

MULTIDISCIPLINARY NEWSLETTER FOR ACTIVITY THEORY

Official Organ of the International Standing Conference for the Research on Activity Theory (ISCRAT) No 7/8 1991

Letter from the Editors

Dear reader,

The "letter from the editors" of No 5/6 1990 closed with: "We look forward to meeting all of you in Lahti".

Three old and two new editors

indeed met many old and some new readers in Lahti — subscriptions now number 198. The Second International Congress for Research on Activity Theory drew an audience of about 400 from the most varied backgrounds and

countries, see Seth Chaiklin's "Notes" (p. 51 ff) for details and a critical reflection.

Five of the papers read at Lahti are published in this issue. We may well be proud and optimistic about the prospects of ISCRAT, and of activity theory in general, just looking at the results of this joint activity. But at the same time — as in all previous editorials — we have to recognize the fact that it took us about double the time we had promised to deliver.

We mention in passing the usual difficulties of getting some texts or corrections in time. We have to point out that two of the editors (Dima Leontyev and Charles Tolman) had no chance to participate in the production of this issue, for different reasons. We might as well confess openly that the three remaining German editors feel exhausted, and are already wary of the tasks to come.

Consider: The past ten months were challenging times for all politically concerned people, especially for those working within activity theory. First came the proclamation that the Cold War was over, symbolized by the formation of an expanded Federal Republic of Germany. For some moments a silver lining of more sober and more humane regulation of international conflicts was visible on the global horizon. But then, marking the begin of the new

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decade, a major war was fought out with consequences that nobody can fully see today.

Opinions about these matters are likely to be sharply divided, in our readership as well as everywhere else. Editors of an international scientific newsletter like ours should not take sides. But our journal is dedicated to activity theory, and this is, internationally, a political movement as well as a global scientific perspective. The specific mix of articles in this issue shows this very clearly.

In reflecting about this state of affairs we found a tension in the ISCRAT endeavour, namely the tension between global international concerns and the specific and varying regional contexts of editors, authors and readers. Our respective roots in regional practice are surely the base of all judgments of each one of us, and mutual explication of these is sorely needed for a global dialogue to be really fruitful.

If we look at the ISCRAT as an activity system for the coordination of many regional activity systems, the above conclusion also follows from one paragraph of Yrjö Engeström's article (p. 15) that we repeat here with added emphasis:

"An activity system is by definition a multi-voiced formation. An expansive cycle is a re-orchestration of those voices, of the different viewpoints and approaches of the various participants. Historicity in this perspective means identifying the past cycles of the activity system. *The re-orchestration of the multiple voices is dramatically facilitated when the different voices are seen against their historical background*, as layers in a pool of complementary competencies

within the activity system."

Specifically – remember that this newsletter is produced in Berlin – here is how the concrete historical background of the activity system of the present editors may be described:

– Activity theory is an offspring of German Idealism.

– Its coming of age as a Marxist scientific enterprise took place in the Soviet Union sixty years ago.

– Some forty years the two German states have served as the model system to exhibit and regulate a global fight for dominance of the two blocks of industrialized nation states.

– "End of the Cold War" means that there are winners and losers, of course – as usual. Many colleagues from the universities, academies and professional institutions of the former GDR are among the losers: Academic jobs will be cut by about 40 % after July 1991.

– Many of those who were in opposition to GDR's "command socialism", as their civil rights movement used to say in 1989, and sought to refine this "raw socialism", as Peter Ruben calls it in a recent analysis, are now among those who lose their jobs, while most former smooth mediators of power have changed their strategies in time to be relatively safe at present.

– This means specifically that activity theory in Germany undergoes an existential crisis. Many of us feel an urgent need to discuss the break up of raw socialism, trying to "backtrack" the historical decision tree to find a bifurcation that will allow a reconstruction of the socialist spirit.

– Such searching discourses, of course, are best performed in

one's mother tongue. But here we are, reading and writing in 'Modern Latin'...

Conclusions

In Lahti, the ISCRAT meeting decided that the editors should try to transform the newsletter into a professional journal. As goal date for this qualitative jump we set the next double issue which was then thought to be the first one in 1991. We are now well into this very year, and are still planning – "Ja, mach nur einen Plan und sei ein grosses Licht..." (Bert Brecht) – to produce two double issues (see page 63 for the new editorial policy).

Our plans to turn the newsletter into a journal are proceeding, but no final decisions have yet been made. The upcoming Nos 9/10 and 11/12 will be "transitional objects" in the following sense: The editors will no longer try to meet definite pre-set "deadlines". The concrete future dates of publication will be two signals for all of us that indicate how well our enterprise is doing.

The Berlin based production team hopes to be able to end the present pre-professional phase of our Journal as soon as possible. Since the ISCRAT meeting in Lahti has decided the third congress to be held in the Soviet Union in 1994, we have set this as the latest date to hand over the task to others.

All of you are invited to contribute, in whatever way you see fit!

Arne Raeithel

Activity Theory – at the End of its Era?

Opening Lecture

Second International Congress for Research on Activity Theory

Lahti, 21 – 26 May 1990

Georg Rückriem

Ladies and gentlemen, dear colleagues!

The main focus of the First congress was to get together all scientists with interests in activity theory. We wanted to know who is working with the activity theoretical approach in which countries and which disciplines, we also wanted to know the problems being worked on and the results of this work. It was our intention to bring about an international and interdisciplinary discussion on the question whether this activity theoretical approach met the expectations of those who considered it to be the most appropriate paradigm to deal with the current pressing problems.

As this question was answered positively in general – although there were quite a few critical comments – it was decided that this second congress was to focus on these pressing problems of transformation and change at the individual and social level. In order to achieve this, the proposal was to ground the evolving discussion in the work of Vygotsky, Leontyev and Rubinstein.

However, as I am sure we are all aware, there have been a multitude of events aggravating these problems of transformation and change. I am not going to repeat the detailed descriptions of these events ranging from holes in the

ozone layer to holes in the Berlin wall, all these events are widely known. I rather want to turn your attention to the meaning these events have for activity theory and our own work. So what has happened since 1986?

But to remind ourselves: There continues the thoughtless destruction of our forests and the reckless rooting out and burning down of the rain forest, the destructive practices of fishing carried out by some Asian countries, the contamination of the North Sea and the Baltic Sea by untreated industrial waste, the poisoning of the atmosphere by the use of cfc's and carbon dioxide, the annual increase of desert areas by 6 million square kilometers, the tenthousandfold increase of the rate of animal and plant extinction – all these processes have been recognized and discussed already in detail and are seen as unavoidable consequences of the speeding up and the globalization of our industrial ways of working and living.

It is also known that more than 50 percent of damage to the environment of the last 3 centuries has been caused in the last 3 decades. For years we have known that we are consuming the ecological capital of our planet faster than it is capable to reproduce itself.

Really new is the assessment of these facts, new is what scientists

think about the meaning of the fact that it is man who causes the global change and who is setting about to create a new world with new realities. Mihailo Mesarovic expresses this new point of view in a most impressive way. In his report to the Club of Rome he writes:

“Humankind has taken over a fundamentally different central role in the evolutionary process. This means, humankind is not just a product of evolution, but also integral to it. It is nature itself. Human kind is not only transformed by evolution, but also transforming evolution. Second, we are – so to speak – taking care of evolution, we are getting inside it. On one hand, this gives us the opportunity to direct evolution, but on the other hand it imposes a tremendous burden of responsibility for the direction evolution will take.” (Mesarovic, 1990, p. 26)

If we accept this assessment there are two consequences.

1. First, this does not just imply a new range of responsibility as scientists but also requires a new paradigm for scientific explanation of those processes. This has consequences for activity theory itself. Previously questions of responsibility have been discussed morally, ideologically or nationalistically. Today responsibility faces a new turn. It is now a matter of survival for the human race and even more generally for life on this planet. Problems of this importance do not allow the freedom of deciding or not deciding. The time for decision has come and there is no further possibility evading it. Not to act in a certain moment would mean that doing nothing is the best alternative. Mesarovic again puts this most precisely:

“Mankind cannot steal away anymore from the responsibility of actively directing global evolution.” (p. 26)

However, to understand evolution

and its mechanisms of transformation and change requires – as Meszarovic argues – a totally new paradigm. A paradigm which doesn't confront man as an ensemble of the societal relations and nature as Marx did in his famous 6th thesis on Feuerbach. What we need is a paradigm conceiving nature not in a linear and deterministic way anymore but with self-organizing potential. Modern natural scientists like Prigogine and Eigen, Jantsch and Maturana show that complex systems of nature can only be explained appropriately in their development if one proceeds on the assumption that it is chaos and not order in nature which is to be explained. They also argue that it is not merely a matter of relativizing the Newtonian space and time system as Einstein did, but a matter of studying the multiplicity of space and time systems.

But – by the way – science as traditionally conceived does not have a monopoly on such insights. In the work of modern artists such as Joseph Beuys or Peter Weiß we see a perception and presentation of this.

I feel that one of the consequences of this point of view in natural sciences and modern art is that the concept of activity theory, as we currently know from Vygotsky, Luria, Leontyev and Rubinstein is standing at an end of an era and, at the same time, at the beginning of its further development. We may feel that activity theory's original explanatory potential has not been exhausted. But the fact is that we are at an end of an era. A most urgent need is to reconnect activity theory to natural science without giving up its understanding of the special logics of societal systems.

We think that the striking similarity of explanatory principles such as "activity" and "self-organization" holds out the possibility that we can achieve this reconnection. In Vygotsky's first conceptualizations of activity we can see that he understands this connection of man and nature. This is revealed you will recall in one of his favorite quotations from Francis Bacon: "natura parendo vincitur" – by obeying nature it will be overcome. In other words: we only can direct evolution if we obey its laws. But obeying laws presupposes that they are known. So we see activity theory at the beginning of its further development if it is to stand the challenge and to incorporate new insights in the natural sciences.

But whether that challenge is tackled or not is a question that awaits to be answered by the scientific community. It is very clear how difficult this task is. We will have to deal with the effects of the multiplicity of time for the conceptualisation of individual and social transformation processes, and of perception and cognition within them. We have to deal with the effects of different time systems for a new understanding of the historical forming of personal sense and societal meaning and their mutual relationship. But the most important effect as I see it concerns the center of all this: a new understanding of the actual importance of personality and its development. More generally: we will have to deal with the further development of categories and methods and, at the same time, their application when studying the concrete consequences of the global problems we face in every-

day life. We will have to develop multidisciplinary and international projects before we have had time to study adequately the interdisciplinary and national questions sufficiently. And all this under the pressure of time getting more and more limited and of responsibility getting heavier and heavier.

2. The second consequence of the new assessment of the global processes concerns – as I see it – the social implications and effects. It has become irrevocably clear that the Third World carries the real costs of global industrialization and the consequent destruction of nature. We have to face the fact that the process of suffering connected with such continued transformations already hits billions of people and – as recent psychological reports show – it concerns the majority of children in the industrialized countries. As things are, the Third World will have to carry the main load even if the industrialized countries should find ways of producing which are more compatible to environment. Any reconstruction will hit the developing countries in a time when they are trying to make up for differentials between themselves and the industrialized countries. Everybody can easily see that this process multiplies the following costs and that the interest of the species in its surviving makes it necessary to stop that process of multiplication. The unlimited industrialization of the developing countries would mean the final ecological breakdown of the earth. The consequences of the climate catastrophe can be already witnessed: we have worldwide famines, migration of peoples and nations, grave and

unpredictable disturbances of ecological cycles. These are consequences which will neither be mastered by traditional manipulation and regulation of market and state nor by transnational systems that balance power, because the contradiction between social or class interests on the one side and the interest of the species to survive on the other side is tearing the whole human kind apart and makes it act together at the same time.

In this situation two different possibilities to act are being discussed: the model of an ecological dictatorship and the model of a qualitative development of democracy.

Michael Müller and Klaus Meyer-Abich – both members of the Westgerman governmental committee for the protection of the earth atmosphere – describe two different arguments in favour of the first model:

The most commonly used ideological argument is that the biological interest in survival can only be guaranteed by a form of multinational emergency administration, this being the only way of enforcing the general interests in survival against the resistance of partial interests of different groups, nations or peoples.

The other argument points out the economical interest of multinational business corporations which are – in the fight for the distribution of the decreasing ecological sources – trying to put the brakes on the development of the Third world.

Both arguments – as Müller and Meyer-Abich emphasize – require an authoritarian limitation of freedom: either in the sense of a biological leviathan forced upon the ig-

norant members of society by a seemingly all-knowing super authority, or in the form of a political or economical oppression including the possibility of military conflicts.

The conference on economy of the KSZE-states in Bonn in March 1990 and the talks on consolidation of Daimler-Benz and Mitsubishi seem to confirm the models predicted by the authors. "Die Zeit", the biggest weekly newspaper in the Federal Republic of Germany, even sees a connection between these two events and gives Edzard Reuter, the Daimler-Benz chairman, the opportunity to present his personal model of a peaceful world which is being "welded together step by step into a unity by multinational business corporations". Reuter makes it quite plain that the multinational business corporations are more able to solve the ecological problems than any state or national societies.

I think one might have some doubts if this postulated identity between the economical interests of business corporations and the general interest of human kind really exists. Just a few weeks ago the Environmental Conference of Bergen in Norway has finished its work. The intended agreement of 34 countries from Europe and the USA on the limitation of carbon dioxide emissions has been devaluated by the obstinate resistance of the USA, although such an agreement would have no binding under the international law. There is only to add that almost 25% of world wide carbon dioxide emissions are produced in the USA.

This should lead us to prefer the other option, the qualitative development of democracy. This

would mean at least a radical restructuring of the industrial society, a reform of the international economical system, an ecological equalization of burdens with the developing countries, and a lasting and sustainable development towards an international society. However, it is clear that such an aim cannot be realized without active citizens in an active society. This changing importance of every single individual has one central precondition: the scientists' findings concerning these global problems have to be appropriated by all human beings, that means they have to become general knowledge. Only then the idea of an active citizen in an active society may become a reality. Speaking of knowledge I mean – following the sociocultural school's understanding – the unity of cognition, commitment and ability to act. The Russian and the German language have a special term for this unity: "obrazovanie" respectively "Bildung".

Concerning the consequences for activity theory I should like to say, proceeding from this political-educational point of view:

Vygotsky's paradigm of mediation must not only remain a means of explaining world in itself but must become a means to explain world for us.

Activity theory has to add the dimension of didactical meaning to the methodological or epistemological meaning of the category of mediation. This is valid for all sciences, not only for the educational sciences. Didactics in the educational sciences reflects the mediation of knowledge in relation to particular institutional conditions – for instance in the form of school

didactics or pre-school didactics. But what we need today is didactics of science itself. Every single discipline has to make efforts to present its findings in such a way that they may become general. The sciences and the scientists should no longer shift their responsibility for the way of presenting their findings over to a single discipline. If the assessment is right that earth can only be saved if all human beings act having the whole knowledge of possible solutions, then the mediation of that knowledge is an absolutely necessary and integral part of every scientist's work.

Perhaps this congress will manage to make a step on this direction.

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Activity Theory and Individual and Social Transformation

Yrjö Engeström

The Second International Congress for Research on Activity Theory took place in the midst of sweeping changes in the political and economic systems of our planet. During the past few months, the Berlin Wall has come down and Nelson Mandela has been freed from prison. These are only two of the most visible symbols of the transformations we are witnessing.

Many of the current changes share two fundamental features. Firstly, they are manifestations of activities from below, not just outcomes of traditional maneuvering among the elite of political decision makers. Secondly, they are unexpected or at least very sudden and rapidly escalating. These two features pose a serious challenge to behavioral and social sciences.

The behavioral and social sciences have cherished a division of labor which separates the study of socio-economic structures from the study of individual behavior and human agency. In this traditional framework, the socio-economic structures look stable, all-powerful and self-sufficient. The individual may be seen as an acting subject who learns and develops, but somehow the actions of the individual do not seem to have any impact on the surrounding structures. This traditional dualistic framework does not help to understand today's deep social transformations. More than ever there is a need for an approach that can dialectically link the individual and

the social structure. From its very beginnings, the cultural-historical theory of activity has been elaborated with this task in mind.

Activity Theory – what kind of theory?

Activity theory has its threefold historical origins in classical German philosophy (from Kant to Hegel), in the writings of Marx and Engels, and in the Soviet cultural-historical psychology of Vygotsky, Leontyev and Luria. Today activity theory is transcending its own origins: it is becoming truly international and multi-disciplinary. This process entails the discovery of new and old related approaches, discussion partners and allies, from pragmatism and Wittgenstein to theories of self-organizing systems.

This expansion is not unproblematic. Some may fear that activity theory will turn into an eclectic combination of ideas before it has a chance to define its own core. While I realize that such a possibility exists, I anticipate that the current expansive reconstruction of activity theory will actually lead to a *new type of theory*. Essential to this emerging theory is *multi-voicedness co-existing with monism*. This may sound like a contradiction, and that is exactly what it is. Let me explain a little further.

In dialectical philosophy, monism is understood as a principle according to which it is possible to deve-

lop any whole theory and its multiple concepts consistently on the basis of one initial idea or 'cell' (see Davydov 1990). If such monism is combined with the standard realistic notion of 'theory', the whole endeavor will easily lead to single-minded elaboration of a closed, artificially static system of logically interlocking concepts (see Jensen 1989).

If anything, the current societal transformations should teach us that closed systems of thought do not work. But monism does not have to be interpreted that way. Human activity is endlessly multifaceted, mobile and rich in variations of content and form. It is perfectly understandable and probably necessary that the theory of activity should reflect that richness and mobility. Such a multi-voiced theory should not regard internal contradictions and debates as signs of weakness; rather, they are an essential feature of the theory. However, this requires that there is at least a shared understanding of the character of the initial 'cell' and a continuous collective attempt to elucidate that 'cell' as well as the multiple mediating steps from the 'cell' to specific concepts.

Can activity theory develop as such a self-organizing system of interacting subjects? Obviously we are here dealing with a tension between two forces, or directions of development. One force pulls us toward our own individual applications and separate variations of certain general, often vague ideas. The other force pulls us into meeting and learning from each other, questioning and contesting each other's ideas and applications, making explicit claims

about the theoretical core of our approach. The key issue seems to be: Can we have sufficient shared understanding of the idea of activity to make it the 'cell' of an evolving multi-voiced activity theory?

In the following, I shall discuss six themes which may help us narrow down and define key dimensions of the very idea of activity. These six themes emerged as I went through a number of recent publications containing critical debates on the concept of activity. The publications range from the materials of the First International Congress on Activity Theory (Hildebrand-Nilsson & Rückriem 1988) and subsequent articles published in our Multidisciplinary Newsletter for Activity Theory and also as translations in the journal *Soviet Psychology*, to recent edited collections published in Denmark (Hedegaard, Hansen & Thyssen 1989), West Germany (Holodynski & Jantzen 1989) and the Soviet Union (Lektorsky 1990), and to contributions that have appeared in an ongoing international electronic mail discussion on activity theory, coordinated by the Laboratory of Comparative Human Cognition in San Diego. I shall present each theme in the form of a dichotomy or two opposing standpoints. That is the form which often emerges in heated discussions.

After identifying those themes of debate, I will try to delineate ways to overcome and transcend those dichotomies – possible elements toward a 'cell' concept of activity.

Dichotomies

1. *Psychic process vs. object-related activity*

One of the basic issues around activity theory is surely the relationship between 'activeness' (as opposed to 'passivity') as a general description of animal and human forms of life, and the more specific idea of activity as an object-oriented and cultural formation that has its own structure. It has been argued that the English term 'activity' is unable to carry the deeper philosophical meaning of the original German concept of 'Tätigkeit' (Schurig 1988).

With due respect to original philosophical terms, I cannot see how insistence on a term could prevent conceptual blurring. Actually there seems to exist a widespread awareness of the fundamental difference between 'activeness' and 'activity'. But there is a theoretically much more interesting disagreement that concerns the relationship between object-related activity and 'psychic process'. This distinction stems from the theoretical tradition of S. L. Rubinstein and is championed today by A. V. Brushlinsky, among others.

Brushlinsky (1990; see also 1987) argues that

"the psyche acts objectively first and foremost as a process, always uninterrupted, live, extremely plastic and flexible, never fully predetermined."

He goes on to claim that object-related activity of the subject is discontinuous while the psychic process is not, which makes only the latter a *process* in the strict sense. The implication is that object-related actions and activities are secondary formations that

emerge as products or results of the continuous psychic process.

The obvious problem here is that the origin of activity seems to be reduced to an individual and internal psychic source. This would eliminate the fundamentally cultural and societal nature of activity, so powerfully emphasized by the principle of object-relatedness of activity. On the other hand, the question of continuity and discontinuity in human activity has to be taken seriously. This question pertains directly to the second dichotomy.

2. Goal-directed action vs. object-related activity

In recent years, a large and varied psychological literature has emerged on the nature of goal-directed actions (see e.g. von Cranach & Harré 1982; Frese & Sabini 1985; Ginsburg, Brenner & von Cranach 1985; Hacker, Volpert & von Cranach 1982). In cognitive science, situated action has become an important alternative to purely mentalistic and computational notions of information processing (e.g. Suchman 1987). In sociology, the notion of action has been used in attempts to overcome the dualism of imposed structure and individual experience (e.g. Alexander 1988; Fielding 1988; Giddens 1984).

In most of these theories, individual action is regarded as the unit of analysis and as the key to understanding human functioning. The orienting function of goals and plans, the sequential structure and the levels of regulation of actions have received a lot of attention. But these theories seem to have

difficulties in accounting for the socially distributed or collective as well as for the artifact-mediated or cultural aspects of purposeful human behavior. Also the notion of time tends to be reduced to relatively discrete slices, often described in algorithmic terms with clear-cut beginnings and ends, dictated by given goals or tasks. The continuous, self-reproducing, systemic and longitudinal-historical aspects of human functioning seem to escape most theories of action. As O. Tikhomirov (1988, p. 113) points out, focusing exclusively at the level of actions highlights goal-attainment and problem solving, but makes it very difficult to analyze the socio-cultural and motivational basis of goal-formation and problem finding.

In the First International Congress on Activity Theory, Hans Aebli, the well known theorist of action, expressed the importance of a level beyond actions as a personal discovery. He stated:

"Also the child is a newcomer in a complex system, in a system of her world: she is born in a family, she then enters a school, later a workplace. She tries to understand the system: 'What makes it tick?' What moves the system? What are its mechanisms, its interconnections? (...) It is a question of solving this puzzle, of letting it gradually take shape, of understanding what are its structural features and the motives functioning within it." (Aebli 1988, p. 151)

Leontyev's (1978; 1981) three-level scheme of activity ↔ action ↔ operation, and correspondingly, motive ↔ goal ↔ instrumental conditions, extended the sphere of analysis and directed our attention to the transformations going on between the levels. However, merely proclaiming that activity is a superior level of analysis does not help. And it is not at all so clear

IMPRESSUM

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that those who use the concept of activity are actually able to overcome the individualist and ahistorical biases inherent in theories of action. In the First Congress on Activity Theory, M. von Cranach, another prominent action theorist, criticized the prevalent accounts of activity theory for these very same weaknesses.

"History is a concrete process, and it is not enough that one philosophizes a bit about the early humans, how they ran after antelopes, and then takes a huge step right to the distinction between capitalism and socialism. (...) Concrete analyses are difficult, however, because institutions and people in power often dislike concrete analyses of their activities and their history." (von Cranach 1988, p. 153-155)

3. Instrumental tool-mediated production vs. expressive sign-mediated communication

Especially Leontyev's seminal works on activity theory have repeatedly been criticized for an allegedly rigid and restrictive emphasis on tool-mediated production of objects as the prototypical form of activity. It is said that communication and mediation by signs is neglected or suppressed in this version of activity theory. There are at least two different versions of essentially the same criticism. One version (see e.g. Kozulin 1984; Valsiner 1988) portrays Leontyev's work as a suppression of the original Vygotskian idea of semiotic mediation. Another version (see e.g. Lomov 1980) accuses activity theory for an attempt to subsume everything under one concept and presents 'communication' as the parallel or alternative fundamental idea of psychology.

These criticisms lead to a twofold opposition. Firstly, mediation by

signs is opposed to mediation by tools. Secondly, subject-subject relations are opposed to subject-object relations. At a more general level, we may identify a third opposition, namely that between expressive or communicative action and instrumental or productive activity. This latter opposition figures prominently in the work of Habermas (1984), for example.

A careful reading of Leontyev's work reveals that both mediation by signs and subject-subject relations do play an important role in his theory. Proponents of the cultural-historical school repeatedly point out that communication is an inherent aspect of all object-related activities. Leontyev's (1981, p. 219-220) account of the emergence of speech and language emphasizes the original unity of labor actions and social intercourse. And in his famous study of the emergence of consciousness in deaf and blind children, Meshcheryakov (1979) puts such an emphasis on this unity that he chooses to call his unit of analysis 'shared object action'.

It is somewhat ironic that at the same time as the concept of object-related activity is criticized by some psychologists and philosophers for neglect of sign-mediation, language and communication, some prominent linguists are finding the very same concept of activity increasingly attractive as means of conceptualizing the interface between the sociocultural and linguistic realms. The following quotation from Elinor Ochs is a case in point.

"First, language activities are at the same time linguistic and sociocultural phenomena. They are structured by linguistic and sociocultural principles. Second, the sociocultural contexts that language activities engender or reflect become part of

the pragmatic or social meaning of particular linguistic structures carrying out these tasks. This idea is rooted in the work of Vygotsky (1962; 1978), Leontyev (1981), and Wittgenstein (1958). Drawing on Marx, Leontyev used the notion of 'objectivization', that objects (and hence words) take their meanings from the variety of activities in which they participate." (Ochs 1988, p. 17)

So there is a curious discrepancy between the ways Leontyev is read by the critics and by those sympathetic to his ideas. Partly this discrepancy may be due to the fact that the actual structure of activity as system was not very thoroughly analyzed and modeled by Leontyev and his immediate collaborators. Leontyev postulated the three levels of activity mentioned above. But what are the interacting fundamental 'components' of an activity system? Often they are reduced to the subject, the object, and the mediating artifact (which may refer to either tools or signs). This triangle was, however, presented by Vygotsky (1978, p. 40) as a simplified model of mediated *action*; the conceptual distinction between activity and action was not yet worked out at the time Vygotsky presented his model. To my knowledge, Leontyev did not elaborate on how the triangular model of action should be developed or extended in order to depict the structure of a collective activity system.

4. Relativism vs. historicity

Activity theory evolved from the cultural-historical school of psychology. A key principle of this approach is historicity. The concrete implications of this principle have been surprisingly little discussed (a notable exception being Sylvia Scribner's [1985] impres-

sive article on Vygotsky's uses of history). When Asmolov (1987) recently presented a list of the principles of activity approach, historicism was mentioned at the end with half a sentence: "the principle of historicism, which pervades all investigations using the activity approach" (p. 99). — Such lip service cannot hide the fact that the principle of historicity, understood as concrete historical analysis of the activities under investigation, has mostly been neglected in empirical research based on or inspired by activity theory.

There is one obvious and another, less obvious reason for this neglect. The obvious one stems from problems with rigid interpretations of the Marxist-Leninist view of history. Any conceptual framework which postulates a predetermined sequence of stages of socio-historical development will easily entail suspicious notions of what is 'primitive' and what is 'advanced', what is backward and what is good. Such notions reduce the rich diversity of sociocultural forms of life to a one-dimensional scale. This problem was already evident in Luria's classic studies in Central Asia (Luria 1976), carefully and sympathetically criticized by Cole and Griffin (1980; see also Cole 1988).

It is surely appropriate to avoid rigid, one-dimensional sequences being imposed on social reality. But especially among Anglo-Saxon researchers adhering to the ideas of Vygotsky, the standard alternative seems to be to avoid history altogether. Differences in cognition across cultures, social groups and domains of practice are thus commonly explained without seriously analyzing the hi-

storical development that has led to those differences. The underlying relativistic notion says that we should not make value judgments concerning whose cognition is 'better' or 'more advanced' — that all kinds of thinking and practice are equally valuable. While this liberal stance may be a comfortable basis for academic discourse, it ignores the reality that in all domains of societal practice those very value judgments and decisions have to be made every day. People have to decide where they want to go, which way is 'up'. If behavioral and social science wants to avoid that issue, it will be unable to work out useful, yet theoretically ambitious intellectual tools for practitioners making those crucial decisions.

The less obvious reason for the neglect of history has to do with the point I mentioned above, namely the underdevelopment of models of the structure of an activity system. Historical analyses must be focused on units of manageable size. If the unit is the individual or the individually constructed situation, history is reduced to ontogeny or biography. If the unit is the culture or the society, history becomes very general or endlessly complex. If a collective activity system is taken as the unit, history may become manageable and yet it steps beyond the confines of individual biography.

5. Internalization vs. creation and externalization

Both in the east and in the west, it has been almost a truism that internalization is the key psychological mechanism discovered by the

cultural-historical school. When internalization is in turn reduced to children's learning of skills and knowledge in interaction with adults and more experienced peers, we get a version of 'Vygotskian' research which looks very much like social learning theory flavoured with fashionable terminology. Symptomatically, Vygotsky's writings that deal with creation and externalization, especially "The Psychology of Art" (1971), have received very little attention. And it seems to be all but forgotten that the early studies led by Vygotsky, Leontyev and Luria not only examined the role of given artifacts as mediators of cognition but were also interested in how children *created* artifacts of their own in order to facilitate their performance (see Luria 1979).

In the new Soviet collection on the concept of activity, edited by Lektorsky (1990), this emphasis is suddenly almost turned around. Nearly all authors emphasize that the most important aspect of human activity is its creativity and ability to exceed or transcend the given constraints and instructions. Perhaps this reflects the impact of perestroika in philosophy and psychology (for different views on this impact, see the round table discussion 'Restructuring Psychology' in Soviet Psychology, Vol. 27, No. 6 [1989] and Vol. 28, No. 1 [1990]).

Be that as it may, concrete research and experimentation inspired by activity theory has been strongly dominated by the paradigm of internalization. There is very little concrete research on creation of artifacts, production of novel social patterns, and expansive transformation of activity con-

texts. Vera John-Steiner's (1985) work on creativity and the 'developmental work research' approach originated in Finland (e.g. Engeström 1987; Engeström 1990) may be mentioned as openings in this direction.

6. Principle of explanation vs. object of study

In the 1970s, the Soviet philosopher E. G. Yudin (1978) pointed out that the concept of activity may be understood either as a principle of explanation or as an object of study. Ever since that distinction was made, it has been used in various discussions for various purposes. Although Yudin's idea was probably not to create another dichotomy, in the ensuing discussions this distinction has often frozen into such a fixed opposition.

Reading through recent theoretical discussions and debates concerning the concept of activity forced me to observe that when activity is taken *only* as a principle of explanation, it seems that the outcome is often an endless conceptual exercise with meager empirical grounding. I suppose that V. A. Lektorsky had this in mind when he wrote:

"If the discussion proceeds only at the level of formulating general positions and is not accompanied by attempts to apply them constructively or to realize them in a more or less elaborate conceptual system applied to explain a specific objective area, the discussion proves relatively ineffective since to any principle formulated in abstract terms it is always possible to oppose another...."

I believe that we can never have a truly fruitful activity approach if we simply superimpose the concept of activity on known facts (...). In this latter case, the concept and principle of activity essentially turn into empty terms and, no matter how we manipulate them, we shall not advance in a substantive analysis at all. In-

deed, do we begin to understand such phenomena as association, dialogue, self-awareness, reflection, etc., better by simply calling them different 'forms and types of activity' (...)" (Lektorsky, 1990)

Here we are dealing with the heavy ballast of the 'grand theories' type of thinking and writing, often attributed to activity theory by its critics. However, a look at the works of Vygotsky, Leontyev and Luria reveals that these scholars were primarily and consistently interested in real human activities, concretely present in space and time. Even Ilyenkov, perhaps the most important and also theoretically most demanding philosopher influential in the Soviet activity approach, grounded his conceptual work in a painstaking analysis of the methodological procedure that gave rise to a specific text, namely the "Capital" of Karl Marx (Ilyenkov 1982). In other words, the core conceptual works of activity theory are very much empirically grounded, indeed often so much that the openness and 'incompleteness' of the conceptual systems is aggravating for a researcher who would like to simply 'apply in practice' a well defined theoretical frame.

On the other hand, especially in the domains of learning and play, there is a fair amount of empirical, practice-oriented research which takes concrete activities as its objects of study. Quite commonly in such studies, the concept and structure of activity are treated as if something rather self-explanatory. In such cases, the specific methods and findings may not enrich and 'push forward' the elaboration of the conceptual and methodological basis.

Mediation as Key

The six dichotomies outlined above may be condensed into three crucial questions.

Firstly, how can we depict the 'cell' of activity theory, or more specifically, what would be a viable way of modeling the structure and dynamic relations of an activity system?

Secondly, how can we incorporate historicity and developmental judgement into activity-theoretical analyses, yet take fully into account the diversity and multiplicity inherent in human activities?

And thirdly, what kind of a methodology is appropriate for activity-theoretical research – a methodology that could bridge the gaps between the basic and the applied, between conceptualization and intervention?

Before I present some personal views on these three questions, I want to emphasize what I see as the first prerequisite for any fruitful elaboration of these issues. This is the idea of mediation.

It is somewhat amazing that in the recent theoretical discussion concerning the concept of activity, very little attention is paid to the idea of mediation. Yet it is this idea that runs as the unifying and connecting lifeline through the works of Vygotsky, Leontyev, Luria, and the other important representatives of the Soviet cultural-historical school, making attempts to prove 'theoretical oppositions' between these scholars look more like trickery than serious and original analysis.

Mediation by tools and signs is not merely a psychological idea. It is an idea that breaks down the Cartesian walls that isolate the indivi-

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dual mind from the culture and the society.

This expansive potential is evident if we look at the notion of control. The traditional division between social sciences and psychology has created the still prevalent dichotomous notion, according to which humans are either controlled from the outside by the society, or controlled from the inside by themselves. In the former case, the possibility of human agency and transformation of social structures from below becomes an unexplained mystery. In the latter case, the origins of individual self-determination are attributed to the equally mysterious sources of biological urges or inherent 'free will'. When Vygotsky formulated his idea of mediation, he was very conscious of the revolutionary implications concerning control. Calling the mediating artifact 'auxiliary stimulus', he wrote:

"Because this auxiliary stimulus possesses the specific function of reverse action, it transfers the psychological operation to higher and qualitatively new forms and permits the humans, by the aid of extrinsic stimuli, to control their behavior from the outside." (Vygotsky 1978, p. 40; italics in the original.)

The idea is that humans can control their own behavior – not 'from the inside', on the basis of biological urges, but 'from the outside', using and creating artifacts. This perspective is not only optimistic concerning human self-determination. It is an invitation to serious study of artifacts as integral and inseparable components of human functioning. As Marx Wartofsky (1979, p. 205) put it, "the artifact is to cultural evolution what the gene is to biological evolution." It is no accident that some of the most creative researchers in cogni-

tive science – Donald Norman and Ed Hutchins, for example – are today focusing their research on the role of artifacts in cognition (see Norman 1988; Hutchins 1990). Activity theory has the conceptual and methodological potential to be a pathbreaker in studies that help humans gain control over their own artifacts and thus over their future.

Modeling the activity system

I am convinced that in order to transcend the oppositions between activity and process, activity and action, and activity and communication, and to take full advantage of the concept of activity in concrete research, we need to create and test models which explicate the components and internal relations of an activity system. My actions of preparing and presenting this opening address could be represented using the classical triadic model (see figure 1).

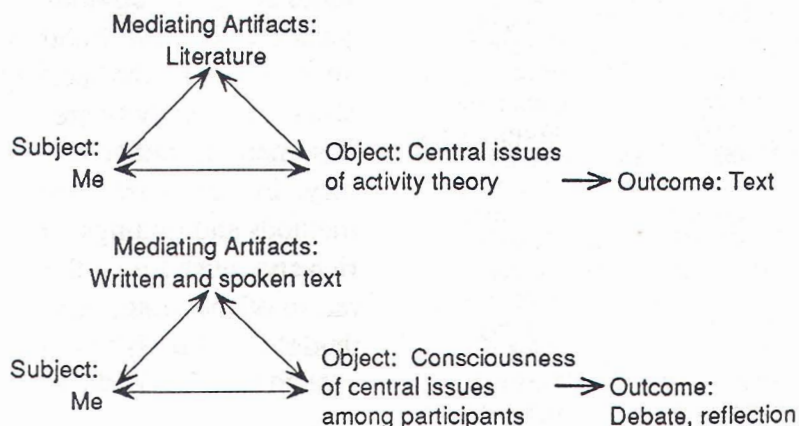
The first triangle represents my actions of preparing and writing this speech with the help of available literature. The second triangle represents my subsequent actions of presenting this speech in this congress, using the written text and spoken words as my most

important mediating artifacts. The problem with this classical representation is that it does not fully explicate the societal and collaborative nature of my actions. In other words, it does not depict my actions as events in a collective activity system. The outcomes of my actions appear to be very limited and situation-bound: a particular text, a momentary impact on the listeners. If this is all there is to gain, why did I bother and prepare this speech in the first place? Somehow, this level of representation hides or obscures the motive behind the actions.

To overcome these limitation, the model may be expanded in the following way (see figure 2)

In figure 2, I depict the structure of an emerging activity system that might be called 'international activity-theoretical collaboration'. The subject has been changed. It is not anymore 'me' as an individual. Rather, I place myself into a diverse international group of scholars who initiated this organization. The central issues of activity theory remain the object – that is what connects my individual actions to the collective activity. However, the projected outcome is not anymore momentary and situational;

Figure 1: Triadic representations of actions



rather, the projected outcome consists of societally important new objectified meanings and relatively lasting new patterns of interaction. It is this projection from the object to the outcome that, no matter how vaguely envisioned, functions as the motive of this activity and gives broader meaning to my actions. The most important mediating artifacts in this activity system are the international congresses and the International Newsletter.

The social basis of this activity is the rather loose worldwide community of scholars interested in activity theory. The rules are equally loose: largely tacit conventions of international scientific collaboration, and the purposefully very flexible statutes of the ISCRAT. Finally, the division of labor within the loose community seems to consist of multiple layers of fragmentation and compartmentalization.

In figure 2, I have put lightning-

the other hand (number 2). These indicate contradictions between central components of the activity system. In my analysis, the first contradiction exists currently between the very challenging issues activity theory is facing *and* the rather weak instruments of collaboration and discussion at our disposal.

The second contradiction exists between those challenging issues *and* the fragmented division of labor that keeps pulling different disciplines, national groups and schools of thought apart from joint discussion.

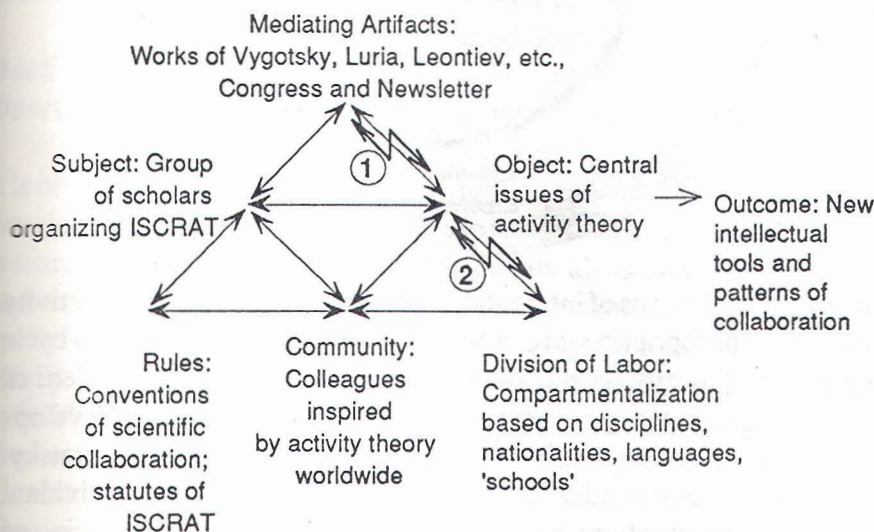
This necessarily brief attempt at modeling the activity system in which we are right now engaged will surely evoke objections and criticism, hopefully also further elaborations and alternatives. If so, the model is serving its purpose.

The models presented above indicate that it may be very fruitful to move from the analysis of indivi-

like'. The most well-planned and streamlined actions have failures, disruptions and unexpected innovations. These are very difficult to explain if one stays at the level of actions – the analysis of the activity system may illuminate the underlying contradictions which give rise to those failures and innovations as if 'behind the backs' of the conscious actors.

The suggested model of activity system also highlights the subject-community relations – communicative relations – as an integral aspect in activity systems. There are other kinds of communicative relations, typically those where representatives of different activity systems interact. Those relations need further elaborations of the model, perhaps entirely new models. But I am quite confident that serious research using and developing these kinds of integrated models will enable us to overcome the opposition between activity and communication.

Figure 2: A complex model of an activity system



shaped arrows between the object and the mediating artifacts on one hand (number 1), and between the object and the division of labor on

dual actions to the analysis of their broader activity context, and back again. Actions are not fully predictable, rational and 'machine-

Historicity and Diversity

A key task in historical analysis is periodization. One must divide the stream of historical events into larger patterns which have meaningful characteristics of their own. What would be an appropriate period or pattern at the level of the historical evolution of an activity system, such as the one in my example?

Zerubavel's (1979; 1981) analyses of time in organizations yield multiple layers of repetitive cyclic time structures. However, cycles do not have to be repetitive; they can also lead to the emergence of new structures. G. P. Shchedrovitsky, one of the few Soviet acti-

vity theorists who has for a long time been concerned with the development of collective activity systems, points out that "it is quite natural to endeavor to represent reproduction as *cycles* resulting in the formation of a new social structure on the basis of some preceding one" (Shchedrovitsky 1988, p. 7; italics in the original). Such an irreversible time structure may be called an expansive cycle (Engeström 1987).

Whether we are talking of repetitive or expansive cycles, it is important to note that activity time is qualitatively different from action time. Action time is basically linear and anticipates a finite termination. Activity time is recurrent and cyclic. Action time corresponds to 'time's arrow' and activity time to 'time's cycle', in the terminology of Stephen Jay Gould (1987).

For the historical understanding of activity systems, expansive cycles are of crucial importance. We know little of the dynamics and phases of such developmental cycles. It seems promising to analyze these cycles in terms of stepwise formation and resolution of internal contradictions in activity systems. The trajectory of an activity system moving through such an expansive cycle seems to go through phases of 'far from equilibrium' conditions (Prigogine & Stengers 1984).

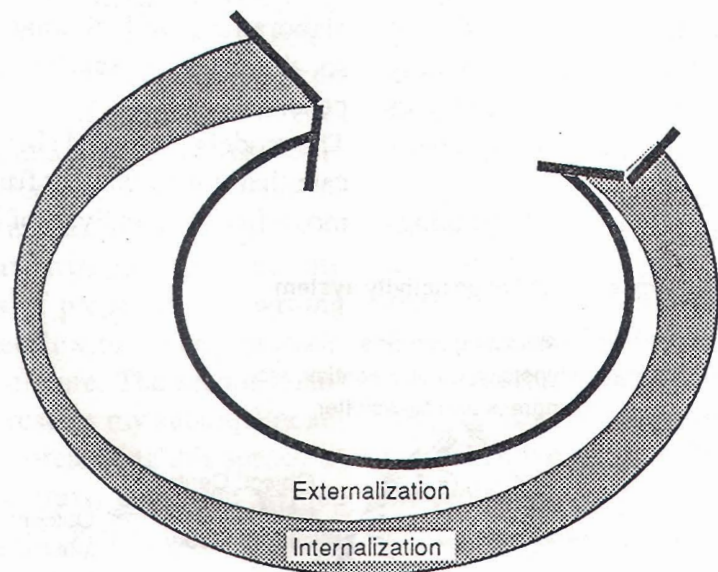
These observations have important consequences for some of the dichotomies discussed above.

First of all, the opposition between continuous psychic process and discontinuous activity begins to look questionable. Perhaps this opposition is at least partially based on an insufficient differentia-

tion between the time structures of action and activity.

Secondly, the opposition between internalization and creative externalization may be put in a new light. Obviously an expansive cycle is a developmental process that contains both internalization and externalization. The new activity structure does not emerge 'out of the blue'. It requires reflective analysis of the existing activity structure – one must learn to know and understand what one wants to transcend. And it requires reflective appropriation of existing culturally advanced models and tools that offer ways out of the internal contradictions.

Figure 3: The expansive cycle



However, these forms of internalization or appropriation are not enough for the emergence of a new structure. As the cycle advances, the actual design and implementation of a new model for the activity gain momentum: externalization begins to dominate. This is schematically depicted in figure 3.

In figure 3, the expansive cycle of an activity system begins with

almost exclusive emphasis on internalization, on socializing and training the novices to become competent members of the activity as it is routinely carried out. Creative externalization occurs first in the form of discrete individual innovations. As the disruptions and contradictions of the activity become more demanding, internalization takes increasingly the form of critical self-reflection – and externalization, search for solutions, increases. Externalization reaches its peak when a new model for the activity is designed and implemented. As the new model stabilizes itself, internalization of its inherent ways and means becomes again the dominant form of learning and development.

At the level of collective activity systems, such an expansive cycle may be seen as the equivalent of the zone of proximal development, discussed by Vygotsky (1978) at the level of individual learning. From the viewpoint of historicity, the key feature of expansive cycles is that they are definitely not predetermined courses of one-dimensional development. What is more advanced, 'which

way is up', cannot be decided using externally given fixed yardsticks. Those decisions are made locally, within the expansive cycles themselves, under conditions of uncertainty and intensive search. Yet they are not arbitrary decisions. The internal contradictions of the given activity system in a given phase of its evolution can be more or less adequately identified, and any model for future which does not address and solve those contradictions will eventually turn out to be non-expansive.

An activity system is by definition a multi-voiced formation. An expansive cycle is a re-orchestration of those voices, of the different viewpoints and approaches of the various participants. Historicity in this perspective means identifying the past cycles of the activity system. The re-orchestration of the multiple voices is dramatically facilitated when the different voices are seen against their historical background, as layers in a pool of complementary competencies within the activity system.

Back to Transformations: The Developmental Method

It is often said that the formative or developmental experiment is the research method most adequate and characteristic to activity theory. Sylvia Scribner (1985) has carefully demonstrated that Vygotsky's idea of the appropriate method was not reducible to any single technique. Scribner traces four moments or steps in the methodology sketched by Vygotsky: (1) observation of contemporary everyday behavior, or 'rudimentary behavior', (2) reconstruction of

the historical phases of the cultural evolution of the behavior under investigation, (3) experimental production of change from rudimentary to higher forms of behavior, (4) observation of actual development in naturally occurring behavior.

This is actually a cyclic methodology for understanding transformations at the individual level, emphasizing the internalization of culturally given higher psychological functions. Today it is increasingly evident that these are not the only kinds of transformations that must be understood and mastered. People face not only the challenge of acquiring established culture; they also face situations where they must engage in formulating what shall be desirable culture. In order to understand such transformations going on in human activity systems, we need a methodology for studying expansive cycles. Such a methodology does not easily fit into the boundaries of psychology or sociology or any other particular discipline.

I want to suggest that such a methodology is best developed when researchers enter actual activity systems undergoing such transformations. I am not suggesting a return to naive forms of 'action research', idealizing so called spontaneous ideas and efforts coming from practitioners. To the contrary, the type of methodology I have in mind requires that general ideas of activity theory are put into the acid test of practical validity and relevance in interventions which aim at the construction of new models of activity jointly with the local participants. Such construction can only be successful when based on careful historical and

empirical analyses of the activity in question.

This approach gives new contents to the notion of formative experiments. Instead of only forming experimental skills and mental functions in the students, the researchers will be engaged in forming societally new artifacts and forms of practice, jointly with their subjects. The validity and generalizability of the results will be decided by the viability, diffusion and multiplication of those new models in similar activity systems. The key 'findings' or outcomes of such research are novel activity-specific intermediate-level theoretical concepts and methods – intellectual tools for reflective mastery of practice. Such intermediate theoretical concepts provide a two-way bridge between general theory and specific practice. This way, the concept of activity as principle of explanation may be continuously re-examined and reconstructed by making concrete activities the objects of study.

This approach implies a radical localism. The idea is that fundamental societal relations are present in every local activity. And vice versa, the mightiest, most impersonal societal structures can be seen as consisting of local activities, carried out by concrete human beings, even if they may take place in political offices and corporate board rooms instead of factory floors and street corners. In this sense, it might be useful to try and look at society more as a multi-layered network of interconnected activity systems, and less as pyramid of rigid structures.

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Activity Theory and the Concept of Integrative Levels

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The work and theory of Vygotsky (1978; 1987), Luria (1966; 1987) and Leontyev (1978) reflect their commitment to dialectical and historical materialism. This commitment led to their interest in the phylogeny as well as the ontogeny of the activity of organisms. The personal and societal histories of these three leaders in human science did not make it possible for them to be aware of complex developments in the study of the evolution of behavior. Vygotsky was clearly knowledgeable about the most well-known research in primate behavior, but the significant theoretical controversies about such work were to occur after his lifetime. Luria and Leontyev were equally well-read in the European and North American literature. However, they also were part of the Soviet scientific community and reflected the

dominant thinking in the biological and physiological disciplines. Soviet scientists by and large accepted the traditional division between "animals" and humans; although humans had some "lower animal instincts, drives and emotions," humans were reflective primarily of societal processes (Graham, 1987). The history of this view in relation to Marx, Engels and Lenin requires its own treatment, but it is fair to say that it was the view held by those three dialectical materialists as well as by Vygotsky, Luria and Leontyev (the "Troika" of activity theory).

This belief by the Troika does not detract from their significant development of human activity theory based on historical and dialectical materialism. It is possible, however, that some consideration of more recent thinking is warranted. One example of contempora-

ry thought is the concept of integrative levels, a conceptual application of dialectical and historical materialism to the evolution and development of behavior.

The vitality of dialectical and historical materialism is at issue today in two of its most creative and useful expressions: activity theory and the concept of integrative levels (Tobach, 1989). These two expressions are interconnected and interdependent. They provide the theory for developing a concomitant practice in the scientific community, in research and training, and in society in general, for the struggle against anti-human ideologies and policies. In other words, they provide the guidelines for studying and informing individual humans and society, the theme of the Congress.

The concept of integrative levels has a long history; I am constrained to cite its more modern beginnings; first, the work of Joseph Needham, a biochemist, who formulated the basic premises of the concept in the 1920's; second, the article by Alex Novikoff, also a