let us return to the broad questions raised at the beginning of this article. Structuring studies of the origin of language as a single field with focused intellectual attention seems necessary and promising. It is not necessarily that the three paradigms presented above, with such names, will be the prominent opposing positions in this field. Let them be other paradigms, but there should not be more than five, preferably less.

As an adherent of the Multistage Ecosocial paradigm, I hope for its victory and domination. In this case, according to the laws of intellectual dynamics (Collins 1998), it will split into several positions. For example, one can expect that there will be an opposition of advocates of the long evolution of language (starting from *Australopithecus* or even earlier), the medium duration (from *Homo habilis*, *Homo heidelbergensis*), or the short duration (the Early Sapienses or even *Cro-Magnons*). Other lines of division are also possible.

What positive changes might occur if this or that version of structuration became widely known and the currently unfocused intellectual attention became focused?

At the level of language origin theorizing, we should expect a new explosion of creativity, a vigorous competition between explanatory concepts. Theorists will try to get into the center of intellectual attention, and to do this, they will express their ideas using concepts familiar

[15] "...There is a period of roughly 2 million years during which most of the action must have occurred, with only a few anatomically distinct stages between *Homo habilis* and *Homo sapiens*. A complete model needs to explain how all of the empirically deduced derived components of language evolved during this period. Most existing models attempt only to explain some of the DCLs (= derived components of language) (e.g., speech or syntax, but not both), and few grapple with the entire package" (Fitch, 2017: 11).

to the representatives of competing concepts. The ideas and models contributing to the "Great Game" of colliding paradigms will naturally enjoy the most significant interest.

At the level of specific empirical research and development of new methods, processes similar to the orientation of chaotic particles of iron powder when approaching a magnet will occur. The scholars and grantors will direct their interest to such research programs and results, which will shift the scales in favor of one paradigm or another. Therefore, we should expect a flourishing of empirical research in the logic of critical experimentation. Interpretations and reinterpretations of their results will become the focus of attention in the same "Big Game."

Significant and promising transformations may occur in the design and strategies of such field-spanning systems as CHIELD. Already the micro-scale of accounting for connections between single variables gets sense and becomes intriguing in the meso-scale of competition between competing conceptions, say, between "gossip" by Dunbar and "ritual" by Knight, Power, and Watts (Roberts et al., 2020: 10-11). A continuation of the same logic in projects of this kind would be a macro-scale focusing on the competition between a few major paradigms and related research programs.

The consolidation of the intellectual field and the growth of focus will be long-lasting and productive through the active involvement of at least 10-15 leading journals that systematically publish articles on the origins of language. Convictions of an editorial board, traditions, and specialization of each journal often lead to the dominance of a particular group of concepts or paradigms. Here, as elsewhere, isolation leads to stagnation. Therefore, the openness of each journal to different concepts, stimulating discussions, and responding to intellectual clashes in other journals will contribute to an optimal atmosphere for productive creativity.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public commercial, or not-for-profit sectors.

The author declares no competing interests.

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Open Journal for Studies in Philosophy, 2022, *6*(1), 1-38.
ISSN (Online) 2560-5380

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Open Journal for Studies in Philosophy, 2022, *6*(1), 1-38.
ISSN (Online) 2560-5380

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