The Cultural–Historical Activity Theory

Some Aspects of Development

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The cultural–historical activity theory (CHAT) is a relatively young theory, but nevertheless it has its history already. Created in the twenties and thirties of the last century in Russia by some psychologists and further developed by their numerous collaborators and students, it became internationally known over several decades – a process that is still going on today. Especially, beginning in the eighties, more and more philosophers, sociologists, psychologists, pedagogues, and others in a growing number of countries became interested in this theory and began to study, to use, and to develop it even further. So, today, we may speak of an inter-disciplinary and international activity-theoretical movement as it presents itself in publications, congresses and conferences, workshops, and unpublished discussions, etc. A look at the development of this theory may serve for a deeper understanding of its fundamentals and potentials. It is the aim of this chapter to make a contribution to the theory by studying its historical development. Of course, in one chapter, it is impossible to show this history in detail. Perhaps, the chapter may stimulate colleagues to describe other aspects of this development and thus promote the theoretical discussion.

First, I give a short description of what is meant by CHAT today. After that, I look back to the beginnings and to the process initiated by the founders of CHAT. Finally, I try to discriminate three stages of this development and argue for the necessity of further development as its fourth stage.

CONTENT AND POSITION OF ACTIVITY THEORY

Activity theory was developed within cultural–historical theory and became its constituent as its methodological basis having principal significance for all human sciences, not only for psychology, in the framework of which it was elaborated based on philosophical positions of classical German idealism further developed by Marx in a materialist sense.
To understand human life and development and to create conditions for their improvement, it is necessary to understand them as activity interpreted as the basic form of human existence, as human-world-interaction. Elsewhere, I wrote:

People as societal beings exist as they themselves create and re-create the conditions of their own life. They do not only accommodate themselves to the surrounding world, but they also actively change it to a certain degree (and an ever-growing one in the course of history). Activity is the fundamental, specifically human form of relationships between human beings and the world, the content of which is the goal-oriented modification and transformation of the world on the basis of culture as it is appropriated and further developed by people (Yudin, 1978: 268). Human interaction with the world is necessarily mediated by objects, methods, norms, values, and other aspects of culture that are produced by human beings. Thus, this interaction is mediated by the historically developing culture, by the experience and knowledge of previous generations, by the manifold relationships between people. It is through these active transformations that people come to reveal and reflect on the conditions and regularities in nature and social life. The knowledge gained in the process of these transformations is the critical precondition for human beings to be able to continuously form new goals of activity and put them into practice. In this historical process, humans gradually become aware and conscious of themselves, of their position in the world, of their potentialities and conditions as subjects of activity. (Lompscher, 2002: 80)

This interpretation concerns both the human society as a whole, individuals, and their groups. Of course, as a starting point for analyses, it is, as yet, still very abstract. The following seven aspects may serve as a first step of concretisation. First, activity is a unity of subject–object (person–world) and subject–subject (person–person) relations. There is no activity without an object that serves as the main source of motives and goals and no activity without a subject interacting with other subjects. As a rule, activity is joint activity transforming its object in this or that respect. Second, activity exists in two basic forms mutually conditioning and penetrating each other: material and mental activity. Third, activity is characterized by fundamental features, such as transformation, cognition, communication, value orientation, and development. Fourth, activity has a macrostructure consisting of subjects interacting with objects (and each other), executing certain actions and operations under concrete conditions, using certain means in order to put into practice their goals and satisfy their needs and motives, resulting in objective and subjective changes (transformations). Fifth, activity may be subdivided into several general activity classes based on the diversity of objects, means, conditions, etc. Sixth, activity exists in the form of several kinds of activity, the most important ones being physical reproduction, play, learning, communication, political activity, and work. And finally, seven, these aspects name directions of further analysis (see Lompscher, 2002).
Affirming activity theory and trying to apply it in this or that field today means, first of all,

- to understand and approach a human situation as activity, that is, as process and system: to analyze, model, and change its components (at first, may be, as an attempt) under the aspects of a theoretical or practical goal – the (mostly collective) subject, the object, and its transformation (being at the beginning, may be, not very clear) into a new result or product, the potential means and rules, the division of labor or functions, and the community in the frame of which all this is going on, aiming at finding out the interrelations between these components and opportunities for a solution;
- to analyze the activity under study and transformation in its dependencies and interrelations with other activities or activity systems and to be aware of its socio-cultural and historical embeddedness;
- to look at activity systems under study and transformation as development, that means to include their history into the study and determine their zones of proximal development;
- to reveal the basic contradictions and seek ways for overcoming and solving them (and thus producing new ones); and
- to look at transformation both as a method of analysis and as a value in its own right and act correspondingly, that means not to restrict ourselves to description and interpretation (which is necessary as well), but to stimulate and advance transformations permitting the revelation of inner connections within the corresponding activity systems and their potentials for development and to put them into practice serving the interests of people.

Activity theory has developed from the first ideas and statements to a – more or less – elaborated real theory. From the very beginning, central problems of psychology (and much beyond its boundaries) – such as essence and structure of human consciousness, polyfunctionality and systemic character of psyche, unity and interrelation of individual and social, of thinking and speech, development and education, scientific and everyday concepts – were raised and ways for their solution were shown, problems that for the “ordinary” science became essential (partially) only decades later.

In the next section, I try to describe the beginnings of this development in a brief overview.

**VYGOTSKY, LEONTYEV, AND LURIA: THE FOUNDERS**

When Vygotsky sought a way out of the crisis of psychology in the middle and second half of the twenties, one of the cornerstones in his theoretical and practical work was the orientation toward activity. As Davydov (1996: 497) indicated, at that time, Vygotsky could not have an elaborated theory of
activity, but he had a historico-sociological concept of activity as it was elaborated by Hegel, Marx, and others. For example, Vygotsky’s view on psychic development as going on in interaction and cooperation with others, in social situations of development, as transition from inter-psychic to intrapsychic processes, and his idea about zones of proximal development and their transition into zones of actual performance by cooperation, support, help, and/or modeling would be impossible without this type of historico-sociological concept of human activity. It became the starting point of the elaboration of activity theory by Leontyev and others for which Vygotsky created important theoretical prerequisites. As seen by Davydov (1996: 500–501), Vygotsky’s contributions consisted in the orientation toward the joint work mediated by means as the key for the analysis of psyche (mediation of psychic processes by signs and meanings instead of an immediate connection between stimulus and reaction). It also consisted of the discovery of different genetic roots of action and speech and their uniting as the basic prerequisite for human consciousness. Furthermore, it involved the discovery of word meaning as unit of analysis, which made the relation of consciousness and activity accessible. And finally, it stressed the fact that behind the psyche is the human life, which meant the real human activity (for which the correct name was at that time still absent).

These theoretical ideas became the foundation of Vygotsky’s practical work with handicapped children, of his engagement in socio-political activity and, especially, of his empirical research, where he concentrated on the problem of consciousness, and its substance, structure, and development as published posthumously in 1934 in his famous book Thinking and Speech (translated into English in several versions, the first one in 1962 in a very abbreviated form). In this process of scientific research and work he, so to say, forgot or neglected his theoretical starting point: human activity. He tried to find access to consciousness via speech, word meaning, its generalization, and so on. But in the same period (the early thirties) he began to study the problem of human emotionality (his unfinished book of 1933 was first completely published in 1984), which could bring him again to activity “from another side” via motivation. But early death from tuberculosis (in the thirty-eighth year of life), which had for many years forced him to hurry his work, finally stopped its movement.

Without any doubt, Vygotsky was an outstanding thinker (often named a genius), but he was not alone. Leontyev and Luria joined him very soon after he began to work in Moscow, and they formed together the famous troika, which then became a vosmyorka: five young people (Zaporozhets, Bozhovich, Slavina, Morozova, and Levina) became their collaborators and, with time, well-known scientists in their own right, making substantial contributions to the elaboration of CHAT. The troika and then the vosmyorka worked very closely: Everyone participated in the elaboration of new ideas. So, for example, in the late twenties, Luria made important empirical and theoretical
contributions to the new cultural–historical developmental theory (see Lompscher, 1994). It is well known that he became one of the founders of neuropsychology and that his research had important significance for the further cultural–historical analysis of such problems as memory, speech, and consciousness, and the psychological functioning of normal and handicapped children, etc.

Further important contributions to cultural–historical theory were made by Leontyev, especially with his investigation of the development of memory published in 1931. When he had the impression that Vygotsky left their joint materialist position that the human psyche can be revealed only through the analysis of activity, he placed it at the center of his own scientific work. He formed a new research group in Kharkov and began to elaborate the problem of activity systematically – a work he continued over decades, the main result of which was his famous book Activity, Consciousness and Personality (1978).

In 1932, on the eve of his departure for Kharkov he wrote a dramatic letter to Vygotsky (which was found only recently; see Leontyev and Leontyev, 2003) in which he described the critical situation of the troika caused by a massive unqualified “critique” of so-called (undialectic, mechanistic) “Marxists” (Vygodskaja and Lifanova, 1996, showed some examples) and its own theoretical difficulties. Leontyev requested that Vygotsky return to joint work and struggle based on the positions elaborated together to that point. Leontyev began new cycles of investigations aimed at the analysis of human activity and its role for psychic development and functioning. Vygotsky continued his work (see previous discussion). No response to Leontyev’s letter was ever found. But in the spring of 1934, some months before his death, Vygotsky included Leontyev together with other colleagues in his proposals for a new research institution. Leontyev returned to Moscow and began the work Vygotsky had planned.

THE ACTIVITY THEORY: THREE STAGES OF DEVELOPMENT

It may seem (and several authors see it this way) that Vygotsky and Leontyev mean two different stages in CHAT’s development. However, I don’t think so. Leontyev and his disciples very soon understood that they elaborated the fundamental theoretical principles laid out by Vygotsky. They continued the work that they understood as continuing in the Vygotskian tradition. Leontyev himself stressed this several times (e.g., Leontyev, 1994; see also A. A. Leontyev, 2001a: 134–138). The speculation about a “breakage” between Vygotsky and Leontyev (upon the discovery of the letter), about Leontyev’s “betrayal” of Vygotsky, and the like appear to be without foundation. Moreover, a postcard written by Vygotsky in 1933 or so with greetings to Leontyev (found in the archive) disproved such speculations as well. Vygotsky stayed in Kharkov several times in this period and observed the
work of Leontyev and his colleagues. Obviously, the communication between the two scientists and their groups was never interrupted, despite disagreements concerning the principal way to continue their work.

Leontyev, of course, went his way for several decades together with Vygotsky’s and his own collaborators and students before passing away in 1979. CHAT unfolded and was concretized and applied to different problems and domains (from developmental and educational psychology to engineering psychology, ergonomics, psychophysiology, and other branches). The period of Stalinism brought difficulties and limitations for this work (Vygotsky’s name disappeared for twenty years, Leontyev lost his job for some time, publications were forbidden, etc.), but nevertheless the work went on.

During World War II, Leontyev and several of his colleagues worked in military hospitals (Leontyev and Zaporozhets, 1946). After the war, especially in the fifties, a new generation came into science. Young people appropriated the cultural–historical theory and began to work in this framework under the guidance of those who immediately worked together with Vygotsky (Leontyev, Luria, Zaporozhets, Bozhovich, Morozova, and others), with Leontyev (Galperin, P. I. Zinchenko, and others), or with Luria (Cvetkova, Khomskaya, Akhutina, and others). Here, a new stage of development began. Concerning Leontyev and the other scientists of his generation, we may say that they made substantial contributions to the first and to the second stage of development (see, e.g., Voyskunsky, Zhdan, and Tichomirov, 1999; A. A. Leontyev, 2001a).

The second stage of development is characterized by a broad application and further development of the cultural–historical theory in different directions, by the formation of different “schools” within the general “school” (having a general theoretical basis, but several differences in opinions and approaches as well), by expanding toward different domains (beyond psychology), and by a growing interest in this theory abroad, leading to translations of Vygotsky’s, Luria’s, Leontyev’s, and others’ works, and also to the development of cultural–historical research in other countries, international conferences, journals, and organisations. In one chapter, it is impossible to trace the features of this development fully, so I focus on what was done in this respect by several “second-generation” Russian representatives of CHAT whose work is less well known in the West.

One aspect of further development consists of elaboration of theories concerning different kinds of activity: play (Elkonin, Zaporozhets, Kravcova), learning (Galperin, Talyzina, Davydov, Repkin, Lazarev, Gromyko), work (Munipov, V. I. Zinchenko), socio-political activity (Feldshtejn), and communication (Andreeva, Lisina, Lomov, A. A. Leontyev). Much was done concerning the analysis of actions (their development and formation) as main components of activity in their relation with motives, goals, etc., for example, motor actions (Zaporozhets), perceptive actions (Gordeeva,
V. I. Zinchenko, S. A. Smirnov), memory actions (I. P. Zinchenko, A. A. Smirnov), thinking actions (Rubinshtejn, Tikhomirov), and learning actions (Davydov, Rubcov, Zuckerman).

As an example, I give a brief overview of the work of Aleksey A. Leontyev (the “second-generation Leontyev,” that is, the son of A. N. Leontyev). I begin with his book *The Active Mind* [Deyatelnyj um] (2001a), which is a serious contribution to the analysis of the substance and history of CHAT. It presents material concerning the reconstruction of the development of the activity theory from the beginnings in Blonsky’s, Bassov’s, Uznadze’s, Rubinshtejn’s, and others’ work as well as the psychophysiological prerequisites (Sechenov, Ukhtomsky, Pavlov, Anokhin, Bernshtejn) via the connections between the work of Vygotsky, A. N. Leontyev, and the Kharkov group. In a certain sense, this book gives a broad picture of the cultural–historical activity theory as it developed in the USSR/Russia to the current period. This is true not only for the concept of activity, but also for such central problems as reflection and image, the relation between sign and meaning, and between sign, activity, and personality.

One of the main topics in A. A. Leontyev’s research work is the analysis of communication. His starting point is the principally societal character of human communication. This topic is about more than mere exchange of information, as is often interpreted. Following Marx (who used the concept *Verkehr*), communication is understood as social exchange of experiences, ideas, interrelations, activities, and their results – not only, but mostly based on the means of language. This exchange goes on, not among isolated individuals, but among members of society who are born into and shape different societal relations. Social exchange is determined by activity and may stand in different positions in the structure of activity – as a necessary component of every activity, as communicative action within a non-communicative activity (play, work, etc.), or as a special activity. The genetically initial form of communication is the exchange as a necessary component of object-related, motivated, goal-established joint activity, the subject of which is an active community. Socially oriented forms of communication in the sense of specific influences on smaller or larger parts of society are directed toward a certain kind of transformation of social relations within the society, of its social or social–psychological structure, and of the societal consciousness or social activity of its members. This is a process of inner organisation or self-regulation of society – one part acts on another part aiming at optimization of the whole society or individual sectors. Differentiated analyses are given for language in general as well as for specific forms, for example, a university lecture, radio, TV, art, and foreign language acquisition (Leontyev, 1999: 2001b). A. A. Leontyev worked on different educational problems as well and was one of the initiators of a large school reform program titled *School 2100* with detailed materials for teachers and school managers (Leontyev, 2003).
As a psycholinguist, A. A. Leontyev worked much on the problems of sign and meaning in the history of general theory, linguistics, semiotics, and activity theory. In this connection, he differentiated, for example, four forms of meaning:

1. Linguistic meanings based on a system of specific quasi-objects (signs). Thus, the significance is discriminated from the concrete situation and may be stored, on the one hand, and make it the object of actions, on the other.
2. Object meanings based on the sensoric (direct or indirect) image. They have an immediate relationship with the object and the situation.
3. Role meanings based on the sensoric image of dynamic components of the activity itself, such as social norms and roles.
4. Operational meanings also based on the sensoric image of dynamic components of the activity, but related to normative schemata of action procedures.

Meanings are the ideal existence of the reality becoming individualized and subjectivized in individual consciousness, which, at the same time, maintains a historical–societal character and thus objectivity. Individual meanings contain a cognitive invariant in the sense of their relation to the societal activity and its projection in signs, on the one hand, and a communicative invariant in the sense of operations with signs and rules of their use in more complex communication structures on the other. Individual meanings differ from amodal societal meanings in that they have sensoric and emotional components and vary concerning their potential explicativity. In relation to the activity process, four functions of meaning are discriminated: motivational, goal-setting, formation of a comparative standard, and operational function (Leontyev, 1997, 2001a, 2001b).

Beginning with Vygotsky and Leontyev, in the framework of CHAT, a difference is established between meaning and sense: a differentiation closely connected with the interrelations between activity, consciousness, and personality. Usually, individuals perceive objects and words in their objective (societal) meaning, but at the same time, via the glasses of their individual experiences, interests, and motives, the meaning “for me” as an individual personality. Several authors have dealt with this topic. A differentiated theoretical analysis of the history and substance of the sense problem was presented by Dmitrij A. Leontyev (that is, the “third-generation” Leontyev). He discriminates three facets of sense:

1. The ontological level (relation between subject and world): The life sense objectively characterizes the position and role of objects, phenomena, and events of the reality, as well as the actions of the subject himself in his life.
2. The phenomenological level (image of the world in the subject’s consciousness): The *personality sense* is the form of the subject’s knowledge concerning his life senses.

3. The regulational level (unconscious inner regulation mechanisms of the life activity): The *sense structures of the personality* form a whole system and guarantee the activity regulation with correspondence to the logic of life necessity.

Sense is, in his interpretation, the relation between subject and object, which is determined by the objective position of the object in the subject’s life, emphasizes this object in the subjective image of the world, and embodies itself in the personality structures that regulate the subject’s behavior in concern of the corresponding object (Leontyev, 1999: 305). Six different sense structures of personality are characterized: personality sense and sense sets as the lowest level; motives, sense constructs, and sense dispositions as the second level; and personality values as the highest level, which influences the sense formations that follow. All these phenomena are analyzed in detail that cannot be reproduced here. D. A. Leontyev asks the question: Why do people do what they do? And the answers are based on different logics, which don’t deny, but rather inter-penetrate one another:

... because I will ← logic of satisfying needs  
... because he began ← logic of reacting on a stimulus  
... because all the time I do it this way ← logic of stereotype or disposition  
... because all the people do it this way ← logic of social normativity  
... because it’s important for me ← logic of sense or life necessity  
... and why not? ← logic of free choice

The sense problem is not the only aspect of the personality under study in the context of CHAT. Personality and its development can be understood only in the context of culture. This was one of the principal starting points of the cultural–historical theorizing. But for a long time, this was a relatively abstract statement. Luria’s comparative investigations in Middle Asia in the early thirties were to be published (though not very widely) in 1974; whereas his investigations concerning psychic development in different milieus of the Soviet society at the end of the twenties were mostly unknown. As Tulviste (1999) indicated, the founders of the cultural–historical theory at first wanted to find evidence that higher psychic functions grow up by appropriation of human culture and change together with the changes of culture, whereas the question concerning how this is going on, which aspects or components of culture participate in that process, could not yet be answered. Activity theory made the explication of these processes possible: In a culture, different kinds of activity are carried out and different tasks given. This made the use of semiotic and other means necessary. Activities call for and make possible the acquisition of culture (selective parts of it)
and thus lead to the formation and development of corresponding psychic functions and features. Cultures differ in the kind and multitude of activities and means of exchange and therefore also in the development of concrete thinking styles, social forms of behavior, etc. Leontyev’s theory shows the principal connection between culture, on the one hand, and activity and personality, on the other, but was not yet concretised in terms of different cultures. In this respect, though the discussion is beyond the scope of this chapter, substantial contributions were made in the West (Cole, Scribner, and others).

Speaking about contributions of second-stage activity-theorists, it is necessary to mention Aleksandr Asmolov (2001, 2002). He is especially engaged in methodological aspects of cultural–historical theory and problems of personality. In 1979, he published a study about the relation between activity and set (ustanovka), a topic that was heavily discussed as an absolute contradiction between representatives of activity theory and Uznadze’s theory of set. Asmolov showed that sets are a necessary component of every goal-oriented activity as its stabilizer and at the same time being a conservative moment in the process of adaptation to new conditions and situations. He discriminated amongst different kinds of sets and described their function in the process of activity. They interact with hypersituative activity overcoming situative necessity and adaptive tendencies, as well as sets established in the activity previously. In this process, activity qualitatively changes, the potentials grow, expanding over the conditions at hand and stimulating the subject to take a risk, maybe even against his or her own interests.

In connection with this problem, he analyzed the relation between conscious and unconscious components in the psychic regulation of activity using the results obtained in different domains of science. He discriminated four classes of unconscious phenomena. First, hyperindivial, hyperconscious phenomena – the field of societal meanings, such as concepts, symbols, roles, rituals, and social patterns of behavior, that is, the manner of behaving, knowing, and action schemata typical for a cultural community appropriated by its members in joined activity and not necessarily conscious for a subject. Individual and group represent here an unsolvable unity, for example, in the form of mainstream, Zeitgeist, and the like. The second class of phenomena involved unconscious motives and attitudes of personality – stimuli and not realized action dispositions emerging in the process of activity and directed toward their object. They cannot be reproduced as clear meanings or formalized, and express themselves in the form of seemingly incidental and unmotivated deviations from “normal” behavior in a situation. To change such unconscious motives and attitudes, mere verbal influence is not enough – a change of the activity itself, including social relations and emotions, is necessary. Third, he identified operational sets and stereotypes – unconscious regulators of action execution coming from experiences in analogous situations and anticipating
corresponding events and procedures. They release the consciousness by making possible that information can be processed at different levels at the same time. Such unconscious components may become conscious, if their position in the activity structure changes, for example, if the process of activity or particular aspects or phases of it are made the object of control by the subject. Voluntariness and consciousness of psychic processes and states presuppose each other. And fourth, he identified unconscious reserves of sense organs – information processing below the threshold of consciousness leading to objectively measured reactions and adaptation to conditions and their changes not consciously noticed, but reaching the aim of an activity. If such processes or their stimuli are made the object and goal of activity, they may become conscious and be used as additional potentials for the activity regulation. Recently, for instance, it could be shown that acoustic and optic stimuli below or at the threshold – a principally important problem of control and regulation in many modern technological systems – could be noticed and differentiated when organized as solving sensoric tasks, as goal-oriented activity of a subject. The operational structure of that activity and the use of cultural means for its execution was formed in special experiments.

It is impossible here to interpret the whole oeuvre of Asmolov. Nevertheless, a certain impression may be given by his own characterization of his approach to the problems of personality:

1. The human being is an element of different systems in which he or she appropriates and expresses different features characteristic for the corresponding systems.
2. A human can be studied and understood only by analyzing the history and evolution of the different physical, biological, and social systems bringing him about.
3. A necessary moment for understanding humans is the analysis of goal determination of different systems, including the investigation into the emergence, development, and functioning of goal-oriented systems (the so-called objective-teleological approach).
4. System approach calls for the necessity of the emergence of the personality phenomenon, that is, why personality becomes necessary within the process of development of nature and society.
5. System approach necessarily is seeking those “fundamentals” of systems, by means of which the interaction between humans and nature, society, and themselves is going on.

Joint goal-oriented activity is interpreted as the foundation for human participation in the world of culture and for self-development of personality. It isn’t the hierarchy of activities as such that is the personality’s “center.” Rather, as wrote Leontyev, it is what is brought about by different activities, for what, and how a human being uses social norms, values, and ideals
that gives a sense of the personality in one’s life. In the process of development, the relation between personality and activity is the basis of change:

The joint activity in a concrete social system also further determines personality development, but personality individualizes in a growing extent and selects those activities or forms of life by him-/herself which determine his/her development. A transition is going on from a regime of using and appropriating culture toward a regime of constructing different social worlds. (Asmolov, 2001: 188)

In this connection, he discriminates three aspects of interiorization (internalization):

- individualization, that is, the transition from inter-psychic to intra-psychic processes (sensu Vygotsky);
- intimization, that is, the transition from “we” toward “me” – the development of self-consciousness;
- construction of the inner level of consciousness, that is, the transition from external to internal ideal actions (sensu Galperin).

The personality problem is treated by many representatives of activity theory (I speak here only about Russian authors). Vasily Davydov is one of them. He is, first of all, well-known as a researcher in the field of learning activity (see Davydov, 1988, 1996; Hedegaard & Lompscher, 1999). But he had much to say in several fields of theory and practice, including the field of personality theory. For him, personality is connected with creativity (Davydov, 1996). Personality is characterized by such features as capability to comprehend new societal needs; to act – even in complicated situations – in a way corresponding with one’s own convictions, independence, and responsibility. Therefore, looking at the development in childhood, the role of fantasy becomes especially important as the basis of creativity. Fantasy is characterized, first of all, by the capability to see a whole earlier than its parts, to establish the connection between abstract knowledge and a concrete fact, between the general and the particular. On this basis and under the conditions of interaction with other people, the child can produce new images and ideas based on abstraction, transfer, symbolization, and modeling and come to new actions and artifacts.

Davydov was intensively engaged in the problems of further development of activity theory. His critique, ideas, and proposals are expressed in several publications, including posthumous ones. In 1991, he formulated eight unsolved problems of activity theory, which remain relevant now (see Davydov, 1991, 1993, 1999). These involve the need to understand transformation, collective and individual activity, structure and components of activity, different kinds of activity, communication, connections to other theories, organizing inter-disciplinarity, and stages in the study of activity. Many researchers have tried and continue to try to solve these problems, Davydov’s
collaborators among them, and there is clearly much to be done yet in these respects.

My overview is very incomplete. Many researchers had to be named. Space does not allow this. As Davydov said in one of his last lectures, Vygotsky’s approach in Russia today is represented by different “schools” with different objects, but the same theoretical basis. These are Luria’s, Leontyev’s, Zaporozhets’s, Galperin’s, Bozhovich’s, and Lisina’s schools, (Davydov, 1998) and others could be added yet (especially, Davydov’s own school of developmental education). In a summary, we could say that the second developmental stage of CHAT could be characterized by the unfolding, extension, application, and concretization of what was elaborated during the first stage.

During the second half of the twentieth century, especially during its last decades, societal life essentially changed in all respects and spheres – political, economic, technological, cultural, scientific, and social. This was a challenge for CHAT (discussed among Russian colleagues, as well). New problems emerged, new solutions and answers had and have to be found. Though the second stage of CHAT’s development, in some ways, hasn’t ended, a third stage began. The challenge was taken up, first of all, by Yrjö Engeström, who elaborated a broader concept of activity based on Vygotsky’s and Leontyev’s views and successfully applied it for analyses of new phenomena. Beginning in the eighties, he published a great many theoretical and empirical investigations, most of them in English (e.g., Engeström, 1987, 1999b, 2001, this volume), so that there is no necessity to describe them in detail here. He founded the Center for Activity Theory and Developmental Work Research in Helsinki, which became not only a place for a range of very fruitful scientific works, but also a place for numerous visitors to learn and discuss activity theory today as well as to collaborate in approaching new theoretical and empirical problems.

Engeström took seriously two fundamental ideas of CHAT’s founders: first, the mediated character of human life and activity by material and ideal means, especially signs, as parts of human culture and the artifacts of human activity, and second, the collective character of human activity realized by actions of the participating individuals. During the second stage of development, the collective character of activity gradually moved to the background (though it did not disappear in research and practice completely) and was mostly replaced by individual activity (in the context of analyses of individual psychic processes and features). The unity of activity and culture was lost, and these two aspects were analyzed more or less in isolation from each other – the aspect of activity in the East and the aspect of culture in the West (see Stetsenko & Arievitch, 1996; Stetsenko, 1999; A. A. Leontyev, 2001a). Engeström re-established the unity of these aspects. This brought forth a fresh look at the activity structure with six main interrelated components (his well-known triangle) and a new approach to the analysis of collective activity seen as a system and an object of transformation. He placed at the
center of his analyses modern work and adult learning. This approach during the last years was applied and elaborated by numerous collaborators and further colleagues in very different branches of societal activity (technology, science, industry, agriculture, health care, and many others).

Engeström (2001) formulated five principles of activity theory at its third stage of development; a key excerpt of his work is worth quoting at length:

The first principle is that a collective, artifact-mediated and object-oriented activity system, seen in its network relations to other activity systems, is taken as the prime unit of analysis. Goal-directed individual and group actions, as well as automatic operations, are relatively independent but subordinate units of analysis, eventually understandable when interpreted against the background of entire activity systems. Activity systems realize and reproduce themselves by generating actions and operations. The second principle is the multi-voicedness of activity systems. An activity system is always a community of multiple points of views, traditions and interests. The division of labor in an activity creates different positions for the participants, the participants carry their own diverse histories, and the activity system itself carries multiple layers and strands of history engraved in its artifacts, rules and conventions. The multi-voicedness is multiplied in networks of interacting activity systems. It is a source of trouble and a source of innovation, demanding actions of translation and negotiation. The third principle is historicity. Activity systems take shape and get transformed over lengthy periods of time. Their problems and potentials can only be understood against their own history. History itself needs to be studied as local history of the activity and its objects, and as history of the theoretical ideas and tools that have shaped the activity. […] The fourth principle is the central role of contradictions as sources of change and development. Contradictions are not the same as problems or conflicts. Contradictions are historically accumulating structural tensions within and between activity systems. The primary contradiction of activities in capitalism is that between the use value and exchange value of commodities. This primary contradiction pervades all elements of our activity systems. Activities are open systems. When an activity system adopts a new element from the outside (for example, a new technology or a new object), it often leads to an aggravated secondary contradiction where some old elements (for example, the rules or the division of labor) collides with the new one. Such contradictions generate disturbances and conflicts, but also innovative attempts to change the activity. The fifth principle proclaims the possibility of expansive transformations in activity systems. Activity systems move through relatively long cycles of qualitative transformations. As the contradictions of an activity system are aggravated, some individual participants begin to question and deviate from its established norms. In some cases, this escalates into collaborative envisioning and a deliberate collective change effort. An expansive transformation is accomplished when the object and motive of the activity are reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity. (pp. 136–137)

These principles are both theoretical presuppositions of and generalizations from the many empirical analyses and transformations in the societal practice described by Engeström and his collaborators. They proved to be
very fruitful for investigations into new phenomena, the problems of societal life, and their active transformations. At the same time, they stimulate the exchange with other theoretical positions concerning central problems and developmental trends of the world today.

**IS THERE A NEED FOR A FOURTH STAGE OF CHAT?**

It seems that one aspect of modern society is insufficiently valued by mostly all representatives of both the second and the third developmental stage of activity theory. This is the computer. As a rule, it is seen as a tool and artifact and as others have noted, a very strong one. But is this enough?

Though several investigations concerning computer technology and its use in contexts of work, learning, and so on have been carried out from the point of view of activity theory (Bertelsen and Bödker, 2000; Kaptelinin, 1996, 2003; Sawchuk, 2003; and others), modern activity theory as a whole (as an interdisciplinary theoretical and practical movement with a multitude of actors, goals, and methods) has not yet grasped the principal far-reaching role of the computer and the Internet for society and for all kinds of human activity. Taken in this way, activity theory has not had much to say and, perhaps, has not yet even put forth the necessary questions. In interviews I conducted with several outstanding representatives of activity theory, questions concerning this topic were answered much less concretely than other questions: As a rule, the computer was interpreted only as a new tool making specific kinds of human activity easier and quicker. Likewise, the Internet was seen as a large, useful memory (though with much unnecessary information). Occasionally, warnings were even given not to overestimate computers and the Internet (see Lompscher, 2004).

However, over the last few decades, the computer has become the new leading productive power (Haug, 2003: 38), penetrating and transforming all aspects and domains of production, including management, distribution, consumption, scientific research, and so on, and producing a new stage or form of capitalist mode of production—the transnational high-tech capitalism (the title of Haug’s book) with the Internet as its medium. National and international economic processes have changed and continue to change dramatically with serious and far-reaching political consequences across the globe. As a result, human activity is changing in all spheres, including the borders between men’s and women’s work, between outside and self-regulation, and between work and learning, as well as between work and leisure time.

Much is written about the role of the computer and the Internet as the third scientific–technological revolution. Here is not the place to go into detail on these processes; however, we can ask some important questions. How does activity theory interpret these and other corresponding processes? What about such labels as information society, knowledge society, and the like; topics inherent across this collection. Which challenges, dangers, and
opportunities across the different spheres of societal life are, or should be, examined? Can computer literacy be compared in terms of its cultural–historical significance with reading literacy and the like? There are several voices within activity theory trying to answer such questions (e.g., Fichtner, 1999; Giest, 2001; Rückriem, 2003; Sawchuk, 2003), but it seems to me that CHAT as a whole has to develop further, in both theoretical and methodological respects, to be able to adequately create concepts and methods for studying and to put to use and transform these processes. Perhaps, in this way, a fourth stage of development will be reached.

From the point of view of Rückriem (2003), computer technology is more than a tool. Principally differing from other new technologies playing the role of tools in human activity, computer technology is in fact without any alternative, unavoidable, irreversible, general, and even universal. It changes not only one specific concrete activity but revolutionizes the societal activity structure as a whole and the complete relations of activity and consciousness (i.e., the economic, social, and psychic status of any tool available). It really integrates every existing communication technology without any exception. And it even seems to mark an already ongoing process of new drafts of our societal existence as a whole emerging. This urges us to reflect on digital information and telecommunication technologies as catalysts of a new social system emerging. At least this is the unanimous appraisal from McLuhan up to modern media theorists.

Activity theory has to overcome the one-sided orientation toward computer technology as a tool instead of a medium, Rückriem argues. Communication by media is the modus operandi of social systems. Media are basic conditions and prerequisites of any communication. And media are both material substratum and meaning, actuality and potentiality at the same time. They store not only specific technologies but the specific form of societal activity. To take media into the concept apparatus of activity theory, it has to be analyzed whether activity theory is compatible with media theory and system theory. If we understand activity theory by means of system theory, we will overcome the previously argued bias. And what is more, I am sure, that systemic thinking can be shown to be an inherent quality of Leontyev’s theory itself.¹

From its first steps seeking a fundamentally new approach to problems of human beings and their development up to the state of CHAT today, a long and complicated developmental process has been undertaken. Beginning within psychology (but on a deep philosophical basis and with a differentiated knowledge of the sciences of the time), activity theory has been adopted by scientists of other branches who began to use it for solving their theoretical and practical problems. Through this connection, another new

¹ The whole argumentation given by Rückriem may be read at www.ich-sciences.de.
challenge has emerged: to establish new interrelations with other theories. Modern development in sociology, culturology, and sciences of work and organization, of science, of communication, and others led to knowledge and methods having much in common with activity theory (for instance, orientation toward human activity and its components, projection, and transformation). It is a task of today to find out conditions and ways (maybe, limits as well) of synthesis or synergy with other theories or conceptions concerning human existence and development to tackle theoretical and practical problems emerging today and tomorrow.