

Cultural-Historical Activity Theory and its Contemporary Import: Ideas Emerging in Context and Time

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Alexey N. Leontiev's legacy — as part of cultural-historical activity theory — is discussed as an open-ended, dynamic, and *continuously emerging* system of ideas. The meaning and import of these ideas are becoming transparent in the context of contemporary *conceptual revolution* in psychology. Various trends within this cutting-edge movement have converged on the notion of relationality — in opposition to traditional “substance” metaphysics that posits self-contained, independent entities as the exclusive analytical focus. CHAT is revealed to be a *pioneer* in this conceptual revolution, contributing conceptual advances such as on embodied, situated, distributed, and enacted cognition/mind and on a (non-dual) “natureculture.” In CHAT, human development is an open-ended, dynamic, non-linear, and ever-unfolding, that is, *emergent process* with no preprogrammed blueprints. This process is composed of embodied bi-directional interactivities of persons-acting-in-the-world, embedded in fluid contexts — soft assemblages contingent on situational demands and affordances. Moreover, CHAT foregrounds *collective dynamics* of meaningful shared activities extending through history as a unified onto-epistemology of human development and mind. In addition, CHAT also offers, in outlines, steps to move beyond the relational paradigm towards a transformative worldview premised on the notion of a simultaneous persons-and-the-world co-realizing.

Keywords: situated; embodied; enacted; mind; cognition; dynamic systems theory; nature-culture; nativism; Vygotsky; Leontiev; Marx

For citation: Stetsenko A. Cultural-Historical Activity Theory and its Contemporary Import: Ideas Emerging in Context and Time. *Kul'turno-istoricheskaya psikhologiya* = *Cultural-Historical Psychology*, 2023. Vol. 19, no. 1, pp. 20–29. DOI: <https://doi.org/10.17759/chp.2023190103>

Культурно-историческая теория деятельности и ее современные смысл и значимость: Идеи, растущие в контексте и времени

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В статье анализируется теоретическое наследие А.Н. Леонтьева (как часть культурно-исторической теории деятельности), понимаемое как динамическая, развивающаяся, *живая* система идей. Смысл и значимость этих идей развиваются постепенно становятся яснее в контексте современной концептуальной революции в психологии. Разные направления этого радикального движения сходятся на идее соотносительности (relationality) — в оппозиции к субстанциональной метафизике, которая полагает дискретные элементы единственным уровнем анализа. Показано, что КИТД является пионером этой революции, сделавшим ряд важных открытий относительно телесной воплощенности, ситуационности, распределенности и деятельностного характера познания (ума; mind), а также нон-дуальности “культуроприроды” (“natureculture”), отменяющей постулаты врожденности. В КИТД познание понимается как открытый, динамический, не-линейный и постоянно развивающийся, то есть *эмерджентный*, процесс без каких-либо преднастроек и предзаданных рамок. Познание состо-

ит из непрерывных взаимопереходов между полюсами единой системы — “человек-действующий-в-мире” — встроенной в постоянно меняющиеся контексты, то есть как “гибкие сонастройки” (“soft assemblages”), зависимые от ситуационных потребностей и возможностей. Более того, КИТД полагает коллективную динамичность осмысленной совместной деятельности в ее историческом развитии в качестве единой онто-эпистемологии развития и познания. В дополнение к этому, КИТД намечает, в набросках, выход за пределы парадигмы соотносительности в направлении *трансформационного образа мира* (или мировоззрения; *transformative worldview*), основанного на идее симультанности и недихотомичности процесса *со-реализации человека-и-мира*.

Ключевые слова: ситуативный; телесный; энактивный; познание; разум; динамический; природа-культура; нативизм; Выготский; Леонтьев; Маркс

Для цитаты: Стеценко А. Культурно-историческая теория деятельности и ее современные смысл и значимость: Идеи, растущие в контексте и времени // Культурно-историческая психология. 2023. Том 19. № 1. С. 20–29. DOI: <https://doi.org/10.17759/chp.2023190103>

Introduction

In this article, I discuss Alexey N. Leontiev’s legacy and ideas as their meaning and import are *continuously emerging*, and gradually becoming more transparent and conceptually rich, in the context of contemporary psychology and related fields, especially as regards a number of recent cutting-edge trends and directions. Note that I consider Leontiev’s works to be a continuation of Vygotsky’s cultural-historical theory, as the next step in its development, within what I take to be a unique and essentially unified (though not without some internal contradictions and ruptures) approach — the cultural-historical activity theory (CHAT; see [31]; [45]; [49]; [50]).

My main thesis is that CHAT was actually developed ahead of its time, as indeed a “visitor from the future” [6, p.15] and, accordingly, it is only recently that the conceptual and analytical contexts are emerging wherein its deep implications and full potential can be grasped and truly appreciated though no one final, “correct” interpretation is implied (for methodology of historical analysis, see [45]; [48]). In other words, at the time of its creation, the CHAT authors were developing a truly novel approach and telling a *new story*, against the grain of existing customs and even the language available to tell it in. At the time, theirs was a lonely voice interacting with few interlocutors on a par with their level of work, as yet without a chance for a full acknowledgement of its depths. This especially relates to the import of CHAT’s unique philosophical (metaphysical or world-view level) premises and conceptualizations — namely, those concerned with the very nature of human development; closely associated ideas about human mind and its role and place vis-à-vis the world/reality (ontology) including as pertains to processes of knowledge production (epistemology). These philosophical premises and conceptualizations, in my view, though often left un-explicated, inevitably define all other layers of theorizing — such as specific concepts, theories, and methodologies. However, even if these broad premises remain unarticulated, they still are powerfully present throughout, like the deep oceanic currents which, though buried within the ocean’s depths, define and shape all of its layers and its whole dynamics [34; 38].

There are several trends and directions that became especially pronounced and influential in the past couple of decades, across several disciplines and fields including psychology, that are making the CHAT’s broad import more amenable to understanding, articulation and communication. Indeed, what has taken place in the period since the time of the CHAT’s inception and into today is a remarkable shift — indeed a *conceptual revolution* — that we are currently witnessing (if we follow with the general trends). These trends and directions have converged on the notion of relationality of human development, in opposition to traditional “substance” metaphysics that posits self-contained, independent, discrete entities as the prime, and basically exclusive, focus of analysis. There are diverse roots and many versions of these relational approaches, yet the core focus on *processes and relations* and their uniquely *developmental dynamics*, instead of entities and static forms, unites them at the most basic level. Closely associated is the trend of breaking away from all sorts of Cartesian dualisms — such as that of persons versus the world/context, of mind versus body, and of thinking versus acting/doing.

Remarkably, CHAT can be seen to be a *pioneer in this conceptual revolution*, as this collaborative project clearly championed a de facto relational, process-based approach to human development (without necessarily using these terms), practically among the first voices in psychology. Furthermore, CHAT also can be seen to develop a strong foundation for a non-dualist treatment of the mind, specifically positing it to be a facet of embodied, situated interactivity of shared social practices. In addition and quite critically, CHAT provided unique contributions to this revolution that are still to be absorbed by and acknowledged within its contemporary currents and beyond [33; 37; 38, 39]. These cutting-edge contributions include acknowledging the cultural-historical nature of specifically human developmental dynamics as having to do with collaborative, historically concrete, culturally mediated, and socially distributed practical activities (collective praxis) forming the onto-epistemological foundation of human life and society, essentially lying at the core of all that makes humans human. Moreover, CHAT also opened, in outlines, sev-

eral avenues to move beyond relational paradigms into a transformative worldview premised on the centrality not just of relational processes but rather, those of incessant agentive social transformations carrying these processes always into the future, in a forward temporal motion [35; 38; 43; 44; 45; 46; 47]. In my view, these contributions need to be spelled out, explored to their logical conclusions and implications, as well as further developed — all of this not without critical reflections of CHAT's gaps and internal contradictions (since it cannot and should not be presumed that this theory did not have these).

What is needed to achieve this goal is a nuanced conceptual/metatheoretical approach combining philosophical and historical analysis with that of a psychological one. Such an approach needs to deal with often implicit assumptions and habitual ways of thinking that operate, implicitly for the most part, in extant theories and methodologies — so deeply ingrained and tacitly presupposed that they often go unnoticed. What is needed, also, is an approach that not only champions new ideas but at the same time resolutely rejects the old ones, clearly demarcating the necessary shifts away from them. This task cannot be disregarded, given that (to paraphrase John Maynard Keynes) the real difficulty in changing the course of theorizing lies not in developing new ideas but in *escaping old ones*.

Historical and Analytical Contingencies in the Development of CHAT

(QA: It is offered to put CHAT analysis as a title, otherwise the article is presented only with Introduction and Conclusion)

Any theory of and research into topics of human mind inevitably rest upon specific (though often implicit) grounding metaphysical assumptions about human beings and human nature — that is, about the very type of beings that humans are and how they are situated in the world, necessitating also ideas as to what the world/reality itself is [29; 38]. These metaphysical assumptions are rarely acknowledged in psychology, owing largely to a widely accepted allegiance to experimental, positivist models of science [57]. Before spelling them along with the CHAT's overall import, and how it is presently emerging, it makes sense to consider cultural-historical, political, and analytical circumstances that so far hampered this task.

First, the foundational works in CHAT, especially by Vygotsky, did not represent a clear-cut, fully-fledged, systematic, and therefore also easily discernible, system of principles and categories. There are several, far from random reasons for this, in addition to the most obvious one — that Vygotsky died quite young and did not have a chance (unlike Piaget and Dewey who both lived into a very advanced age) to summarize, explicate and synthesize his ideas in a reflective stance. Indeed, Vygotsky apparently worked at a frantic pace, relentlessly pushing forward with developing his ideas while constantly revising them along the way, without pausing for much of a cumulative synthesis. In addition, the very style of

Vygotsky's writing is not conducive to formalizations and systematizations because conceptual definitions, analytical precision, strict formal-logical argumentation, systematic classification, meticulous attribution of sources, and similar analytics were not among his favored methodological tools. Instead, he often used metaphors and poetry, and a sort of an impressionistic interpretive style of an "intuitive aper u" [6] and intertextuality (later elaborated by Mikhail Bakhtin and Julia Kristeva). Vygotsky made frequent references to diverse scholars, writers, and poets, freely bringing them into dialogues and borrowing from them—all of these a source of much difficulty for adherents of scholastic methods (i.e., those purporting to go "by the letter" and stay close to texts, in imputing that meaning can be derived directly from these texts; for critique, see [48]). The style used by Vygotsky was no mere accident — in fact, it was indicative of Vygotsky's overall approach and method of theorizing, as prioritizing situativity, contingency and profound dialogicality of meaning making, the embedding and centrality of language *use* within cultural contexts, coupled with its dynamic interactivity and ineluctable intersubjectivity, paramount at every step in any language use including conceptual analysis. This method itself is in sync with the cutting-edge trends in psychology and related fields discussed in the next section.

As to Leontiev, his style was more systematic and he did endeavor to summarize and explicate core foundations of his works late in his life. However, his focus was more on conceptual developments *after* Vygotsky, in (understandably) his activity theory and thus, a full synthetic treatment of CHAT, as a composite framework combining insights from activity theory with those from cultural-historical theory, was not achieved.

Second, Vygotsky's works, and those of Leontiev and other core CHAT representatives (especially Davydov), were developed from deep philosophical foundations, especially those that they creatively appropriated from Marx. This by itself presents considerable obstacles to understanding core premises of CHAT by those commentators and scholars, especially in the West, who assimilate certain points from this theory, yet without engaging philosophical ideas at its core (with few exceptions). This philosophy remains scarcely explored since many psychologists and educators lack requisite specialization, access, time and, quite often, motivation — given that this is far from what the mainstream standards are. The philosophies engaged by CHAT founders — especially that of Marx but also Descartes, Spinoza, Kant, Hegel, Husserl, Humboldt, Bergson, among others, are notoriously difficult to understand (being often misrepresented; see [8]), affecting how CHAT works have been understood and applied [34]. This is exacerbated by errors in translating Vygotsky's writings, vicissitudes of his brief career (as already mentioned), and that few researchers have time for a systematic study of its broad corpus of ideas, methodology, history, sociocultural context, and political-ideological ethos.

One additional complication is that Marxist philosophy, in particular, is exemplary complex due to its analytical intricacies coupled with its supremely politi-

cal and highly contested ideological nature. Moreover, Marxism is a uniquely open-ended system of views, itself changing with time and context and allowing for many interpretations and understandings (as well as misunderstandings) — as a sort of a “dissipative structure” (to use Prigogine’s term) that does not have an “essence” but instead, only exists in conjunction with a particular historical time and place.

To illustrate, Marxism existed through its history and till today mostly in a format of continuing clashes and radical disjunctures among its many sharply discordant versions — often in a fierce opposition to each other (likely a sign of this philosophy’s inherent diversity and vitality). Thus, there is arguably neither one “correct” set of applicable Marxist ideas, nor one method of assessing their relevance. Importantly, for political-ideological reasons Marxism became either suppressed in the West (with few Western philosophers specializing in it) or turned into a rigid canon in countries having Marxism as their official ideology. Though exceptions exist and there have been significant developments in both contexts, this philosophy remains one of the most marginalized, contested, and scarcely understood. Till today, it is typically criticized within mainstream philosophy (trickling down into discussions of CHAT) for being mechanistic and economic, or ideologically utopian and teleological. Note that there recently is a growing interest in Marxism all over the world due to the global sociopolitical and economic crisis, coupled with a resurgence of realism and materialism in fields such as sociology and anthropology, leading to its veritable *renaissance*. Existing works applying insights and tools of Marxism to interpreting CHAT (e.g., Engestrom, Jones, Newman & Holzman, Ratner) have been hardly sufficient, for various reasons. This includes that many of them almost exclusively focus on Vygotsky rather than the whole corpus of CHAT and, in addition, they often eschew deeply seated meta-level issues of ontology and epistemology. In CHAT’s own homeland, given complicated attitudes to the Soviet past, and accordingly also to Marxism, philosophical discussions of CHAT predominantly turn to any philosophical legacies *but* Marx, such as Spinoza [e.g., 21].

The third reason for complications in understanding CHAT is that this perspective was developed as a multidisciplinary approach. Indeed, the key works in CHAT were drawing together ideas not only from philosophy, psychology and education but also biology, physiology, ethology, anthropology, neuroscience, and evolutionary theory — all coupled, in a peculiar blend, with those from sociology, ethnography, literary theory, semiotics, linguistics, and cultural studies. Vygotsky and to some extent Leontiev had background and knowledge in all of these disciplines, in the old tradition of an “encyclopedic education”; they also both spoke several languages and were avid followers of developments in psychology and other fields during their time, from all over the world.

Toulmin [53] aptly observed that Vygotsky (this at least partly applies to Leontiev, too) was perhaps the last of *consumptive geniuses*. In the reception of these works, however, scholars typically apply their own disciplinary lens, interpreting CHAT within particular fields such as education, psychology, and studies of literacy, among others. This has led to a certain narrowing of interpretations so that CHAT became assimilated in a somewhat disconnected way, without much of a synthesis across diverse fields of their application, in sharp contrast with the initial CHAT works¹. As a result, many contemporary interpretations of these works present their fragmented (albeit important) aspects — such as cultural mediation or the zone of proximal development — rather than its underlying worldview and philosophy. Just as many other broad theoretical systems, Vygotsky’s theory and CHAT at large are typically interpreted in a piecemeal fashion, after they have been split up. As a result, what has passed for discussions of CHAT was often a series of exchanges in which misconstruals of this theory were met by refutations of each particular misconstrual, whereupon a fresh set of misconstruals took their place (cf. Chapman’s analysis of Piaget’s reception; see [3]). This is not to negate many important breakthroughs and advancements that came out of (or in association with) integrating CHAT’s insights, in works of leading scholars such as Jerome Bruner, Urie Bronfenbrenner, Barbara Rogoff, Michael Cole, and others.

Fourth (as the last but not the least important cause of complications), the years when Vygotsky especially popular in the world — during the 1990s and into the first decade of the 21st century — can be seen as a distinct and rather peculiar historical period. This was the time marked by the “end of history” ethos — a broad sentiment that the time for radical social projects was over and that Marxism, as a philosophy associated with such projects, has outlived its potential. Indeed, whereas through the 1980s the goal of radical social changes was still seen as viable, by the end of that decade the major debates have moved on to focus on multiculturalism and globalization, in sync with changes brought about by postmodernity. As Laclau and Mouffe [16, p. vii] wrote, reflecting on precisely this monumental and quite dramatic shift, “the ‘short twentieth century’ ended at some point in the early 1990s *and the world moved on to a different new order*” — that of a perceived stability and political acquiescence with a supposedly inviolable status quo.

Moreover, not only Marx got sidelined in this “new world order.” Another development of the same period was the climaxing of the “end of theory” attitudes — a pronounced strong suspicion of what was (and still is) perceived to be an old-fashioned “grand” theorizing. Such theorizing was always out of favor with the positivist science; however, what has been added to this by the postmodern scholarship of recent decades, reaching its peak in the 1990s, was that this style of work became

¹ Note that, typically, education at US universities is highly specialized and students of psychology and education at a graduate level often are not exposed to courses in philosophy, sociology, biology (except for neuroscience students), and other disciplines outside of their major specialization, while the bulk of time is taken up by statistics courses.

viewed as totalizing, imposing rigid standards of truth and undermining the politics of diversity — as indeed they often do, albeit especially in the context of the western enlightenment tradition.

Mainstream psychology, unfortunately, has been “ahead” of other fields in staunchly promoting atheoretical, ahistorical, and decontextualized approaches (likely due to the behaviorism “spell” that never left psychology). Accordingly, most mainstream psychologists have been calling to cast aside the big issues such as nature and nurture, continuity and discontinuity, mind and matter. Few voices have sounded alarms on this situation, and to no surprise they included scholars working in Vygotsky’s tradition (e.g., Bruner). Responding to this dominant attitude, a leading scholar of recent years, Esther Thelen, whose own approach was recently described as “a new grand theory” [30], found it imperative to state:

..we need the *big picture*. We need to grapple with *the hard issues at the core of human change*... We must use...bold visions to probe deeply into the mystery and complexities of human development and to articulate general principles that give meaning to so many details. [52, p. 256; emphasis added]

However, against the grain of various contextual-historical contingencies and complications, and of the ever-present dominance of positivist ideals combined with postmodernist influences (on the other pole of the spectrum of views), there is a strong movement in psychology crossing into adjacent fields such as sociology and education — a veritable *conceptual revolution* — creating a context to better understand CHAT and its innovative potential and import. These are the topics addressed in the next section.

**The Current Landscape:
Persisting Problems and New
Developments in a Conceptual Revolution
(QA: It is offered to put CHAT analysis
as a title, otherwise the article is presented
only with Introduction and Conclusion)**

To understand what CHAT is contributing to contemporary psychology, it is imperative to review its present landscape, including its persisting flaws, to then proceed to recent advances that challenge these flaws. It is remarkable that Vygotsky presciently saw the very core of the situation in psychology during his time, in the first decades of the 20th century. Even more to the point, his estimation is as relevant today as it was almost 100 years ago, since the same trends are still continuing. Namely, Vygotsky [54, p. 283] wrote in his last work, *Thinking and Speech* that extant psychological theories have clustered to form two diametrically opposing groups that “oscillate between the poles of pure naturalism and pure spiritualism.”

The presently reigning theories continue exactly along this same dual path. As part of mainstream approaches,

there are three persisting (and partly intersecting) orientations to view the mind and psychological processes. The first one is treating them as either by-products of brain or, in a modification of this same position, as simply epiphenomena directly reducible to brain processes and, thus, in both cases without their own status as objects of investigation (on biological eliminativism, also known as brainism, see [1]). Indeed, practically all of neuroscience research rests on the bedrock assumption of reductionism — the belief that all behavioral, experiential, cognitive, and emotional processes are rooted in neurobiology [32; 38; 39; 40]. In my view, it is especially the 1990s and the first decade of the new millennium that witnessed the unabated march of biologically reductionist views expanding without much resistance — with evolutionary psychology and behavioral genetics, for example, mustering much appeal — while sociocultural approaches entered a state of a (relative) disarray.

The second orientation is to treat the mind as an “internal mental realm,” that is, an original (and as yet quite mysterious) reality *sui generis* “in the head.” This realm of mental processes, further, is viewed as *de facto* autonomous and separated — that is, ontologically different — from the worldly processes and dynamics of material practices, social interactions, embodied interactivities, cultural contingencies, vicissitudes of everyday conduct, behavior, and other “this-worldly” phenomena and processes. The content of the mental takes various forms such as “mental modules” for memory, thinking, attention, language and so on [4]. This inner space or mental “arena” is further posited to be the subject of the “mind’s eye” inspecting images, ideas, and representations passing before it [1; 11] in a disembodied Platonic form.

This is true even when mentalist views are furnished with more contemporary notions of computation drawn from understandings of how computers work. As Narvaez et al. [25, p. 430] recently summarized, “computationalism’s basic refrain has long assumed axiomatic status within many if not most psychological circles: all acts of cognition, even in their most rudimentary form, involve information processing functionally akin to what digital computers do.” Similarly to mentalism and brainism, the computationalist doctrine posits cognitive processes to be located between organism’s sensory inputs and behavioral outputs, essentially drawing a gap between these. Importantly, as Bidell [4] observes, even for philosophers and psychologists who do not subscribe to the idea of a mental substance/theater, the notion of a separate mental realm has persisted as a viable model. Indeed, most mainstream psychologists would protest that they are not Cartesian mind-body dualists, yet in terms of their *de facto* epistemology and methodology they remain committed to exactly this position [7].

A related third tendency is to see all psychological processes as rooted in inborn characteristics and capacities contained in and driven by genetic blueprints and programs. This amounts to no less than “the resurgence of extremist biological determinism laden with mythic gender [and other types of] assumptions” [24, p. 411]. For example, concepts such as *instinctive*, *innate*, and *hard-wired* behavior are popular in psychology across the

board, also polluting much of public discourses. This is by far not an exception — indeed, most major directions in psychology through its history have been mired in nativism. This includes psychoanalytic theory's notions of drives, instincts, and needs primed by inborn blueprints; ethological theory's notion of instinctual patterns; and behaviorism's inborn learning rules.

Critical to all of these trends is that the everyday, the practical, the common — such as the ordinary conduct of life and mundane, daily events of human acting and interacting (e.g., picking up an object; walking, cooking etc.) — are viewed as somehow disenchanting, mechanical, superficial and far removed from anything “mental” presumed to be of a totally different *kind* of a phenomenon. It is one of the major epistemic fallacies of modernity — and indeed of the eurocentric framework overall — that it draws this stark barrier between the everyday activities and the ostensibly higher-order, superior and “privileged” phenomena that supposedly happen “inside the mind.” Costall and Leudar [7, p. 292] put it well:

Modern psychology has taken over from neo-behaviourism an official conception of behaviour which disenchanting behaviour and equates it, instead, with “colourless movement,” ultimately separable from any wider ‘context’ and devoid of inherent meaning and value... Given this dualistic conception of behaviour, the mental could only be relegated to a hidden realm, concealed *behind* behaviour, and related to it in an arbitrary, rather than constitutive, way.

The stubborn persistence of mentalism, brainism, and nativism — and how difficult it is to break their spell — suggests that not merely academic, conceptual issues are at stake; instead, what might lie beneath is the fear of *ethical*-political consequences. Namely, this might be about the dangers of what happens if the mental (the intellectual) is not prioritized over the practical and the everyday such as mundane practices of labor (e.g., Miller [23], draws opposition between intellectual/rational pursuits and garbage collection). Many scholars indeed (to paraphrase Eagleton [10]) — typically privileged and engaged, as they are, in contemplation — are averse to the “unpleasurable” labor and look down at positing it at the center of human life.

Ironically, the study of psychological processes, as legitimate and central to psychology, has also been challenged from sociocultural perspectives in positing discourses, dialogues, interactions and other *collective* processes as the ultimate reality, also de facto wiping out psychological processes. These developments, in my view, throw the baby (the mind) out with the bathwater of individualism, mentalism and brainism. Indeed, excluding processes traditionally associated with individual levels of functioning — as if they were definable only in terms of autonomous, solipsistic processes “inside” the person — is itself a remnant of the dualistic worldview.

To emphasize again, these positions all come out of an investment in a particular philosophy, namely that of the internal and the individual: the mind is something inside

each individual and, typically, is assumed to be pre-given from birth by way of genetic blueprints; it is disconnected from other people, sociocultural contexts, practices, and even from the body of the person who thinks, feels, and acts. Just behind the surface is a valorization of an isolated individual knower, existing essentially as a solo entity, secluded in the Ivory tower of one's own, typically intellectual and self-centered, pursuits withdrawn from everyday realities and practices including collaboration and dialogues with others.

These mainstream approaches — including brainism and eliminative materialism, disembodied mentalism, nativism and computationalism — are currently being challenged on several fronts. Even though emerging critiques are still not well coordinated, one broad line of challenges is represented by what is often termed relational approaches or relational ontologies. This includes Developmental Systems Perspective (DSP), Dynamic Systems Theory (DST), sometimes also termed Developmental Systems Theory [56], developmental contextualism, developmental psychobiological systems view, and relational metatheoretical framework [e.g., 20]. They all capitalize on relations between processes and entities involved in development, implicating the need to study development as it emerges *in relation to and as part of larger dynamic systems* involving individuals and their surrounds, as well as linkages to embodiment. Human beings, as all other organisms, are profoundly dependent upon, enmeshed with, situated in, and connected to their environment. Analyses of organism-in-environment — conceived as an overarching whole composed of relational processes that unfold both organism and the world — substitutes for analyses into separate and independent characteristics of organisms and environments.

As regards *nativism*, given their focus on emergence and change, these perspectives successfully challenge outdated nativist ideas about preexistent designs and genetic blueprints as purportedly explaining development [27; 51]. In a related line, Gottlieb's [12] *probabilistic epigenesis* emphasizes the holistic reciprocity of influences within and between levels of the developmental manifold (genetic activity, neural activity, behavior, and the physical, social, and cultural influences), focusing on the gene-environment coaction in the realization of all phenotypes. A number of innovative approaches to evolutionary psychology have been developed in this vein, promoting a dynamic, enactivist understandings [25]. Importantly, a number of radical positions on processes traditionally termed natural and cultural go beyond seeing these processes as merely interacting to instead dismantle this binary itself and move past the false “interactionist consensus” [see 37; 39; 41; 42].

As regards *mentalism* and *brainism*, in spite of the still reigning Cartesian dualism, newly emerging trends describe the mind as more than a brain artifact or a “mental theater.” The most influential trends today are referred to as 4E cognition — grounding mind and cognition in the body and taking into account their embedding in contexts. Important works such as *The Cambridge Handbook of Situated Cognition* [28] and *The Oxford Handbook of 4E Cognition* [26] reveal a number of distinct,

albeit partly overlapping, approaches — embedded, extended and enactive ones, along with distributed and situated ones.

These approaches reject interiorized, brain-centric notions of mind to instead focus on complex relations among brains, the bodies, and the world. The “extended” approach, in addition, extends the boundaries of what counts as cognition not only beyond the brain but also beyond the body — considering various material artifacts to be constitutive of the mind. Furthermore, proponents of enactivism make important moves to reject the foundational status of computation as grounding cognition [14] and, in addition, focus on action and behavior as constitutive of cognition. Situated and distributed cognition approaches are close in meaning as they, too, explain cognition in terms of relations between people and environments [e.g., 13; 17]. From this perspective, knowing is a dynamic process distributed across the knower, that which is known, the environments in which knowing occurs, and the activity through which the person participates in environments.

The overall message from these cutting-edge perspectives — especially, those that focus on individuals’ *active involvement* in the world (e.g., [15], [51]; summarized in [1]) — is that the mind does not reside in the head, but has to do with functional relations distributed across persons and the environment, constituted by the dynamics of organisms acting in real time, engaged with worldly contexts’ affordances and tasks [9]. The mind is necessarily embedded in current activity and, thus, is never a property of the organism independent of the immediacy of the here-and-now; it is “the momentary *product* of a dynamic system, not a dissociable cause of action...always in the service of a task” [52, p. 303].

**CHAT as the Next Step in the Current
Conceptual Revolution
(QA: It is offered to put CHAT analysis
as a title, otherwise the article is presented
only with Introduction and Conclusion)**

The relational and 4E approaches bring across many extraordinarily important concepts and ideas. However, all their importance notwithstanding, many conundrums persist. This includes the need to articulate their ontological framework to allow for a coherent integration rather than an amalgamation that brings with it a “conceptual obfuscation” [56, p. 147]. Moreover, that the sources of development could be assigned to both nature and nurture, rather than to one or the other exclusively; that developmental resides not in one component of the whole, such as a genetic makeup, but in the interaction of all participating components; that endogenous and exogenous influences interact in numerous ways; that the mind is extended and enacted — these statements still need to be radically pushed to move beyond traditional ways of thinking. In particular, still missing is the attention to historically situated and culturally mediated developmental dynamics of embodied acting by people not simply as organisms but as *members of human communi-*

ties, who fundamentally depend on others for their very existence and, importantly, who live not simply in environments but in social, shared worlds composed of human collective practices evolving through history [38].

What is brought to the fore in CHAT is exactly the *collective dynamics* of meaningful shared activities extending through history — as a unified, ongoing, and continuous praxis — forming the onto-epistemological core of human development including that of the mind. This is about understanding, in Vygotsky’s words, that “the process of mental development in humans is part of the total process of the historical development of humanity” [55, p. 39]. It is here that a continuity with Marx’s core ideas becomes apparent, with CHAT taking on the very gist of this philosophy. Thus, the development and the “doings” of the mind are indelibly colored by what the persons *qua social agents of collaborative practices* are striving for in their situated pursuits and life agendas out in *the social world shared with others*. That is, the core idea (though not explicated by CHAT founders in all detail) is that the mind’s development can be captured by positing a *unified dynamics* of human collaborative practices/activities as their core ontological foundation.

Based on this assumption, the traditional dichotomies such as those of mind versus body, ideality versus materiality, subject versus object, knowing versus doing are transcended by focusing on the *inherent dynamics* of social practices and their *emergent transformations* as a unique and indivisible (though not homogenous) realm that gives rise to human development and mind. Any and all capacities including psychological processes emerge not merely *within* but, more importantly, *out* of social practical relationships between people and their world, with both poles of this process being *assembled* (or constructed) in the course of their development. Situated at the *intersection* of people and the world, both poles are not only fully permeable and integrated through their relations but also, and most importantly, co-constituted and *brought into existence* within and through these relational processes of historical praxis, rather than them being self-standing, discrete (if even interacting), entities.

Thus, the most critical advance by CHAT is that, ontologically, the mind is understood to be constructed from the same “fabric” as all other cultural practices and activities — that is, from the “fabric” of collaborative (shared), purposeful activities and as a particular *type of such activities*. The faculties of the mind come about as human acting undergoes complex processes of development associated with the growing sophistication of interactions having to do with the use of ever more complex meditational means — culminating in unique *ways of acting* characteristic of human mind based in the use of language and other symbolic means. Importantly, these changes take place within an *ontologically seamless process* — albeit not without fractures, conflicts, and contradictions — of *activity itself* expansively developing and growing in complexity (i.e., becoming more interactively coordinated, structured, and organized). That is, development of the mind is conceptualized as the gradual transformation of socially shared, culturally mediated, fully embodied, and contextually situated activities into

the so called psychological (“internalized” or mental) processes *without positing any ontological breaks* between internal and external, individual and collective, practical and mental types of processes [2].

The mind in this non-discrete and non-dualist, dynamic and emergent account is neither a purely neuronal process inside the brain, nor a shadowy realm of mental representations in some mysterious inner depths “inside the head.” Instead, the mind is an *instantiation of this-worldly activities* by embodied intentional agents — acting together within complex matrices of social practices, bound to the materiality of these practices’ structuration and temporality including their cultural conventions and cultural tools (meditational means) as instruments of symbolization and interaction (Arievitch provides a detailed discussion, connecting to P.Ya. Galperin’s works, see [1], [2]). In this account, the myths about the mind as a by-product of brain processes or a separate reality of internal representations, existing on their own and developing according to some idiosyncratic rules, is emphatically rejected. However, the developmental approach, at the same time, reveals how continuously emerging forms of cultural mediation and social interaction, and the respective *seamless developmental transitions across activity levels*, engender increasingly sophisticated processes that have been traditionally associated with a somehow separate “mental realm” [1; 2]. This account opens doors to understand phenomena of perception, memory, thinking and the like without any mentalist, individualist, solipsistic connotations. All of them are rendered to be forms of activity — whereby the mind/cognition is not something that we *have*, or something that *happens* “within” us but instead, something that we *do* and, moreover, do as agents of *collective practices of world-making*.

Moreover, in a significant advance over relational approaches, CHAT offers, in outlines, a way to more resolutely transcend the polarity between biology and culture, genes and environment, nature and nurture. In clearly identifying development *not* with the relations of genes (and other characteristics of organisms per se) and environments but, instead, with the specifically human ways of people interacting with the world — the collective, shared, historically situated and culturally embedded activities — CHAT is ahead of the recent advances in psychology. For example, Leontiev’s critique of nativism, including two-factorial models of development, still stands out as a cutting-edge account.

An additional advance offered by CHAT, briefly, has to do with it making preliminary steps in transitioning towards a transformative worldview — an even more radical approach with many socio-political entailments and implications, as discussed in my works on transformative activist stance (TAS; summarized in e.g., [38], [46]). The core effort in these works is to capitalize on human transformative agency in ways that do not exclude it from material dimensions of the world in its full historicity. In my elaboration, this implicates understanding the world to be composed, in its ethical onto-epistemology, of collaborative practices extending through history and transcending the status quo, as the “world-historical activity”

[22, p. 163]. Critically, each human being makes unique contributions to this collective activity (or praxis), inevitably changing its dynamic, and comes into being via mattering in it, thus co-realizing both the world and oneself, in a mutual spiral of a world- and self-creation, as *one process (duo in uno)*. That is, reality is understood in its unfolding and open-ended, dynamic historicity where the present is a continuously emergent process tied not only to previous conditions (as highlighted by many in CHAT) but also, most critically, to future ones as these are envisioned, committed to, and acted upon by people qua social actors of human collaborative practices and their collective history. The challenge addressed in this approach is to stay on the grounds of materiality and collectivity as primary in engendering human development; yet, at the same time, to view human agency and mind (in their individual and collective forms, as a *collectivoid-ual* process, see [36]) as co-implicated and instrumental in social practices in their status of agentive/activist interventions in the course of collective history in its productive materiality.

Concluding Remarks

In the context of a contemporary conceptual revolution in psychology, the import and radical implications of CHAT are becoming increasingly clear and significant. They are emerging and growing, in the present and on a trajectory into the future, as if they are alive, rather than some dead remnants of the past. The voices of Lev Vygotsky and Alexey Leontiev, hopefully, can now find more resonance and acknowledgement within the international community of scholars interested in novel approaches to human development and the mind. This observation brings the radical message about the mind — as historically specific, contextually situated, practically relevant, and endowed with meaning in contexts of its use and application — to bear on our understanding of knowledge and ideas including theories as, indeed, *dissipative structures* open to change and growth and highly contingent on context.

Given CHAT’s resonance with cutting-edge advances in contemporary psychology, including in DSP, DST and 4E cognition approaches, its meaning and import are revealed with more clarity — as indeed the voice from the future. In CHAT, human development is an open-ended, dynamic, non-linear, and ever-unfolding, that is, *emergent process* with no preprogrammed rules or blueprints and highly contingent on context. Moreover, this process is composed of embodied bi-directional interactivities of persons-acting-in-the-world embedded in fluid contexts — that is, softly assembled and contingent on particular situational demands and affordances. These demands and affordances are themselves fluid, soft-assembled, and ever-emerging as but another pole on the same continuum of embodied interactivities.

Thus, from CHAT’s perspective, all forms of knowledge and other products of the mind can be seen as *practical acts* in the world made of the same “fabric” as all other social practices and serving as an important step in

carrying them out. That is, knowledge has its grounding, mode of existence, and ultimate *raison d'être* in its practical-ethical relevance within ever-emerging collaborative practices and projects. In this sense, knowledge is an alive, generative, and deeply historical process, both social and personal at once, imbued with human values, ethics, and politics, wherein the past, present, and future are interlinked and mutually arising [45; 49].

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Получена 17.02.2023

Принята в печать 21.03.2023

Received 17.02.2023

Accepted 21.03.2023