

## The Generation of Higher Mental Functions in Vygotsky's Concepts of Development and Contradiction

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To study something historically means to study it in the process of change; that is the dialectical method's basic demand" (Vygotsky, 1978, p. 64-65).

"Dialectics covers nature, thinking, history-it is the most general, maximally universal science. The theory of the psychological materialism or dialectics of psychology is what I call general psychology" (Vygotsky, 1997, p. 330).

"It is dialectics that has given psychology its stability and its meaning ... Through dialectics psychology is able to be at once a natural science and a human science .... dialectics has enabled psychology to comprehend the organism and its environment, in constant interaction, as a single, unified whole" (Wallon, 1951, p. 34).

### Abstract

In this paper we argue that Vygotsky's psychological research paradigm is a research epistemology, methodology, and ontology of theory and practice that attempts to build a psychology grounded within the social historical and cultural setting in which he/she evolved. Vygotsky's whole enterprise was to establish a concrete human psychology committed to investigate how human nature changes, conceiving human development not just as quantitative, cumulative and linear, but also as qualitative, transformative change. In this outlook, contradiction leads to new contradictions, not necessarily "equilibrium". The dialectical concepts of contradiction, development and transformation were fundamental to Vygotsky's psychology. Vygotsky never had time, of course, to realize the desire expressed in his critique of the crisis of psychology that psychology needs its own *Das Kapital*. This paper will outline the main features of Vygotsky's dialectical approach to understanding human higher mental functions. Two Vygotskian concepts are discussed in depth. The concept of *development* is conceived not only as quantitative, but also qualitative change, and the concept of *contradiction* were viewed as the engine of both natural and historical change. Development and contradiction are pictured together as organizing, creative forces that drive the higher mental functions and activities. By bringing development and contradiction in conjunction with cultural historical theory and activity theory, we aim to offer a picture of the Soviet psychologist's indebtedness to historical dialectical materialist philosophy.

**Keywords:** Contradiction, development, dialectics, materialism, *aufheben*, equilibrium, social individual, ensemble of social relations, higher mental functions, psychology's own *Das Kapital*.

### Introduction

Vygotsky like Wallon and Politzer, introduced the dialectical method into psychology and developed his historical-genetic method. He stated that, "to study something historically means to study it in the process of change; that is the dialectical method's basic demand" (Vygotsky, 1978, p. 64-65). In other words, is "the science of the most general forms of movement" (Vygotsky, 1997, p. 256). The development of the child is a dialectical process and personality is a dialectical process in constant change. There is nothing permanent except change (Heraclitus).

November 17<sup>th</sup>, 2017 will mark the 121<sup>th</sup> anniversary of Lev Vygotsky's birthday and June 11<sup>th</sup> 2017 marks the 83<sup>th</sup> anniversary of his death. Vygotsky was an outstanding psychologist. He is recognized around the world as one of the greatest thinker of the 20<sup>th</sup> century in the field of the psychological sciences. He is famous for his cultural historical research paradigm and is recognized as one of the founders of concrete human psychology. Vygotsky was part of the Soviet school of psychologists who dedicated themselves to developing a psychology that applies the socialist and dialectical and materialist conception of history.

In Vygotsky's view, the subject matter of psychology is psychological reality. Just as physics is the study of physical reality, so psychology is the study of psychological reality. Vygotsky's dialectical thought was influenced by classical Marxist philosophy, and by Vygotsky's Marxist-oriented contemporaries, such as Georges Politzer (Vygotsky, 1989) and Henry Wallon (Vygotsky, 1934). Vygotsky argued the dialectical materialist view that psychology must inquire into the conditions (cultural, historical and social) that make higher mental functions possible. Understanding these conditions, according to Vygotsky, must be the cornerstone of understanding human thought processes and formulating a rational understanding of

psychological reality (1997). Studying Vygotsky's theories of psychology and addressing the core questions of psychology that Vygotsky worked on requires the same conscious application of the classical Marxist dialectical view of contradiction and development that Vygotsky himself employed.

Central points this paper makes include:

1. Contradiction leads to new contradictions, not necessarily to "equilibrium".
2. Vygotsky's work is imbued with his dialectical approach; three examples are given.
3. The dialectical concepts of contradiction, development and transformation were fundamental to Vygotsky's approach.
4. Vygotsky used the dialectical concept of *aufheben* to explain human psychological functioning.
5. Vygotsky used materialist dialectic and materialist conception of history.
6. Vygotsky viewed the human individual as an ensemble of social relations.
7. Vygotsky was a polymath thinker.
8. Vygotsky was a dialectical materialist.
9. Vygotsky called for a Das Kapital of psychology.

### **1. Contradiction leads to new contradiction, not necessarily to "equilibrium"**

Vygotsky did not view the development of human higher mental functions as a linear movement characterized by maturation and equilibrium. Rather, Vygotsky viewed development as "complicated, qualitative transformations of one form of behavior into another (or as Hegel would phrase it, a transformation of quantity into quality)" (Vygotsky, 1978, p. 19). This view is thoroughly compatible with historical dialectical materialism. Contradiction in our view is the moving engine of development, for all aspects of reality, including nature, living organisms, human culture, creativity, and imagination. Contradiction is therefore inherent in human social relations, thinking, activity, personality and consciousness. Contradictions drive dialectical development.

Psychologists working within the theoretical framework of development such as Jean Piaget used the idea of development in a different way. Piaget used it to refer to the movement toward equilibrium. He argued the one-sided view that the dialectic is not based on contradiction or negation, but is a process only of *putting together*. Piaget's school of developmental psychology claimed that only statements contradict each other, not actions or operations. Contradiction would gradually disappear as equilibrium is approached or the higher stages of equilibrium are reached. Vygotsky's view of contradiction, however, was based on the classical Marxist view of evolution and revolution, where equilibrium can only be temporary, and where the contradictions within a system will sooner or later break out and transform the system itself.

### **2. Three examples from Vygotsky's work**

Vygotsky applied the Marxist concepts of contradiction and development to the study of psychological processes. Here are three examples of this application from Vygotsky's writings.

#### *a. Everyday and scientific concepts*

The dialectic between everyday concepts and scientific concepts, as Vygotsky explained them, is about the struggle for mutual recognition in explaining physical events, social events and psychological events. In other words, both kinds of concepts strive to be recognized as the master model of explaining reality. The developmental and contradiction-oriented approach by Vygotsky can be seen in the way he viewed this struggle between everyday concepts and scientific concepts. These two concepts both surrender to one another and recognize the other as master in the same way as can be seen in Hegel's dialectical slave and master metaphor.

#### *b. Concept formation*

Vygotsky argued that "the concept arises in the intellectual operation. It is not the play of associations that leads to its construction. In a unique combination, all elementary intellectual functions participate in its formation. The central feature of this operation is the functional use of the word as a means of voluntarily directing attention, as a means of abstracting and isolating features, and as a means of the synthesizing and symbolizing these features through the sign" (1987, p. 164).

Vygotsky's view of concept formation begins with the participation of all elementary intellectual functions, not just the play of associations. This functional approach is then able to identify word use as the means of developing the higher mental functions, such as voluntarily-directed attention. Here, contradiction leads to development and transformation.

#### *c. Written speech*

Vygotsky pointed out that "Written speech is the algebra of speech. The process of learning algebra does not repeat that of arithmetic. It is a new and higher plane of the development of abstract mathematical thought that is constructed over and rises above arithmetic thinking. In the same way, the algebra of speech (i.e., written speech) introduces the child to an abstract plane of speech that is constructed over the developed system of oral speech" (1987, p. 203).

This is one of Vygotsky's potent analogies: on one hand, between arithmetic and algebra, and on the other,

between oral speech and writing. He explains that algebra and writing exist on a higher plane of development than those they are constructed from.

### 3. Vygotsky's approach to development, contradiction and transformation

Following the footsteps of Marx, Engels, Lenin and others, Vygotsky's dialectic is based on contradiction, that is, on negation and transformation. The basis of Vygotsky's dialectic is the materialist principle that all nature and all living beings are in constant motion, and are therefore in constant transformation.

Contradiction is in every aspect of nature, every living being, and all aspects of human life. As Engels explained, it is the nature of matter to be in constant motion. (Engels, 1885/1970, p. 68)

In particular, Vygotsky stressed the role played by conflict, antagonism, and contradiction in the development of the higher mental functions. Contradiction drives dialectical development, and is the motive force for practical and mental progress. It is a dialectic that preserves the struggle of opposites as engine of development and transformation.

The dialectical method views human concrete social reality as complex, changing, contradictory processes. These complex processes are embedded in human practical activity, in the totality of social life, which is in constant motion and change. The totality of social life is a moving entity that is in constant struggle to realize its own nature. Each human developmental stage is the product of contradictions inherent or implicit in the preceding stage. This leads us to the concept of *aufheben*.

### 4. Vygotsky's use of the concept 'aufheben'

Vygotsky's materialist approach to contradiction and development utilizes the dialectical concept of *aufheben* first developed by Hegel. The German word *aufheben* means 'remove while retaining'. It is often translated into English with the word 'sublation'. The concept of *aufheben* or 'sublation' is complex. It refers to the transformation of an object through its internal negation, such as a flower being the negation of and transformation of its own bud – while at the same time, retaining the essence of the bud in its new transformation as a flower. In this concept, systems (objects) are negated and transformed by their own internal contradictions.

Through the concept of negation and transformation, that is, *aufheben*, and its potent explanatory powers, Vygotsky was able to analyze the mediated character of concrete reality in human activity, and, especially, analyze the development of the human higher psychological functions.

Marx used the concept of *aufheben* to understand and explain the transformation of class struggles, modes of production and social relations in human history, and to anticipate the possibilities of a classless society in the future. Dialectical materialism utilizes the concept of *aufheben* to view nature, society, history, and human higher mental functions not as a structured whole of ready-made elements, but as a system of processes, in which all elements undergo constant change, transformation and growth.

Vygotsky drew heavily on the concept of *aufheben*, and utilized this concept to extend-the work of Marx into psychology. Vygotsky used the dialectical concept of *aufheben* to not only explain the development of society, as Marx and Engels did, but also explain the development of the individual. Vygotsky carefully explained that development and transformation apply to both society and the individual, and that the two are inextricably connected.

Furthermore, Vygotsky showed how this concept can be used as an alternative to the dominant theoretical modes of thought in developmental psychology. The concept of *aufheben* helped Vygotsky overcome the Cartesian dualism that dominates the field of developmental psychology and the psychological sciences in general. His reading of Hegel, Marx, and Engels, among others, equipped Vygotsky with the necessary intellectual tools to see the shortcomings of positivism and the need to dialectically investigate human activity within its natural, biological, social, historical, and cultural settings.

It was Vygotsky's analysis and synthesis of these various mediations – natural, biological, social, historical, and cultural - into a complex, dialectical whole that made his theoretical framework worthy and promising. His genius consisted in applying the concept of *aufheben* – the concept of transformation through contradiction and development – to explain, for example, how the elementary mental functions become transformed into the higher, human psychological functions and how natural functions are transformed into cultural functions during their development. Vygotsky viewed child development, for example, not as a stage-like maturation process, but a process through which contradictions are overcome through sublation (*aufheben*), where existing contradictions are transformed into new ones.

Vygotsky utilized the concept of *aufheben* to help explain many concrete psychological relationships. For example, he viewed human biological evolution as sublated by cultural evolution, and human natural functions as sublated by socio-cultural functions. Other examples in Vygotsky's work include his discussions of the transformation of natural functions into cultural functions, spontaneous concepts into scientific ones, actual abilities into potential ones, learning into development, awareness into consciousness, the social (interpsychological) into the individual (intrapyschological), thought into language, social speech into inner

speech, the abstract into the concrete, ontogeny into phylogeny, and the individual subject into the web of social relations.

Vygotsky most fundamental discovery was that in the process of human development, human lower mental functions are sublated by higher psychological functions. What this approach to psychology means, in short, is that contradiction, struggle and conflict are embedded in the fabric of nature, human social life, and the development of the individual. Described another way, this approach means that the unity of such diverse opposites is the driving force at the heart of human development.

### **5. Hegel's idealist dialectic versus Marx's materialist dialectic**

Hegel's idealist dialectic deals with the dynamics of conceptual structures whereas Marx's materialist dialectic deals with the dynamics of real nature and real social structures, as well as real human thought.

For Hegel, a philosophical idealist, the dialectic is a general theory of the development of conceptual structure, of human thought. He applied it to consciousness, history, logical categories, and history of philosophy. Hegel's *Phenomenology*, for example, is specifically concerned with the development of knowledge, as well as stages of consciousness. For Marx, a philosophical materialist, the dialectic is the general theory of reality as a whole, including society and thought.

Hegel in some passages expanded his view of the dialectic beyond just human thought processes, sometimes approaching the general view of dialectics first fully developed by Marx and Engels. Hegel famously stated, for example, that "Wherever there is movement, wherever there is life, wherever anything is carried into effect in the actual world, there Dialectic is at work" (1830/1975, p. 148). This captures the general materialist view of dialectics that Vygotsky worked from.

### **6. Vygotsky's concept of the individual**

Vygotsky's materialist view of dialectics can be seen in his concept of the individual. In Vygotsky's system, the development of the human individual through the medium of social relations is never complete. Marx explained that the human individual is "an ensemble of social relations" (Marx, 1845).

The individual, for Vygotsky, is a social individual. "I am a social relation of me to myself." (1989, p. 67).

In this view, the individual is always in a process of transformation, becoming, and constant change. Human activity and the human higher mental functions, such as consciousness and personality, are social products that evolve with the material progress of the modes of production, tools, signs and symbols of society. These continuous transformations are accomplished only in human beings with the remarkable transformation of the biological into the social, and nature into culture, as well as with the evolved brain structure, hand structure, language structures, and social structures of human beings.

Psychology, viewed in the light of historical materialism, serves the double purpose of explaining the nature of social relations of a given society, and promoting social solutions that have relevance to the actual living concrete conditions. In this sense, psychology must go beyond serving to not only help the oppressed individual adapt to a given society, culture, and mode of thinking, or to clarify the mechanisms by which such adaptation is made possible, but psychology must also stress consciousness as a part of human activity (instead of behavior), promote awareness and individual potential development, and above all, foster deep-going social change. In capitalist society, individuals are interconnected with one another in antagonistic social relationships. Vygotsky believed that, social change in class structure, and division of labor can enhance cognitive processes and mental functioning.

For Vygotsky, individual psychological development "... does not proceed toward socialization, but toward the conversion of social relations into mental functions" (1981, p. 165). Each individual's life represents the road toward the conversion of social relations into higher mental functions, and ultimately the road toward him/herself. It is through social relations that we develop into ourselves.

So in order to understand how the human social individual behaves, we must first subject to scientific analysis the historically changing ensemble of social relations. This ensemble of social relations proceeds from labor (activity) which is the basis, or essence, of society. Through labor, production is made possible, society is erected, social relations are realized, the power of reflection is born, and consciousness is formed.

Psychology is the study of human individual within his/her rich web of social relations. For Vygotsky, human behavior is "a dialectical and complex process of struggle between man and the world, and within man" (Vygotsky, 1997a, p. 53).

### **7. Vygotsky is a polymath thinker**

Vygotsky's ideas about human history and development were congruent with the communist political framework of Marx and Engels. Vygotsky clearly stated that the liberation of humanity is bound up in the struggle for socialism. He explained that the "... general contradiction between the development of the production forces and the social order which was in correspondence with the level of development of these production forces, is being

resolved by the socialist revolution and a transition to a new social order and a new form of organization of social relationships” (Vygotsky, 1994, p. 180-181).

He argued further that not only will human society change, but so will the human personality. "*A change in the human personality and an alteration of man himself must inevitably take place.* This alteration has three basic roots. The first of these consists of the very fact of the destruction of the capitalist forms of organization and production. Along with the withering away of the capitalist order, all the forces which oppress man and which cause him to become enslaved by machines and which interfere with his free development will also fall away, disappear and be destroyed. Along with the liberation of the many millions of human beings from suppression, will come the liberation of the human personality from its fetters which curb its development” (Vygotsky, 1994, p. 181).

Vygotsky continued to explain that the other two roots are “the ever growing power of humans over nature,” and the “change in the very social relationships between persons.” (Vygotsky, 1994 p.181).

Engels wrote in an 1874 preface to his 1850 book "The Peasant War in Germany" that the class struggle takes form on three fronts: the economic front, the political front and the theoretical front. (Engels, 1966, p. 28).

In modern times, when the class struggle is fought in the theoretical field, it is called philosophy and/or science. Vygotsky carried on the class struggle on the theoretical front in the field of psychology and education from a consistently socialist and working class point of view. His class struggle perspectives were reflected in his writings, critiques, and practice, particularly in the area of education, defectology, mental illness, cognitive education, and psychotherapy.

In turning toward his study of psychology, Vygotsky did exactly what Lenin suggested in his famous critical speech of the first five years of the Russian revolution, when the long and horrendous civil war was finally ending. Lenin stated that one of the most important things for comrades to do now is to sit down and study (Lenin, 1922/1976). Lenin placed great emphasis on the need to continue the class struggle and he characterized socialism as the continuation of the class struggle in new forms. Lenin included the struggle for theory as an essential part of the continuation of the class struggle under socialism.

As a revolutionary, one of Vygotsky’s foremost efforts was to carry the progressive Marxist philosophy legacy into the Soviet system of education in the new revolutionary society. Many of his efforts in psychological research were aimed at developing a new kind of education system for a new kind of society.

## 8. Vygotsky’s dialectical materialism

Luria explained Vygotsky’s method and approach to psychology eloquently when he said that “Vygotsky supposed that higher mental processes are of a social origin, and that the basic unit of human conscious behavior is not to be found in unconditional or conditional reflexes ... Instead, a new method was proposed — to step outside the organism itself and to try to find the basic units of human conscious behavior in the relation of the subject with the social environment, treating these *relations* as an essential feature of human mental processes” (1987).

Politzer was pointing to the same idea that Luria was explaining, that psychology must “step out of the organism itself” when he argued that “Psychology by no means holds the “secret” of human affairs, simply because this “secret” is not of a psychological order” (1929, p. 170).

Vygotsky believed that dialectical materialism has the necessary conceptual tools to bridge the gap between human higher mental processes and consciousness and their social historical and cultural grounding.

Wallon said in regard to applying dialectical materialism to psychology that, “Psychology is by no means unique in this respect. Dialectical materialism is relevant to the entire realm of knowledge, as well as to the realm of action. But psychology, the principal source of anthropomorphic and metaphysical illusions, must, more than any other science, find in dialectical materialism its normal base and guiding principles” (1951, p. 34).

Wallon developed this idea further. Dialectics is the engine of human psychological processes, he explained:

“It is dialectics that has given psychology its stability and its meaning, and which has delivered psychology from the alternatives of elementary materialism or vapid idealism, of crude substantialism or hopeless irrationalism. Through dialectics psychology is able to be at once a natural science and a human science, thus abolishing the division between consciousness and things that spiritualism has sought to impose on the universe. Marxist dialectics has enabled psychology to comprehend the organism and its environment, in constant interaction, as a single, unified whole. And finally, in Marxist dialectics, psychology has a tool for explaining the conflicts out of which the individual must evolve his behaviour and develop his personality. (Wallon, 1951, p. 34).

By insisting on explanatory concepts such as discontinuity, conflict, contradiction, and crisis - underlying the development of higher mental functions - Vygotsky demonstrated his fidelity to the Marxian theses of the dialectic. In this regard, Vygotsky - like Wallon - valorized Marxian dialectical concepts of material reality, consciousness, practice, conflict, contradiction, crisis, *aufheben*, negation, negation of the negation, quantity, quality, discontinuity, and change, and chose these over non-dialectical concepts such as permanent stability,

continuity, adaptation, equilibrium, and equilibration.

This view suggests that materialist dialectics can give scientific psychology the ability to achieve its full scientific potential epistemological meaning, ontological guidance, conceptual tools, theoretical clarity, and logical and methodological rationale. Vygotsky went so far as to argue that, "Marxist psychology is not a school amidst schools, but the only genuine psychology as a science" (1997, p. 341).

### 9. Vygotsky's call for a Das Kapital of psychology

Vygotsky emphasized that psychology, like any science, such as physics, biology or economics, must develop its own concrete concepts that are based on its particular realities. These concepts cannot be borrowed from other sciences, but must be developed from the concrete realities of the realm under investigation - in this case, human psychology. Nor, Vygotsky also stressed, can these concepts just be translated or adapted from the philosophical concepts of dialectical materialism. These were essential ideas in Vygotsky's call for a Das Kapital of psychology.

Vygotsky explained that "It suffices to imagine Marx operating with the general principles and categories of dialectics, like quantity-quality, the triad, the universal connection, the knot of contradictions, leap etc. - without the abstract and historical categories of value, class, commodity, capital, interest, production forces, basis, superstructure etc. - to see the whole monstrous absurdity of the assumption that it is possible to create any Marxist science while bypassing by *Das Kapital*. Psychology is in need of its own Das Kapital - its own concepts of class, basis, value, etc. - in which it might express, describe, and study its object" (1997, p. 330).

If Vygotsky did not leave behind him a fully constructed Das Kapital of psychology, he did leave behind him many of the bricks needed for creating it.

### Conclusion

Vygotsky was part of a new generation of Soviet psychologists who dedicated themselves to developing a new psychology based on the principles of dialectical historical materialist philosophy. These scientists believed that dialectical and historical materialism will shed light on the psychology of oppression and pave the way to a psychology of liberation. In Vygotsky's view, dialectical materialism places psychology on its feet and guides it to becoming science that emphasizes human potential, creativity and development. Though Vygotsky touches on many topics, subjects and ideas originating from Hegel, Marx, Engels, and Lenin, among others, he was not able to systemize them in a unified, integrated theoretical framework. This is what Vygotsky meant when he said that psychology still needed its own Das Kapital. One of the key challenges, he explained, is to apply the philosophical and methodological concepts of Marxism to the science of psychology.

Psychology is in need of a unified, systematic theory in order to develop as a science. In our view, Marx's dialectical materialist method is an essential tool in this quest for understanding human development, contradiction and concrete totality, and for developing a new psychology complete with its own Das Kapital along the lines envisioned by Vygotsky.

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