

The metaphysics of psychology and a dialectical perspective

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Abstract

This article aims to examine the relation between psychology and metaphysics. Despite psychology's claim of being an exact science, like physics, it contains an implicit commitment to metaphysical assumptions, such as ahistorical universalism, ontological dualism, abstract individualism, and the fragmentation of the human mind. This paper proposes a dialectical perspective as a way to overcome the unidimensional examination of psychological phenomena as the sum of independent, fixed, and static elements. By revealing the shortcomings of reductionism and elementarism, dialectics highlight the complex and dynamic nature of psychological processes and provide an original way of conceptualizing crucial theoretical and methodological issues of psychology as a discipline.

Keywords

dialectics, empiricism, individualism, metaphysics, reductionism

A suspicion of metaphysics is deeply rooted in the struggle of psychology to become an independent discipline. Rollo May (1958) argued that psychology “won its freedom from metaphysics” (p. 8) in the last decades of the 19th century. However, this dominant view of psychology as a discipline free from metaphysics has been challenged by DeRobertis (2005), who argues that “psychology has remained attached to the metaphysical assumptions implicit in causal-empirical thought” (p. 102). This statement however, raises the following questions: What is metaphysics? To what extent is psychology free from metaphysics? What kind of reality is constructed in psychology? These questions have rarely been addressed. There are various traditions in which these questions have been raised.

According to White (1993), every judgment and every inference depends upon metaphysical assumptions. Every judgment includes thoughts and beliefs about parts of reality, and metaphysics considers ontological questions about the nature of the world as

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a whole or in its parts. Not all scholars agree with this definition of metaphysics. Indeed, the disagreement about the meaning of the term “metaphysics” is one of the difficulties in studying the relationship between psychology and metaphysics. Before undertaking such an examination, it is important to clarify the various definitions of metaphysics. Moreover, it is crucial to analyze the influence of metaphysics on the formation of the theoretical and methodological framework of psychology.

The present article aims to examine the impact of metaphysics on psychology, while also exploring dialectics as an alternative way of thinking that opens a new perspective on fundamental issues of psychology as a discipline. The paper provides a short account of the terms of metaphysics and dialectics in the history of thought. Despite the struggle of psychology to become an exact science and to liberate itself from metaphysics, it is possible to show several implicit metaphysical assumptions underlying the construction of psychological knowledge. The article discusses the possibility of developing a dialectical perspective in the field of psychology and offers a critical reflection on several attempts of its application.

Various forms of dialectics have been articulated in different sociocultural contexts. Indicatively we can mention Chinese dialectics, Ancient Greek dialectics, Kant’s transcendental dialectics, Hegel’s dialectics, Marx’s dialectics, Adorno’s negative dialectics, and so forth (Wong, 2006). The examination of these forms of dialectics and their critical analysis is beyond the scope of this paper. This article focuses on the emergence and formation of dialectics in psychology. The application of the dialectical perspective to the field of psychology is presented in two parts. The first part examines the early attempts to apply dialectics to psychology. Emphasis is placed on the contributions of Vygotsky and Davydov to the introduction and development of dialectics in psychology. The second part addresses some of the theoretical issues related to several contemporary attempts aiming to further the development of a dialectical perspective in psychology.

A short account of metaphysics and dialectics in the history of thought

The term “metaphysics” has been used in different ways over the years, and the definitions vary. This term originated from the Greek words *μετά* (“meta,” meaning “beyond” or “after”) and *φυσικά* (“*physiká*,” or physics). In the first century B.C.E., Andronicus of Rhodes introduced the term “metaphysics” when he published Aristotle’s complete works and placed the book on first philosophy after physical treatises (Ando, 1974). For Aristotle, this “first philosophy,” defined later as metaphysics, is a science that studies being as such, the first causes of things, and immovable substances: “the science of substance must be of the nature of wisdom” (Aristotle, ca. 350 B.C.E./1991, *Metaphysics*, 996b1–996b25).

Metaphysics can be investigated either in general from the perspective of “general metaphysics” (or ontology) or in the context of “special metaphysics,” which includes cosmology, psychology, and natural theology. Ontology predicates “being” on matters of substance, causes, effects, and so forth. Cosmology is the study of the world as a whole and its structure. Psychology deals with the problem of the existence of the soul, the

faculties of mind, and the problem of the immortality of the soul. Natural theology studies God as a supreme being and its attributes (Ando, 1974).

From an empiricist viewpoint, Hume offered a strong critique of metaphysical reasoning. Under the influence of Hume's philosophy, Kant (2004) posed the question of "whether such a thing as metaphysics is even possible at all" (p. 5). He argued that metaphysics is possible only based on the deduction of a priori concepts. In other words, metaphysics is possible only as a system of purely conceptual knowledge, without any kind of sensory influence. Challenging the Kantian opposition between thought and being and the distinction between phenomena and noumena, Hegel focused on the unity of thought and being. For Hegel, thinking about the external world is internally connected with "thinking about thought (i.e., logic)" (Ilyenkov, 2009, p. 98). Calling into question the Kantian dualism, Hegel supported the idea of the "unity" of logic and metaphysics. Additionally, for Hegel, "the True" is the result of a long historical process of dramatic conflicts and oppositions, not an immediate situation. Hegel (1807/2004) found the opinion that "the True consists in a proposition which is a fixed result, or which is immediately known" (p. 23) to be dogmatism.

During the 19th century, metaphysics came to be held in lower regard as a result of the emergence and formation of particular disciplines that became independent of philosophy. By century's end, Hegel's project of a grand synthesis of thought and being was considered outdated and incoherent. During this period, the representatives of positivism proposed that scientific knowledge should replace theological and metaphysical speculation. Logical positivists claimed that metaphysical statements are meaningless. For Carnap (1959), metaphysics is "the field of alleged knowledge of the essence of things which transcends the realm of empirically founded, inductive science" (p. 80). Carnap proposed a radical elimination of all metaphysical statements from empirical science.

Challenging the positivist view on metaphysics as a set of statements that are not empirically verifiable and therefore meaningless, Hibberd (2014) proposes that metaphysics is a branch of ontology with a primary concern for "what it is for anything at all to exist or occur" (p. 163). In contrast to the dominant focus on methods, Hibberd (2014) argues that a metaphysics in psychology must be developed. In other words, the examination of the set of metaphysical categories that constitute the ontological conditions necessary for anything to occur provides a way to overcome the current conceptual disarray in psychology as a discipline. From my perspective, the claims of creating a theory of Being, regardless of how subjects perceive, interpret, explore the world, and participate actively in its transformation, is problematic because it reproduces a dualistic conceptualization of the human condition: "Being" versus "Knowing," "Being" versus "Doing." The lack of understanding that the act of Being is dialectically connected with knowing and changing the world is one of the reasons for the current conceptual disarray in psychology.

The term "metaphysics" has been used not only to describe an ontological theory of being, as explored above, but also as *a way of thinking* that separates things from each other and considers them as given and unchangeable. This metaphysical way of thinking is based on the examination of things as isolated from each other, static, and immutable. "To the metaphysician, things and their mental reflexes, ideas, are isolated, are to be considered one after the other and apart from each other, are objects of investigation

fixed, rigid, given once for all” (Engels, 1987, p. 22). Engels describes metaphysics as the result of a method of analysis that leads to the separation of a thing from its interconnections with other things and its reduction to a sum of isolated elements. Moreover, dialectics as a way of thinking paves the way for overcoming the separation of philosophy from the sciences that characterizes metaphysics.

Metaphysics as a way of thinking ignores Kant’s crucial distinction between Understanding (*Verstand*) and Reason (*Vernunft*). Understanding develops pure, nonexperiential concepts to unify the data provided by the senses. Reason provides the systematic unity of the concepts and judgements of Understanding. Further developing this distinction, Hegel (1816/2010) proposed that Understanding is a way of thinking that “abstracts and therefore separates, that remains fixed in its separations” (p. 25). Understanding negates sensory perception but is simultaneously unable to go beyond it. Understanding offers abstract, fixed, separate determinations of an object. For Hegel, Understanding is a necessary but early stage in the development of thinking. Metaphysics is an absolute version of Understanding that is necessarily finite. Metaphysics

becomes one-sided, restricted, abstract, lost in insoluble contradictions. In the contemplation of individual things, it forgets the connection between them; in the contemplation of their existence, it forgets the beginning and end of that existence; of their repose, it forgets their motion. It cannot see the wood for the trees. (Engels, 1987, p. 23)

The metaphysical way of thinking is unable to go beyond dualism and the existence of absolutely irreconcilable antitheses. The complexity and self-movement of a thing are lost, due to the dominance of a one-dimensional focus of metaphysical thinking on isolated aspects, traits, and variables.

Dialectics is internally connected with the development of Reason as a way of thinking. “Reason is negative and dialectical, since it dissolves the determinations of the understanding into nothing; it is positive, since it generates the universal, and comprehends the particular therein” (Hegel, 1816/2010, p. 10). Dialectical Reason examines a developing object in terms of a concrete unity of multiple, interconnected determinations. Dialectics stands opposite to metaphysics by focusing on the examination of a thing in its interconnection with the others, and in the process of its change as a result of its internal contradictions.

It is worth mentioning that throughout the long history of human thought, the concept of dialectics has obtained various meanings and connotations. Various forms of dialectics have been created over the centuries: Ancient Chinese dialectics, Indian negative dialectics, Ancient Greek dialectics, dialectics in Classical German Philosophy, Marxist dialectics, and so forth (Dafermos, 2018; Wong, 2006). Diverse forms of dialectics were developed as ways of dealing with antinomies, paradoxes, contradictions, and so forth. In Ancient Greece, the term “dialectics” referred to the art of conversation or debate that leads to genuine knowledge. Dialectics took the form of the Socratic *elenchus*, a method that enabled contradictions in argumentation through question–answer dialogue. However, dialectics was conceptualized in Ancient Greece as the dialogical investigation of truth, a way of critical thinking that reveals contradictions in argumentation, and primarily as a view of the natural world in a constant state of flux. Challenging the view of

a static universe, Heraclitus shifted the focus from being to becoming, as expressed in his quote: “Into the same river you could not step twice, for other <and still other> waters are flowing” (as cited in Patrick, 1889, p. 94).

In classical German philosophy, dialectics was reborn and took a radically new form. For Kant, dialectics was the logic of illusions that inevitably and necessarily appear when Reason attempts to grasp the thing-in-itself. In contrast to this negative definition of dialectics, Hegel (1816/2010) proposed a positive dialectics that turns to the examination of the universal as a concrete unity of multiple determinations. Hegel rigorously articulated and systematically exposed dialectics in *Science of Logic*. Challenging the universalism of Hegel’s notion of dialectics, Marx (1975) attempted to grasp “the specific logic of the specific subject” (p. 91). More concretely, Marx developed a materialist dialectic in the context of a systematic study of the capitalistic mode of production and its internal contradictions. Marx explored the capitalistic mode as a living, organic, developing whole through the creation of a system of interrelated categories and laws (Vazjulin, 1968).

Dialectics has been defined by Engels (1987) as “the science of the general laws of motion and development of nature, human society, and thought” (p. 131). The struggle and unity of opposites can be considered as the core of dialectics. For Hegel (1816/2010), dialectics consist of “grasping opposites in their unity” (p. 35). Dialectical thinking develops as a way of conceptualizing the internal contradiction of a thing as the source of its self-movement and development. Dialectical thinking is oriented toward the investigation of the essential, internal relations of a thing, and to the revelation of its contradictory and mutually opposing tendencies (Dafermos, 2018).

It is possible to distinguish two meanings of the term “dialectics,” in much the same ways as two definitions of metaphysics have predominated. The first meaning of this term consists in examining dialectics as a kind of ontology. The secondary meaning of the word refers to dialectics as an epistemology (Buss, 1976). However, the very distinction between dialectics as an ontology and dialectics as an epistemology reproduces a nondialectical, dualistic dichotomy between them. The epistemology/ontology dichotomy reflects a crisis of confidence in the ability to acquire knowledge about the world (“the things themselves”) in Kant’s terms. An ontological account of dialectics as an examination of “pure forms of being” was challenged by Ilyenkov (2009). According to Ilyenkov (2009), dialectics serve simultaneously as logic and theory of knowledge of the material world. From a dialectical perspective, ontology is inseparably connected with epistemology. Stetsenko (2017) uses the concept of onto-epistemology to highlight the dialectical connection between knowing the social world and its radical changing. The dialectical understanding of the dynamic, complex relations of the social world is connected to a transformative life stance and an active engagement in transformative social practices. From this perspective, the gap between ontology and epistemology can be dialectically superseded by transformative practice.

The examination of practice as a way of overcoming the gap between ontology and epistemology has its roots in Marx’s “Theses on Feuerbach.” Marx (2010) criticizes “all previous materialism” for only seeing reality “in the form of an object or of contemplation, but not as sensuous human activity, practice, not subjectively” (p. 3). Moreover, the question of truth and correspondence between thinking and reality is

reformulated as a practical question rather than a purely theoretical question. The view on practice as a social, historical, transformative activity that simultaneously changes the world and the subjects involved is the starting point for the foundation of a dialectical onto-epistemology.

Psychology as an ahistorical discipline

Psychology as an independent, autonomous discipline emerged in the late 19th century after its separation from philosophy. The emancipation of psychology from older psychology was connected with the acceptance of the model of natural sciences as a dominant paradigm, especially physics. For Watson (1913), psychology is a purely objective experimental branch of natural science. The vision of the future of psychology was formed under the influence of “physics envy”:

Physics envy is a hallmark of twentieth-century psychology, especially in America. Psychologists engage in a Newtonian fantasy: One day, their faith says, a Newton will arise among psychologists and propound a rigorous theory of behavior delivering psychology unto the promised land of science. (Leahey, 2001, p. 24)

It is essential to take into account that during an early period in its history, Newtonian physics was construed by many psychologists as a model of rigorous science, free of “metaphysical contamination.” Newtonian physics is, however, based on the metaphysical idea of “a static universe, a universe of *being* without *becoming*” (Prigogine, 1980, p. 4).

Attempting to avoid metaphysics, psychology turned to rigorous operationism and quantitative measurement (Rappoport, 1986). The application of the methods of the natural sciences to the study of human behavior was considered as a way of eliminating the old metaphysical psychology. As a result of this adoption of physicalism, the psychological concepts examined by mainstream North Atlantic psychology are considered ahistorical and “natural,” rather than social. As Danziger (2010) has posed, “the ethos of modern psychology was uncompromisingly ahistorical” (p. 14). Psychology has been formed as a deeply *ahistorical* discipline.

The uncritical application of methods from the natural sciences to psychology has important consequences on the psychological construction of reality. Many professional psychologists tend to ignore the fact that the production of psychological knowledge occurs within a concrete historical moment in a particular social location. The universalistic claims of the discipline of psychology and the dominance of an ahistorical view on human subjectivity are part and parcel of the adoption of a physicalist epistemological framework.

Antimetaphysical stances in psychology follow the traditions of empiricism and logical positivism. The “cult of empiricism” has long been dominant in the field of psychology (Toulmin & Leary, 1985). Empiricism implicitly follows the idea that the external form and the essence of things coincide. Empiricist imperative finds expression in the view of psychology as the study of externally observable behavior. Despite empiricist critiques of metaphysical reasoning, empiricism rests on metaphysical assumptions about the nature of the world and its knowledge.

Challenging empiricism, Vygotsky proposed that the description of facts as the source of knowledge ignores the complexity of the process of knowledge production: "Everything described as a fact is already a theory" (Vygotsky, 1997a, p. 249). The empiricist claim that it is possible to grasp "pure" facts, free from any metaphysical interpretation, stems from a simplistic, reductionist account of the knowledge process. The scientization of psychology has been identified with its empirization (Kuczynski, 2012). Empiricism is based on the ontological assumption that the world consists of separate, independent elements. The representatives of empiricism believe that psychological phenomena can be described in terms of simple, homogenous, and static elements (Ratner, 1997). Empiricism-inspired psychological methodologies are not able to grasp the complex configurations of psychological phenomena and the dynamic, developing relations between them.

In his book *Great Scientific Experiments*, Rom Harré makes a provocative statement on psychology as a discipline: "Psychology is the most conservative of all scientific specialisms" (1981, p. 148). Discussing Harré's statement, Peter White (1993) criticizes the understanding of progress in psychology as "the steady accumulation of knowledge, indisputable findings" (p. ix). The identification of scientific progress with the monotonous and linear quantitative accumulation of empirical knowledge is based on a metaphysical assumption of the existence of a stable, steady structure of knowledge that remains unchanging during historical time. The positivistic account of scientific progress in terms of continuous accumulation of facts and empirical findings cannot deal with the conflicts, crises, and revolutions in the history of science. The conceptualization of historical time and qualitative transformations of the structure of knowledge in the history of science remains "terra incognita" for positivist psychology. From the perspective of positivist psychology, psychological concepts are examined as ahistorical. Psychological concepts and their measurement become metaphysical constructs within the discipline because "they are taken on the faith that aggregate observation of behavior will follow the same pattern as the measurement of heights or weights, or tosses of a fair coin" (Rappoport, 1986, p. 180). Danziger (2003) proposes instead that psychological concepts are historical, rather than natural: psychological concepts emerged historically, in a concrete time and space, and their meanings over the course of history.

Criticizing the mainstream naturalistic orientation of psychology in his famous paper "Social Psychology as History," Gergen (1973) focused on the differences between social psychology and the natural sciences: "Unlike the natural sciences, [psychology] deals with facts that are largely nonrepeatable and which fluctuate markedly over time" (p. 310). The problem is not only the dominance of a naturalistic, ahistorical interpretation of psychological *concepts*, but also a lack of understanding for the historicity of psychological *objects*.

Challenging the implicit metaphysical ontological assumption that psychological events are universal, fixed, and stable entities over historical time, Danziger (2003) argues that psychological objects such as memory are transformed by social history. The lack of understanding of the deeply historical nature of psychological objects is one major shortcoming of contemporary psychology. Danziger (2003) argues that the mutual isolation of psychology and history is a serious obstacle to the development of historical psychology at the border between these disciplines. Historical psychology has been

examined by Danziger (2003) as a way to explore how psychological objects change during social history.

The historicity of psychological processes and their dynamic, developmental nature has not been sufficiently conceptualized. Vygotsky (1997b) labeled as “metaphysical” the traditional psychology that ignores the history of the development of higher psychological functions: “The history of the development of the higher mental functions is a field in psychology that has never been explored” (p. 1). It seems that historical time is the forgotten dimension in contemporary psychology.

The paradox of psychology as a discipline is that it adopts metaphysical assumptions such as ahistorical universalism, while simultaneously rejecting metaphysics in order to be perceived as a “rigorous” scientific discipline. It seems that contemporary psychology is still far away from the understanding of the significance of Prigogine’s (1980) call to move *from being to becoming* that challenges metaphysical *ahistorical* universalism. Due to the examination of psychological phenomena as immutably fixed, it is difficult to conceptualize a transformation into new forms and to consider “what is not yet—but is about to become” (Valsiner, 2012, p. 11).

The metaphysics of a liminal and fragmented discipline

Psychology as a discipline was born at the border between the natural and social sciences. Wundt’s distinction between *Völkerpsychologie* and “experimental psychology” developed on the grounds of a dualistic understanding of the human condition. This distinction marks the dichotomy between the natural-scientific methods in “experimental psychology” and methods of humanities and social sciences employed by *Völkerpsychologie* (historical analysis, comparative method, etc.). However, *Völkerpsychologie* soon disappeared from the domain of North Atlantic psychology, and with it the interest in studying social and cultural dimensions of psychological processes. In contrast to psychology’s attachment to the natural sciences as a model for psychological research, a tradition of examining psychology as a cultural or social science has rarely been formulated. The task of bringing culture back into psychology is multifaceted and challenging (Valsiner, 2012). One of its difficulties is related to an awareness of the possibility of reproducing the nature–culture dichotomy in psychology as a discipline on the borderline between the natural and the social sciences. This nature–culture dichotomy has found its expression in Kimble’s (1984) idea of the existence of two opposing cultures in psychology: one characterized by its commitments to scientific values, the other by its commitment to humanistic values.

The complexity of the ontological status of the subject matter of psychology is one of the reasons for these troubles and confusions. Psychology has been defined as “the study of the mind and behavior” (American Psychological Association, 2019). The distinction between external behavior and internal states of mind reproduces the inner/outer dichotomy that originates from Descartes’ mind–body dualism. Pérez-Álvarez (2018) distinguishes two forms of metaphysics of psychology: the *metaphysical ontology* that finds its expression in inner/outer dichotomy, and its *dualistic epistemology* into binaries such as subject/object, theory/method, and facts/values. It is important to note that it is not the epistemological and ontological interpretations themselves but their dominant interpretation based on one-dimensional polarization of different sides that leads to dualism.

Various descriptions of the dichotomies and polarities in psychology have been proposed. For example, Drob (2003) compares the existing theoretical models in psychology with two-dimensional maps representing the three-dimensional spherical Earth. The existing theoretical models have been constructed by a series of dichotomies/dipoles: (a) free will versus determinism, (b) materialism versus phenomenology, (c) reductionism versus emergent properties, (d) public versus private criteria for psychological propositions, (e) the individual versus the system as the basic unit of inquiry and description, (f) facts versus interpretations (hermeneutics) as the data of psychology, and (g) knowledge versus unknowability.

Due to its empiricist commitment, psychology has proven to be quite unprepared to face the complex theoretical and methodological issues connected with the study of psychological phenomena and tends to reproduce various forms of dichotomies and dualisms. Psychology has been trapped within a matrix of multiple forms of dualism. The reproduction of a set of mutually exclusive polarities is a product of a fundamentally dualistic metaphysical outlook. Psychology's dichotomies and polarities bring to mind Kant's antinomies of Pure Reason. These dichotomies and polarities prove the failure of the dominant metaphysical assumption of psychology in the same way as Kant's antinomies offered evidence of the downfall of traditional metaphysical philosophy.

The disappearance of the social in psychology

The disappearance of the *social* in American "social psychology" has frequently been noted (Greenwood, 2004). This disappearance consists not only in the abandonment of the study of the social dimensions of psychological states in psychology, but more generally in the fact that psychology as a discipline faces insurmountable difficulties in conceptualizing the social.

For Watson (1913), psychology is the study of the observable behavior of the individual and its environmental determinants. Society is considered to be an external environment that influences an individual as a pre-given entity. The one-dimensional conceptualization of an individual as an abstract organism that responds to the external stimuli reproduces the individual–society dichotomy. "The isolated individual, the pure subject of self-preservation, embodies in absolute opposition to society its innermost principle" (Adorno, 1967, p. 77). Adorno (1967) demonstrated that this society is deeply individualistic. Challenging the dominant tendency of individualization and psychologization of the subject, Georges Politzer explicitly states the shortcomings of this psychological vision of the human being: "Psychology by no means holds the 'secret' of human affairs, simply because this 'secret' is not of a psychological order" (as cited by Elhammoumi, 2006, p. 2). Positivist psychology focusing on the study of the individual (individual behavior, individual cognitive process, individual agency, etc.) is unable to grasp the "secret" of the human condition, which is beyond the strict domain of psychology.

The dialectical relation between the particular and the general has been lost in mainstream psychology in which the individualist account of psychological functioning dominates. Examining behavior and thinking as the functions of isolated individuals, mainstream psychology adopts the position of the "epistemological Robinsonade." The fragmentation of the human mind into separated functions, traits, or elements is

internally connected with the metaphysical assumptions of mainstream psychology. Kvale (1975) demonstrated the metaphysical orientation of Ebbinghaus's psychological research of memory. More concretely, Kvale revealed the shortcomings of an investigation of memory in terms of isolated elements (nonsense syllables) without meaningful relations. "Metaphysical research on memory is ahistorical—the past is fragmented, quantified, and frozen into something unequivocal and unchangeable. And it is asocial—the individual's history is isolated from other people's history" (1975, p. 215).

Many researchers examine psychological phenomena in terms of discrete, homogeneous variables. Despite the rejection of any kind of metaphysical ontology by the adherents of mainstream psychology, it seems that they construct a metaphysical ontology based on a view of reality that consists of static, isolated, independent elements. They tend to avoid the investigation of complex psychological phenomena or to reduce them to the sum of isolated elements. Reductionism, atomism, and quantification are the main features of a dominant construction of ontological reality:

Positivists assume that variables and their components are inherently simple, uniform, and discrete. However, these features are imposed on psychological phenomena by methodological procedures; they are not characteristic of the phenomena themselves. (Ratner, 1997, p. 25)

Psychological phenomena are more complex than their construction—through the analysis of discrete elements—would allow us to suppose. The focus of such analysis stems from the acceptance of the primacy of the individual. The idea of the primacy of the individual is an important part of the tradition of Lockean empiricism that has been dominant in the domain of psychology. The empiricist point of view is internally connected with the examination of the abstract individual as the essential reality of society. The perception of society as a sum of individuals is based on the description of external phenomena on the surface of social life, not the deeper investigation of the totality of contradictory societal relationships.

The first attempts of the application of dialectics in psychology

Dialectical perspectives in psychology historically emerged as an attempt to overcome a crisis in the discipline. Due to "the cult of empiricism" (Toulmin & Leary, 1985), psychology has proved incapable of dealing with crucial problems connected with conceptualizing its subject matter and research methodology. Vygotsky (1997a) offered a brilliant analysis of this crisis in psychology as the result not only of the struggle between different views and approaches but "*the struggle between different types of science*" (pp. 295–296). Vygotsky pointed out that new social practices challenged dominant scientific theories in the domain of psychology, provoking a methodological crisis. The cultural–historical theory was formulated by Vygotsky as an attempt to overcome the gap between existing psychological theories and new social practices, as well as to resolve several theoretical and methodological tensions of psychology as a discipline, such as the object–subject dichotomy.

Vygotsky's project was "the first attempt in psychology and education to apply the principles of Marxist dialectics in developing a theory of human development and learning" (Stetsenko, 2010, p. 70). Vygotsky (1997a) realized the importance of *Das Kapital* and proposed its application in psychology as a way to reconfigure psychology as a discipline: "in short, we must create our own *Das Kapital*. . . Psychology is in need of its own *Das Kapital*" (p. 330). Vygotsky was aware of the complexity of the application of dialectics and challenged the formalistic and external applications of the dialectical schemata in the USSR of his time. "The principles of dialectics are introduced into psychology from outside. The way of Marxists should be different" (p. 330). The essential difference of Marx's understanding of dialectics from Hegelian consists of its orientation "in grasping the specific logic of the specific subject" (Marx, 1975, p. 91).

The cultural–historical theory of the development of higher mental functions can be examined as an attempt to elaborate a dialectical framework in the domain of psychology. Vygotsky (1997a) challenged naturalistic theories of development as simple biological maturation, as well as an understanding of development as a gradual accumulation of quantitative changes. For Vygotsky, development occurs through revolutionary qualitative changes as a result of dramatic conflicts and crises (Dafermos, 2015). "Cultural-historical theory allows to study not only stages of development but to investigate development *as a process* of transitions from one stage to another through revolutionary qualitative changes and reorganisations" (Veresov, 2014, p. 219).

Politzer's project for a "concrete psychology" in terms of drama inspired Vygotsky (1989). Vygotsky offered a dialectical account of the drama of development based on the law of the struggle and unity of opposites:

Here an abstract dialectical idea of a contradiction as a moving force of development obtains its concrete psychological content in the concept of the drama of life as a moving force in the development of human personality. (Veresov & Fleer, 2016, p. 328)

Positivist psychology is not able to reflect the drama of human development due to its dominant reductionist method of separating the complex whole into disparate elements. In contrast to this method of analysis into elements, Vygotsky (1987) advocated for the method of studying complex dynamic psychological systems based on units that maintain the characteristics of the whole. Vygotsky's proposal of this method of analysis units was formed under the influence of Marx's investigation of the capitalist mode of production as a developing organic whole. Vygotsky was looking for the "cell" (or the unit of analysis) of psychology as a discipline and defined it in various ways in different stages of his development (Dafermos, 2018; Veresov, 1999). It is important to note that Vygotsky posed a crucial question for the development of dialectical methodology connected with the understanding of the interrelation between the part and whole—a question that remains unsolved in the domain in psychology.

After Vygotsky's death, the debate on dialectical logic in Marx's *Das Kapital* and its application in psychology continued in Soviet philosophy and psychology. In the context of strong criticism of positivism, Ilyenkov (1960) provided an original and influential account of dialectics. Under the influence of Ilyenkov's philosophical theory, Davydov (1990, 1996) elaborated an original version of activity theory.

Dialectical–materialistic epistemology and logic aim to change reality, not offer its empirical descriptions. “The true foundation of Soviet psychology in general and of Vygotsky’s school in particular is the dialectical-materialist epistemology, according to which thought is based on material activity which *transforms reality*” (Davydov, 1988, p. 188). Davydov demonstrated the shortcomings of the empiricist view of concept formation and the false correlation of “theoretical” with “abstract” thinking. He argued that ascending from the abstract to the concrete is the only method with which the theoretical reproduction of the system of internal relations of an object can be ascertained. More concretely, Davydov proposed that “ascending” from the abstract to the concrete can be used for the construction of a system of psychological concepts. He explored that the concept of activity was the universal “germ cell” for building a monistic psychological theory.

Davydov’s project of the construction of a system of psychological concepts remained unfinished. Additionally, Davydov’s emphasis on theoretical thinking and his underestimation of the importance of the movement of thought from the sensory concrete to the abstract has been criticized for creating a gap between theoretical and empirical thinking. “Fundamental to this approach is the absolute separation of two forms of concepts and thinking—scientific-theoretical versus lay-empirical” (Nissen, 2012, p. 27). The unilateral movement of thought from the abstract to the concrete leads to the creation of a dichotomy between empirical thinking and theoretical thinking. The mutual complementarity and mutual penetration between empirical thinking and theoretical thinking in the process of learning development have been lost in Davydov’s conception.

However, theory building is not reduced to replacing empirical concepts with theoretical concepts. The dichotomy between empirical thinking and theoretical thinking provokes a gap between theorizing and practice. Theorizing tends to become constructing a universal, acontextual set of concepts detached from the experiences and practices of concrete subjects. Without a dynamic, dialectical relation between theorizing and practice as well as mutual penetration between empirical thinking and theoretical thinking it is difficult to create a critical subjectivity and promote social change.

Dialectics in front of new challenges

Although psychology has been full of paradoxes and contradictions since the beginning of its emergence as an independent discipline, it is still far from understanding the importance of dialectics. It is difficult for professional psychologists who have trained under the influence of empiricism to deal with the paradoxes and puzzles of psychological theory, and with the conflicts and contradictions in real life. The existence of conflicting ideas and contradictory processes is examined in negative terms in North Atlantic psychology. It has found its most common expression in the theory of cognitive dissonance, which is based on the idea that people tend to avoid conflicting beliefs and behaviors and seek to achieve cognitive consistency. The theory of cognitive dissonance depicts the dominant way of thinking in North Atlantic psychology, with its tendency to eliminate conflicts and maintain a balance or equilibrium.

Calling into question the dominant way of thinking in psychology, Ho (2019) argues that dialectics is “the pinnacle of human cognition” (p. 51). However, dialectics in psychology remains a challenging terra incognita. Despite the indifference, if not hostility,

to dialectics in psychology, there have still been several significant attempts to employ dialectical insights in developmental psychology (Riegel, 1977), in psychotherapy (Kaminstein, 1987), in neuroscience (Bolis & Schilbach, 2018), and in psychopathology (Bolis et al., 2017).

The emergence of interest in the study of dialectics is not unrelated to frustration with mainstream positivist psychology. The epistemological impasse of positivist psychology finds its expression in the field of developmental psychology. It is hard to explain dramatic conflicts, crises, and qualitative leaps during the span of a lifetime from the perspective of positivist psychology. Riegel (1977) demonstrates that traditional positivist psychology is unable to explain human development over the course of human life. Riegel argues that

science has been built upon abstract and stable entities, such as features, traits, and competencies, rather than upon concrete events. Science has given one-sided preference to stability, balance, and equilibrium, rather than to their opposites, broadly defined as contradictions, conflicts, and crises. (p. 4)

Riegel (1979) proposes the foundation of new dialectical psychology that focuses on the study of actions and changes, rather than static traits and balanced equilibrium. In contrast to the one-dimensional preference of traditional psychology for stability, dialectical psychology focuses on dramatic conflicts, crises, and their role in human development.

Demonstrating the shortcomings of formal reasoning, Riegel brings to light the significance of dialectical operations in the context of a critical dialogue with Piaget's theory of cognitive development. For Riegel (1979), dialectical operations are a post-formal type of reasoning that reflects adult, mature thought. Dialectical thinking deals with the contradictions of the objective world, and the contradictory character of the process of its reflection.

The concept of dialectical schemata proposed by Basseches (1980) is another empirical study of dialectical reasoning. According to Basseches (1980), dialectic thinking can be considered a developmental transformation that "*occurs via constitutive and interactive relationships*" (Basseches, 2005, p. 50). Basseches offers a formal classification of different types of dialectical schemata. However, a content-free way of conceptualizing dialectics in terms of formal logic cannot deal with the conflicts and contradictions of the real world.

For Riegel (1979), development occurs through an interaction between the environment and the organism, as well as between the individual and the social. He focuses mainly on the impact of sociohistorical conditions such as education, health care, communication, and so forth, on personality development. The Riegelian tradition in developmental psychology has been criticized for the examination of social contexts as something external, imposed upon concrete subjects. What has been ignored is how people living in a concrete environment or societal context can construct and reconstruct it (Engeström, 2015).

It is worth noting that in "Theses on Feuerbach," Marx (2010) criticized all earlier forms of materialism that look at reality only in the form of an object of contemplation, ignoring sensuous human activity and practice. Marx's criticism of mechanistic materialism from the perspective of materialistic dialectics is important for conceptualizing crucial questions

about human development. But Riegel distinguishes his project of dialectical psychology from Marx's materialistic dialectic, with its emphasis on activity and labor. For Riegel, dialectics should be beyond the materialism–idealism distinction, as well as the mechanist and mentalist orientations, of the history of science. In this respect, it is worth noting that there is a strong tendency to identify materialism with mechanistic materialism in North Atlantic academy.

For Tolman, it is important to bring materialism and dialectics together. Materialism is important, but not enough to provide a sophisticated explanation of the structure and development of psychological processes:

the usual spontaneous, naive, and mechanistic forms of materialism cannot produce a satisfactorily coherent theory of psychological processes. A dialectical analysis of its categories, however, provides the breakthrough needed for such a possibility. (1990, p. 48)

The lack of understanding of dialectics in the field of psychology leads to the reproduction of mechanistic, reductionist views on mental functioning. Demonstrating the shortcomings of reductionist and mechanistic accounts of memory, Kvale (1975) argued that dialectics, with its emphasis on wholeness and contradictions, can shed light on remembering and forgetting as the results of a subject's activity in a wider social and historical context. Remembering and forgetting were examined by Frederic Bartlett as an everyday social practice. An individual life story is internally connected with a group story, situated in the broader context of social history. For Bartlett (1995), "the organised group functions in a unique and unitary manner in determining and directing the mental lives of its individual members" (p. 300).

Challenging Descartes' dictum "cogito, ergo sum," Bolis and Schilbach propose the dialectical imperative "I interact, therefore I am" (2018, p. 521). However, to avoid misunderstanding, it is important to clarify that societal relations cannot be reduced to interactions between individuals. Market interactions between individuals are based on an atomistic–individualistic conception of social life. Challenging atomistic individualism, materialist dialectics focuses on the mutual constitution of society and individual. The relationship between individual and society must be examined through the prism of the interdependence between the parts and the whole that are mutually constituting each other. The existence of individuals is a necessary condition for the development of society as a whole. However, society as a whole is not identical to a sum of individuals. Moreover, the relation between individual and society is not static, but historical and dynamic. A dialectical approach would ask why the conceptual opposition between individual and society arose in history. By bringing together the social and the individual, dialectics allow for the conceptualization of a complex developmental continuum. The view from a broader historical perspective is a crucial moment of dialectical thinking. More precisely, dialectics deal with processes rather than static and homogenous things. Dialectical thinking highlights the complex interplay between continuity and discontinuity, flux and stability, reproduction and transformation (Kousholt & Thomsen, 2013).

As I have already mentioned, the unity and struggle of opposites constitute the core of dialectics. However, it is important to clarify that dialectics cannot be reduced to reconciling oppositions. A formalist reconciliation and union of opposites are very far

from a dialectical way of thinking. The idea of reconciling and unifying opposites is connected with a theory of balance. Riegel examines contradiction as “a disruption, accident, or disturbance” (Tolman, 1981, p. 47). From a dialectical perspective, contradiction is an objective, necessary internal relation of a thing, the moving force of its development. The idea that opposing sides must be brought into harmony is a typical, widespread misunderstanding of this contradiction. Stressing harmony, union, and the reconciliation of opposites sides is a metaphysical view based on the underestimation of the crucial role difference plays in developmental processes. The dynamic and mediating relationship between identity and difference has been lost in several conceptualizations of dialectics.

Dialectical thinking is not limited to a critical reflection of the heterogeneity of existing things, but allows for the conceptualization of the process of their radical change. By refocusing on ongoing processes rather than static things, dialectics demonstrate that what is impossible today may become possible in the future. The anticipation of the future is a crucial dimension of a fundamental transition in the epistemology of scientific research: “The transition of the basic epistemology of science from explaining what has happened (Past to Present) to what could, should, and might happen (Present to Future focus)” (Valsiner et al., 2015, p. xviii).

One of the most important traditions of the understanding of dialectics and its application in psychology was formed in German and Danish critical psychology. The works of Wolfgang Fritz Haug, inspired by Karl Marx, had a great influence on the development of a dialectical perspective in critical psychology in Germany and Denmark. Challenging positivist research methodology in psychology, Holzkamp (2013) and his colleagues use the functional–historical method for a reconstruction of the psyche. They propose that human subjectivity has a complex configuration and it should be examined as the result of a long historical process that includes contradictions and qualitative transitions. Moreover, “in view of the complexity and contradictoriness of societal conditions and their interpretations, individuals are able to determine their own decisions and actions” (Osterkamp & Schraube, 2013, p. 6).

Kousholt and Thomsen (2013) propose to distinguish three main characteristics of dialectics in critical psychology: the mutual constitution between subject and society, the relationship between reproduction and transformation, and internal conflict as a source of development. Axel’s (2002) notion of conflictual co-operation and Kousholt’s conception of the family as a conflictual community (Kousholt & Thomsen, 2013) attempt to apply a dialectical account in practice from a critical psychological viewpoint.

Practice research expresses the attempt of many critical psychologists to work with the dialectically oriented connection between theory and practice and to open new paths to promote social transformation (Kousholt & Thomsen, 2013). By focusing on social, historical practice, practice research problematizes the individualistic orientation of mainstream psychology. It provides a consistent resource for resistance to individualism as the dominant way of living and thinking in bourgeois society. From the perspective of practice research, human beings are “conscious participants in cooperative creation and transformation of life conditions and thereby of themselves” (Nissen, 2000, p. 153) rather than isolated individuals passively contemplating the world. Moreover, research as a process of production of knowledge is recontextualized and transformed in various

forms of situated practices (research practices as well as in other practices). Dialectics aim to transcend dualisms and dichotomies such as individual/social, theory/practice, and so forth, showing the continuum and complexity of human development (Kousholt & Thomsen, 2013). The dialectical emphasis on exploration of contradictions offers the opportunity to conceptualize the dynamic, mediating relationship between opposite sides and grasp the complex configuration of human subjectivity.

Conclusions

Psychology won the *battle* for independence from metaphysics in the late 19th century but lost the *war* with it in the 20th century due to the uncritical acceptance of a set of metaphysical assumptions: an ahistorical view on psychological functioning, ontological and epistemological dualisms, the atomization and fragmentation of the human mind, and abstract individualism. The historical movement of psychological theory is itself contradictory since it is reflecting a contradictory social reality. In other words, the antinomies, breakdowns, and contradictions of psychology as a “problematic discipline” (Woodward & Ash, 1982) are expressions of the internal contradictions of a problematic social world. “The latter must, therefore, in itself be both understood in its contradiction and revolutionized in practice” (Marx, 2010, p. 4).

Challenging the reductionist ontology of positivist psychology and the metaphysical gap between the general and the particular, dialectics demonstrate their dynamic interrelation. Dialectics allow for the study of complex and developmental processes beyond the description of isolated and stable things. Dialectics provide a new perspective to move beyond the dualism and dichotomies in which psychology has been trapped, and conceptualize complex and dynamic psychological phenomena over historical time. By highlighting internal contradictions and the self-movement of historically developing systems, dialectics may enrich theoretical work in psychology and offer creative insight into the complexity and dynamic nature of human development.

Various ways of understanding dialectics and its application in psychology have been formed. Hegelian and Marxist materialist dialectics have inspired various scholars and practitioners to develop original conceptions in the field of psychology (Davydov, 1988; Holzkamp, 2013; Riegel, 1979; Vygotsky, 1997b). It is possible to detect at least three main traditions of the understanding and implementation of dialectics in the domain of psychology. The first tradition stems from Vygotsky’s cultural–historical theory and activity theory, and further attempts to bridge and develop them. Riegel’s dialectical psychology in the domain of developmental psychology is the second tradition. German and Danish critical psychology is the third important tradition.

There are difficulties in the development of a dialectical perspective in psychology. Several attempts at applying dialectics in psychology are “partial, unclear, and inconsistent” (Tolman, 1981, p. 34). Serious difficulties encountered in attempting to apply dialectics in psychology include the misunderstanding of dialectics, their formalization, and the tendency to use isolated dialectical insights and not a system of interrelated concepts. The lack of knowledge of the history of dialectics is a major difficulty in addressing and resolving this crucial problem. Moreover, the problem consists not only in applying dialectics in psychology, but mainly in *developing* dialectical thinking in the context of a

systematic examination of psychology: as a discipline, in its subject matter, its research methodology, and its conceptual system. The misunderstanding of dialectics reflects the real difficulties confronting its exploration, implementation, and development in the field of psychology.

In conclusion, the problems associated with the dominant metaphysical outlook in psychology, with its ahistoricism, reductionism, and elementalism, have provoked the rise of interest in dialectics. The dialectical way of thinking in psychology opens a wide range of possibilities for the understanding of human development in terms of drama and participating in transformative practice. The fundamental issue of transformative practice cannot be resolved if we remain trapped within psychology as a discipline as it is given. A dialectical perspective may shed light on dramatic conflicts and crises of psychology as a “problematic discipline” (Woodward & Ash, 1982) but also enable us to imagine possible ways to move forward regarding the fundamental theoretical, methodological, and practical transformation of psychology as urgent societal challenges are confronted.

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References

- Adorno, T. (1967). Sociology and psychology (part I). *New Left Review*, 46, 67–80. <https://new-leftreview.org/issues/I46/articles/theodor-adorno-sociology-and-psychology-part-i>
- American Psychological Association. (2019). Psychology. *APA dictionary of psychology*. <https://dictionary.apa.org/psychology>
- Ando, T. (1974). *Metaphysics. A critical survey of its meanings*. Martinus Nijhoff.
- Aristotle. (1991). *Metaphysics*. In J. Barnes (Ed.), *Complete works* (pp. 2–217). Princeton University Press. (Original work published ca. 350 B.C.E.)
- Axel, E. (2002). *Regulation as productive tool use: Participatory observation in the control room of a district heating system*. Roskilde University Press.
- Bartlett, F. (1995). *Remembering: A study in experimental and social psychology*. Cambridge University Press.
- Basseches, M. (1980). Dialectical schematas: A framework for the empirical study of the development of dialectical thinking. *Human Development*, 23(6), 400–442. <https://doi.org/10.1159/000272600>
- Basseches, M. (2005). The development of dialectical thinking as an approach to integration. *Integral Review*, 1, 47–63.
- Bolis, D., Balsters, J., Wenderoth, N., Becchio, C., & Schilbach, L. (2017). Beyond autism: Introducing the dialectical misattunement hypothesis and a Bayesian account of intersubjectivity. *Psychopathology*, 50(6), 355–372. <https://doi.org/10.1159/000484353>
- Bolis, D., & Schilbach, L. (2018). “I interact therefore I am”: The self as a historical product of dialectical attunement. *Topoi*, 39, 521–534. <https://doi.org/10.1007/s11245-018-9574-0>
- Buss, A. R. (1976). Development of dialectics and development of humanistic psychology. *Human Development*, 19, 248–260. <https://doi.org/10.1159/000271532>

- Carnap, R. (1959). The elimination of metaphysics through logical analysis of language. In A. Ayer (Ed.), *Logical positivism* (pp. 60–81). Free Press.
- Dafermos, M. (2015). Reflection on the relationship between cultural-historical theory and dialectics. *Psychological Science & Education*, 20(3), 16–24. <https://doi.org/10.17759/pse.2015200303>
- Dafermos, M. (2018). *Rethinking cultural-historical theory: A dialectical perspective to Vygotsky*. Springer.
- Danziger, K. (2003). *Prospects of a historical psychology*. <http://www.kurtdanziger.com/Paper%2011.pdf>
- Danziger, K. (2010). *Problematic encounter: Talks on psychology and history*. <http://www.kurtdanziger.com/Problematic%20Encounter3.pdf>
- Davydov, V. V. (1988). The concept of theoretical generalization and problems of educational psychology. *Studies in Soviet Thought*, 36, 169–202. <https://doi.org/10.1007/BF01043781>
- Davydov, V. V. (1990). The place of the category of activity in modern theoretical psychology. In V. P. Lektorsky (Ed.), *Activity: The theory, methodology, and problems* (pp. 75–82). Paul M. Deutsch Press.
- Davydov, V. V. (1996). *Teorija razvivajuscego obucenija* [Theory of developmental education]. Intor.
- DeRobertis, E. (2005). Metaphysics and psychology: A problem of the personal. *Journal of Theoretical and Philosophical Psychology*, 25(2), 101–119. <https://doi.org/10.1037/h0091261>
- Drob, S. L. (2003). Fragmentation in contemporary psychology: A dialectical solution. *The Journal of Humanistic Psychology*, 43(4), 102–123. <https://doi.org/10.1177/0022167803257110>
- Elhammoumi, M. (2006). Is there a Marxist psychology? In P. Sawchuk, N. Duarte, & M. Elhammoumi (Eds.), *Critical perspectives on activity theory: Explorations across education, work and the everyday life* (pp. 2–34). Cambridge University Press.
- Engels, F. (1987). Anti-Dühring. In K. Marx & F. Engels, *Collected works* (Vol. 25, pp. 5–312). Lawrence & Wishart.
- Engeström, Y. (2015). *Learning by expanding: An activity-theoretical approach to developmental research*. Cambridge University Press.
- Gergen, K. (1973). Social psychology as history. *Journal of Personality and Social Psychology*, 26(2), 309–320. <https://doi.org/10.1037/h0034436>
- Greenwood, J. D. (2004). *The disappearance of the social in American social psychology*. Cambridge University Press.
- Harré, R. (1981). *Great scientific experiments*. Phaidon.
- Hegel, G. W. F. (2004). *Phenomenology of spirit* (A. V. Miller, Trans.). Oxford University Press. (Original work published 1807)
- Hegel, G. W. F. (2010). *The science of logic* (G. di Giovanni, Trans.). Cambridge University Press. (Original work published 1816)
- Hibberd, F. J. (2014). The metaphysical basis of process psychology. *Journal of Theoretical and Philosophical Psychology*, 34(3), 161–186. <https://doi.org/10.1037/a0036242>
- Ho, D. Y. F. (2019). *Rewriting psychology: An abyssal science?* Brown Walker Press.
- Holzkamp, K. (2013). *Psychology from the standpoint of the subject: Selected writings of Klaus Holzkamp* (E. Schraube & U. Osterkamp, Eds.). Palgrave Macmillan.
- Ilyenkov, E. B. (1960). *Dialektika abstraktnogo ikonkretnogo v "Kapitale" Marksa* [The dialectics of the abstract and the concrete in Marx's "Capital"]. Academy of Sciences of USSR.
- Ilyenkov, E. (2009). *The ideal in human activity*. Marxists Internet Archive.
- Kaminstein, D. (1987). Toward a dialectical metatheory for psychotherapy. *Journal of Contemporary Psychotherapy*, 17(2), 87–101. <https://doi.org/10.1007/BF00946279>

- Kant, I. (2004). *Prolegomena to any future metaphysics: That will be able to come forward as science with selections from the critique of pure reason* (G. Hatfield, Trans.). Cambridge University Press.
- Kimble, G. A. (1984). Psychology's two cultures. *American Psychologist*, 39, 833–839. <https://doi.org/10.1037/0003-066X.39.8.833>
- Kousholt, K., & Thomsen, R. (2013). Dialectical approaches in recent Danish critical psychology. *Annual Review of Critical Psychology*, 10, 359–389.
- Kuczynski, J.-M. (2012). *Empiricism and the foundations of psychology*. John Benjamins.
- Kvale, S. (1975). Memory and dialectics: Some reflections on Ebbinghaus and Mao Tse-tung. *Human Development*, 18, 205–222. <https://doi.org/10.1159/000271486>
- Leahey, T. H. (2001). *A history of modern psychology* (3rd ed.). Prentice Hall.
- Marx, K. (1975). Contribution to the critique of Hegel's philosophy of law. In K. Marx & F. Engels (Eds.), *Collected works* (Vol. 3, pp. 3–129). Lawrence & Wishart.
- Marx, K. (2010). Theses on Feuerbach. In K. Marx & F. Engels, *Collected works* (Vol. 5, pp. 3–5). Lawrence & Wishart.
- May, R. (1958). The origins and significance of the existential movement in psychology. In R. May, E. Angel, & H. F. Ellenberger (Eds.), *Existence: A new dimension in psychiatry and psychology* (pp. 3–36). Basic Books.
- Nissen, M. (2000). Practice research: Critical psychology in and through practices. *Annual Review of Critical Psychology*, 2, 145–179.
- Nissen, M. (2012). *The subjectivity of participation: Articulating social work practice with youth in Copenhagen*. Palgrave Macmillan.
- Osterkamp, U., & Schraube, E. (2013). Introduction: Klaus Holzkamp and the development of psychology from the standpoint of the subject. In K. Holzkamp, *Psychology from the standpoint of the subject: Selected writings of Klaus Holzkamp* (pp. 1–18). Palgrave Macmillan.
- Patrick, G. (1889). *The fragments of the work of Heraclitus of Ephesus on nature*. N. Murray.
- Pérez-Álvarez, M. (2018). Psychology as a science of subject and comportment, beyond the mind and behavior. *Integrative Psychological and Behavioral Science*, 52(1), 25–51. <https://doi.org/10.1007/s12124-017-9408-4>
- Prigogine, I. (1980). *From being to becoming: Time and complexity in the physical sciences*. W. H. Freeman and Company.
- Rappoport, L. (1986). Renaming the world: On psychology and the decline of positive science. In S. Larsen (Ed.), *Dialectics and ideology in psychology* (pp. 167–195). Ablex.
- Ratner, K. (1997). *Cultural psychology and qualitative methodology: Theoretical and empirical considerations*. Springer Science & Business Media.
- Riegel, K. (1977). The dialectics of time. In N. Datan & H. W. Reese (Eds.), *Life-span developmental psychology: Dialectical perspectives on experimental research* (pp. 3–45). Academic Press.
- Riegel, K. (1979). *Foundations of dialectical psychology*. Academic Press.
- Stetsenko, A. (2010). Standing on the shoulders of giants: A balancing act of dialectically theorizing conceptual understanding on the grounds of Vygotsky's project. In W.-M. Roth (Ed.), *Re/structuring science education: ReUniting psychological and sociological perspectives* (pp. 53–72). Springer.
- Stetsenko, A. (2017). *The transformative mind: Expanding Vygotsky's approach to development and education*. Cambridge University Press.
- Tolman, C. (1981). The metaphysic of relations in Klaus Riegel's "dialectics" of human development. *Human Development*, 24, 33–51. <https://doi.org/10.1159/000272623>
- Tolman, C. (1990). For a materialist psychology. In W. J. Baker, M. E. Hyland, R. van Hezewijk, & S. Terwee (Eds.), *Recent trends in theoretical psychology: Proceedings of the third biennial*

- conference of the International Society for Theoretical Psychology April 17–21, 1989 (Vol. II, pp. 37–50). Springer-Verlag.
- Toulmin, S., & Leary, D. E. (1985). The cult of empiricism in psychology, and beyond. In S. Koch & D. E. Leary (Eds.), *A century of psychology as science* (pp. 594–617). McGraw-Hill.
- Valsiner, J. (2012). Culture in psychology: A renewed encounter of inquisitive minds. In J. Valsiner (Ed.), *The Oxford handbook of culture and psychology* (pp. 3–24). Oxford University Press.
- Valsiner, J., Glăveanu, V., & Gillespie, A. (2015). Editors introduction: Entering into the creative zone, on the border zone between the mundane and the monstrous. In V. Glăveanu, A. Gillespie, & J. Valsiner (Eds.), *Rethinking creativity: Contributions from social and cultural psychology* (pp. xv–xxiii). Routledge.
- Vazjulín, V. A. (1968). *Logika “Kapitala” Karla Marksa* [The logic of Karl Marx’s “Capital”]. MGU.
- Veresov, N. (1999). *Undiscovered Vygotsky*. Peter Lang.
- Veresov, N. (2014). Method, methodology and methodological thinking. In M. Fleer & A. Ridgway (Eds.), *Visual methodologies and digital tools for researching with young children* (pp. 215–228). Springer.
- Veresov, N., & Fleer, M. (2016). Perezhivanie as a theoretical concept for researching young children’s development. *Mind, Culture, and Activity*, 23(4), 325–335. <https://doi.org/10.1080/010749039.2016.1186198>
- Vygotsky, L. S. (1987). *Thinking and speech*. In R. W. Rieber & A. S. Carton (Eds.), *The collected works of L. S. Vygotsky: Problems of general psychology* (Vol. 1, pp. 39–285). Plenum Press.
- Vygotsky, L. S. (1989). Concrete human psychology: An unpublished manuscript by Vygotsky. *Soviet Psychology*, 27(2), 53–77. <https://doi.org/10.2753/RPO1061-0405270253>
- Vygotsky, L. S. (1997a). The historical meaning of the crisis of psychology. In R. Rieber & J. Wolloc (Eds.), *The collected works of L. S. Vygotsky* (Vol. 3, pp. 233–344). Plenum Press.
- Vygotsky, L. S. (1997b). The history and development of higher mental functions. In R. W. Rieber (Ed.), *The collected works of L. S. Vygotsky* (Vol. 4, pp. 1–252). Plenum Press.
- Watson, J. B. (1913). Psychology as the behaviorist views it. *Psychological Review*, 20(2), 158–177. <https://doi.org/10.1037/h0074428>
- White, P. (1993). *Psychological metaphysics*. Routledge.
- Wong, W. C. (2006). Understanding dialectical thinking from a cultural–historical perspective. *Philosophical Psychology*, 19(2), 239–260. <https://doi.org/10.1080/09515080500462420>
- Woodward, W. R., & Ash, M. G. (Eds.). (1982). *The problematic science: Psychology in nineteenth-century thought*. Praeger.

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