

Criticisms of Vygotsky's concept of Activity

Vygotsky is remembered for his psychological work: formation of concepts in adolescence, child development, learning disabilities, educational psychology, memory, attention, speech, cognition and so on. Activity Theory, on the other hand, is marked by its effort to extend the scope of problems dealt with beyond the boundaries of psychology narrowly understood, using the notion of activity to describe the dynamics of social interactions and societal phenomena, and explicitly taking account of societal phenomena in its psychology. Vygotsky, however, never attempted to make critical inroads into social theory. But this does not at all mean that Vygotsky did not have a concept of activity (Davydov & Radzikovskii 1985). Vygotsky did not develop the differentiation between action and activity which we owe to Leontyev, but Vygotsky did have a concept of *action* and his concept of action shall play a crucial role in the critique and reconstruction of the concept of activity.

To *summarize* what we have learnt from Goethe, Hegel, Marx and Vygotsky about the idea of 'unit of analysis' (under its various names) as the starting point for a science.^[1] By its very nature, there can be no formula for the determination of the unit of analysis which arises, ultimately, from *insight* into the subject matter of the science, but three requirements for a unit of analysis may be elaborated as follows.

(1) *It is the conception of a singular, indivisible thing* (not a collection or combination of distinct things) (Hegel 2009 §86), but it is typically a *particular* genus of some universal (such as commodity relation, private property, conditioned reflex).

If we make a start from what is a collection of things, this simply means that we have not started at the real beginning, having already uncritically accepted as given the component concepts and their relation with one another. But the beginning may certainly be the *intersection* of two concepts, that is, a particularization of something more general. Although the concept must be a singular thing, for it to be the basis of a science, some internal tension or contradiction must be discovered within the concept.

(2) *It exhibits the essential properties of a class of more developed phenomena.*

The point is to discover *which* thing exhibits the essential properties of the class of phenomena. The discovery of the 'cell' is always the outcome of a search for the essential relation behind a persistent series of problems or relations. What is essential is what exhibits the problem. As a cell, it is not a typical relation, but rather the most primitive of its type, a *prototype* (Hegel 2009 §163). The unit of analysis poses the key problems which can be examined without presuppositions. Historical or developmental investigation helps differentiate the essential from the inessential, but the concept must be the logically first, not the first in time.

But the 'cell' originates from *outside* the science in question (Hegel 1952 §2), so as to make a finite beginning, while having its foundation in the universal. Wertsch (1985: 196) wrongly demands the opposite, taking meaning to be a property of a closed system of signs, which, being therefore foreign to consciousness, "it is not a unit for analyzing human consciousness itself."

(3) *It is itself an existent phenomenon* (not a principle or axiom or hypothetical force or such like non-observable) (Davydov 1990: 282), in Goethe's term, an *Urphänomen* (Goethe 1996).

A science can only base itself on something real and empirically given. But the existent thing must be captured as a *concept* because it is the starting point both for a real development and for the development of understanding. For example, if we understand a child's 'social situation of

^[1] Zinchenko (1985) and Engeström (1987) just list requirements arbitrarily, according to their own reflections on the matter, without any enquiry into the origins of this concept. It was in order to overcome these shortcomings that we have devoted such attention to the sources of CHAT prior to Vygotsky.

development' simply as a collection of factors capable of influencing the prospects for a child's development we have nothing more than an excuse to do some statistics. On the other hand, when we grasp the situation as a predicament, a trap from which the child must emancipate herself (Borozhov 2004), then we have what is *both a concept and an existent reality*. Vygotsky's (1997: 318) discussion of Pavlov's study of salivation in dogs confirms that Vygotsky used this same conception of 'unit of analysis'. This requirement also rules out 'origins stories', taking as one's starting point some situation supposed to have existed in the past. The requirement that the *Urphänomen* be an observable, is that it be observable in principle. The molecule and the cell were not visible under any kind of microscope at the time they were proposed, but they were *parts* which were *in principle* observable, albeit with the use of instruments. For example, when Hegel took the abstract concept of Objective Spirit to be *Recht* or legal right, he was insistent that law "in its objective existence, it is posited, ... when thinking makes it determinate for consciousness what is right and valid," i.e., in written statutes available for all to see (Hegel 1952: 134-5).

Wertsch (1985) cited Zinchenko in support of this criterion, and Zinchenko (1985) in turn cited Davydov in support, although Zinchenko has no idea of the 'cell' as expressing the *concept* of the subject matter, but rather reduces it to a problem of finding something possessing each of a check list of attributes deemed to be 'essential'.

Davydov wrongly held that the unit of analysis must be the *historically* first, which is not true; the unit of analysis is the logical first, not the first in time (Marx 1986: 39ff). But he agreed that the 'cell' must be empirically real:

"The aforementioned requirements can be met only by an entirely *real* relationship that is given in a form *that can be contemplated by the senses*. As an aspect of something concrete – that is, having its *particular* form – it at the same time functions as a genetic basis for another whole (and in this sense it functions as a universal). Here the real, objective unity of the individual (particular) and the universal, their *connection*, which mediates the process of development of the whole, is observed" (Davydov 1990: 282).

So the unit of analysis remains simply a 'building block' of a larger more complex phenomenon, with all its emergent phenomenon, but the 'cell' must be conceived and chosen so as to provide the building block for *conception* as well as *actuality*.

Vygotsky's Unit of Analysis for Consciousness

Vygotsky made a number of investigations in different domains of psychology, but the work we are concerned with here is his approach to the central category of psychology, consciousness.

What, in very broad outline, was Vygotsky's approach to a science of consciousness?

The first problem which faced anyone wishing to create a genuinely scientific psychology was the problem of the inaccessibility of consciousness to observation. The subjective psychologists had accepted the method of introspection to 'observe' consciousness, which the behaviorists had (rightly) rejected as unscientific. What is taken to be an 'observation' of one's own consciousness is just more consciousness; 'observation of consciousness is meaningless phrase'. But the behaviorists had (wrongly) rejected the observability of consciousness altogether. Consciousness is a consequence of two objective processes – human physiology and human behavior – each reflecting the other, and both the processes of which consciousness is a consequence are observable and subject to scientific study (Vygotsky 1997b: 322-328).

Vygotsky likened the problem to that of the historian who can access the facts of the past only by the documents and traces they leave, "nevertheless in the end *they study the facts that have been*, not the traces or documents that remained and were preserved. Similarly, the psychologist is often in the position of the historian and the geologist. Then he acts like a detective who brings to light a crime he never witnessed" (Vygotsky 1997). But although consciousness is therefore accepted

as the central concept of psychology, it cannot serve as the *starting point*.^[2] Psychology had to set out from the observation of behavior,^[3] but the actions of the researcher as well as the research subject and their interaction had to be taken together as the research data and controlled. The behaviorists were wrong in thinking that the behavior of the research subject could be taken as a unit in isolation from the researcher's questions, instructions, research aims and so on. The research which would disclose consciousness would have to be the study of interactions.

So requirement (3) obliged Vygotsky to look to the joint action of the two subjects (the researchers themselves as well) for a unit of analysis for psychology, not a thought-form, state of consciousness or some such metaphysical entity, even though consciousness is a legitimate, indeed the central, concept for scientific psychology. Because its nature has to be imputed from data of a different kind, a form of consciousness cannot itself be a unit of analysis.

Taking note of Pavlov's success in the exhaustive study of just one reflex, and his widely-shared conviction that speech is the most *highly developed* mode of behavior, Vygotsky decided that to resolve the key problems of psychology he should take the word as a 'microcosm':

"Thinking and speech are the key to understanding the nature of human consciousness. ... Consciousness is reflected in the word like the sun is reflected in a droplet of water. The word is a microcosm of consciousness, related to consciousness like a living cell is related to an organism, like an atom is related to the cosmos. The meaningful word is a microcosm of human consciousness" (Vygotsky 1987: 285).

Here Vygotsky follows Marx's dictum: "Human anatomy contains a key to the anatomy of the ape" (Marx 1986a: 42), but this is not a claim that the meaningful word is a unit of analysis *in general*. It is a claim that word-meaning is a unit of analysis for the relation of thinking and speech, or 'intelligent speech', which is the microcosm of consciousness. Although Marx studied the simplest relation of bourgeois society, the commodity, he studied the simplest relation of the *most developed* form of human life, bourgeois society.

Marx seems to be in agreement with Vygotsky about the focus on language:

"One of the most difficult tasks confronting philosophers is to descend from the world of thought to the actual world. *Language* is the immediate actuality of thought. Just as philosophers^[4] have given thought an independent existence, so they were bound to make language into an independent realm." (Marx 1975j: 446)

Note the double edge to this observation by Marx: "*Language* is the immediate actuality of thought," and therefore perhaps a starting point for psychology, but he goes on to ridicule philosophers who were "bound to make language into an independent realm." "Theses on Feuerbach" had talked exclusively of *activity* and had not a single word to say about language. So Vygotsky would have been very clear that he was following Marx in focusing on word meaning in order to find the *key* to consciousness, but not claiming that word meaning was a unit of analysis for consciousness *in toto*, because he understood that language does not constitute an 'independent realm'!

Kozulin (1990), on the other hand, seems to conflate microcosm and unit of analysis when he quotes the paragraph on the 'microcosm of human consciousness' to show that for Vygotsky: "To study human consciousness means to study this sensible structure and verbal meaning is the

[2] Descartes set off from consciousness as his starting point, possible because he relied on introspection, but this led to a number of well-known difficulties, including the mind/matter dichotomy which necessarily follows from the use of consciousness as the starting point for understanding itself.

[3] Similarly, the central concept of "Capital" was capital, but Marx began with the commodity, which had its historical origins outside of bourgeois society.

[4] Marx always uses the word 'philosophers' either to mean Hegel, or ironically, meaning 'an alienated human being', and never as a proxy for truth.

methodological unit of this study.” Wertsch (1985) reads Vygotsky in the same way, but ascribes the obvious error to Vygotsky, rather than to what seems to be his own misreading of Vygotsky.

Next we need to clarify exactly what is meant by ‘word meaning’. Vygotsky is taking a little poetic license here. He does not literally mean ‘word’, as in ‘the’ or ‘of’, or ‘boot’ and ‘camp’ but not ‘boot camp’. With ‘word’ he means *the sign for a concept* (see Vygotsky 1998a: 50). ‘Word’ is a special kind of artifact, that is, a material thing with ideal properties, functionally dependent on the language of which it is a part, and thereby of the entire culture. It is also essentially a product and means of human action. Meaning is simultaneously subjective and objective, it has both categorical sense and reference to an object. Meaning can only be interpreted as a species of action. A word in-itself has *potential* for meaning, but meaning is only manifested when it is used by a person in a social context where it is meaningful. Word meaning is a *concept-in-action*.

Hegel understood a social formation as a formation of consciousness. We have made Hegel intelligible by interpreting spirit as activity in Marx’s sense. For Hegel, the unit of analysis of a ‘formation of consciousness’ is a concept. If we were to make the mistake Marx referred to above, of making language an independent realm, then ‘word meaning’ corresponds precisely to this reading of Hegel. Word meaning is a unity of the word, a material artifact with ideal properties, a person using the word and the social action of enacting the word in a given social context. This is the same universal-individual-particular form of concrete concept which we identified in the work of Hegel, Marx and Vygotsky earlier, which facilitated these writers to theorise a *Gestalt* without fragmenting the whole from the outset. Norris Minnick (1997) noted that in using the expression ‘word meaning’, Vygotsky “rejected the use of scientific constructs such as ‘concept’ and ‘language’ in this context.” This observation points to a real strength of Vygotsky’s approach.

V. P. Zinchenko (1985) was right when he said that: “one can consider tool-mediated action as being very close to meaning as unit of analysis.” In fact, word-meaning is a *special case of joint artifact-mediated action*.

I disagree with Roth and Lee, citing Kozulin (all advocates Activity Theory), who claim:

“At the risk of oversimplification, Vygotsky privileged sign or semiotic mediation, especially in the form of speech, whereas the activity theorists succeeding him widened the scope to view object-related practical activity as the proper unit of analysis (Kozulin 1986)” (Roth & Lee 2007).

This is like criticizing Marx for privileging the commodity as against production. One begins from the simplest form of the most highly developed relation. And in reality, Vygotsky by no means restricted himself to speech and language in the short span of his work in psychology. For example, his study of child development, much of which concerns pre-lingual infants, and the ‘double stimulation’ experiment cited above, in which Vygotsky demonstrates how artifact-mediated collaborative action *generates* forms of consciousness, satisfying requirement (2) above.

By choosing as his starting point, word-meaning or artifact-mediated joint action, Vygotsky’s intention was to determine a single thing, as per requirement (1) above.

“Word meaning is a phenomenon of thought only insofar as thought is embodied in speech, and of speech only insofar as speech is connected with thought and illuminated by it. It is a phenomenon of verbal thought, of meaningful speech – a union of word and thought” (Vygotsky 1987: 244).

Vygotsky traced the development of speech and of thinking and determined that thought and speech have different genetic roots and the two functions develop along different lines and independently of each other, but at a certain point, the two trajectories intersect and verbal thought arises (Vygotsky 1987: 101). This is a classic demonstration of inner contradiction in the unit, how the unit arose out of its conditions as both a finite thing and a definite concept.

The ‘double stimulation’ scenario is very explicit. The researcher is able to observe the creation of a psychological function in a child by setting the subject a task they can’t quite manage, and then offering them an artifact so that the subject is able to complete the task by using the artifact. The ‘double stimulation’ experiment shows clearly that the unit which may be used to study the development of consciousness is the collaborative use of an artifact. The scenario is an *artifact-mediated collaborative action*, or as it is often expressed, ‘joint mediated action’; and ‘tool’ may be substituted for ‘artifact’, as in ‘joint artifact-mediated action’ or ‘joint tool-mediated action’, etc.. All these expressions are synonymous.

So the conclusion is that Vygotsky determined the unit of analysis for psychology to be ‘joint artifact-mediated action’. Let us briefly review the conclusions that a couple of other writers have come to in respect to Vygotsky’s unit of analysis for the study of consciousness. Quoting Vygotsky’s article “The instrumental method in psychology,” Engeström (1987) says:

“According to Vygotsky, the instrumentally mediated act ‘is the simplest segment of behavior that is dealt with by research based on elementary units’.”

In the context of Engeström’s Activity Theory approach, ‘act’ and ‘action’ are effectively synonymous, and are used appropriately in preference to ‘activity’ which suggests a societal aggregate of actions. But in Engeström’s reading, Vygotsky recognized a dichotomy of artifacts: *signs* used in communicative acts, and *tools* used in instrumental acts (following the terminology of Habermas 1987), leading to two distinct units of analysis. I don’t accept that such a dichotomy is either sustainable in its own right, or can be unambiguously ascribed to Vygotsky (See for example Davydov and Radzikovskii 1985). Nonetheless, it is fair to say that in specialized domains of investigation, different types of artifact, and therefore different units of analysis, are needed. The notion of ‘artifact’, a category which includes symbols, tools and the human body and every product of human art, provides a truer reflection of Vygotsky’s approach. It is not clear whether Engeström’s omission of ‘joint’ or any equivalent term in the above quote is deliberate or incidental, but Engeström goes on to cite Leontyev in a manner which suggests he agrees with a criticism to the effect that Vygotsky saw actions as inherently individual. If, for example, I am planting potatoes with my hoe, this appears to be an individual action. But the seeds, the soil and the hoe are all social products and my motivation is social: I grow potatoes for sale. Activity Theorists claimed to have solved this problem, but perhaps Vygotsky was closer to a solution than he is given credit for. We will return to this issue below.

Michael Cole (2000) reads Vygotsky’s unit of analysis for psychology as “joint artifact mediated activity.” Following Vygotsky, Cole does not make a distinction between ‘action’ and ‘activity’. Absent the specialized meaning given by Leontyev to ‘activity’ as opposed to ‘action’, this is not an issue of principle. For his own work, Cole extends this unit of analysis to ‘joint, mediated, activity in context’ and we will return this issue below.

Wertsch (1985: 198) concluded that since ‘word meaning’ did not prove to be an adequate unit of analysis for consciousness in general (having failed to observe the difference between microcosm and unit), then a foundation for the investigation of consciousness had to be sought in Leontyev’s activity theory. Nonetheless, Wertsch does conclude that “tool-mediated, goal directed action is the appropriate unit of analysis in Vygotsky’s approach” (1985: 208).

Leontyev’s Criticism of Vygotsky’s Unit of Analysis

The core of Leontyev’s criticism of Vygotsky’s psychology was this: when a person is carrying out some action, for example if they are a beater in a collective hunting group, their aim is to get food, but in the light of this aim, the goal of their action, to scare the game away, is senseless from the psychological point of view. It is only when account is taken of the beater’s participation in a division of labor can it be seen that the group’s motive of catching the game and thereby satisfying the *group’s* aim, is achieved by the beater’s action, and that as a result of the beater behaving according to the norms of the group, his personal need for food will be met by the group according to the appropriate norms. Thus according to Leontyev, there is a gap in Vygotsky’s analysis since the very goals which motivate a person’s actions remain out of view in the scenario

of artifact-mediated action. The task is just given to the subject; why? and why does the subject carry out the given task? Clearly these are psychologically crucial facts, and yet there is no place for them (it appears) in Vygotsky's unit of analysis.

Engeström (1987), made the following commentary on Leontyev's observation:

"These lines, originally published in 1947, demonstrate the insufficiency of an individual tool-mediated action as a unit of psychological analysis. Without consideration of the overall collective activity, the individual beater's action seems 'senseless and unjustified' (Leontyev 2009: 187). Human labor, the mother form of all human activity, is co-operative from the very beginning. We may well speak of the activity *of the individual*, but never of *individual activity*; only actions are individual.

"Furthermore, what distinguishes one activity from another is its object. According to Leontyev, the object of an activity is its true motive. Thus, the concept of activity is necessarily connected with the concept of motive. Under the conditions of division of labor, the individual participates in activities mostly without being fully conscious of their objects and motives. The total activity seems to control the individual, instead of the individual controlling the activity."

The idea is that over history, and the evolution of humankind, action and activity which are initially identical, became separated from one another. Originally, needs were satisfied immediately, but with the deferral of satisfaction and the development of division of labor came a labor process, means of production and cultural mediation of all social processes. This distinction between action with its immediate goals, and activity with its social motivation, is not touched upon by Vygotsky. This is the criticism of Vygotsky which laid the basis for what became known as Activity Theory.

The issues which are opened up by these observations are serious and pose problems which are indeed unsolved in Vygotsky's work, however the view that will be developed below is that Vygotsky had nonetheless created the best methodological foundation, and that there are difficulties in Leontyev's solution. Wertsch put it this way:

"The debate over whether Leontyev's work represents a legitimate extension or a misappropriation of Vygotsky's work has been going on for several years now (cf Davydov & Radzikhovskii 1985, Kozulin 1984, Minick 1986). It is my opinion that Leontyev did not understand, or at least did not incorporate into his own approach, many of Vygotsky's most powerful insights about semiotic mediation and interpsychological functioning. However, as I have argued elsewhere (Wertsch 1985, ch. 7), I also believe that Vygotsky's approach can be extended in important respects by incorporating some of Leontyev's ideas into it. ..." (1997: 227)

Cole and Gajdaschenko explained Leontyev's contribution this way:

"In the highly charged ideological context of the USSR, [some of] Leontyev's writings have been seen as a repudiation of Vygotsky and the substitution of activity for mediation as a unit of analysis. It is certainly plausible that Leontyev, like many others, sought to distance himself from ideas and associations that had led to the death of colleagues and friends. However, given the evidence, it seems more plausible to see his reformulation as an effort to place mediation in its cultural context, extending culture's actual presence both within a Vygotskian framework and in human life. From a contemporary point of view, however, not only meditational means but also the cultural practices of which they are a part constitute culture" (Cole & Gajdaschenko 2007: 206).

A brief answer to Leontyev's criticism would be as follows. In the double stimulation experiment, the subject does not simply discover the artifact to complete a task of their own choosing, but on

the contrary. The task and the relevant artifact are presented to the subject by the researcher. According to Vygotsky, the researcher, with their aims and their access to artifacts, are as much part of the scenario as the subject himself. This is the point: Vygotsky does not look to abstractions to represent 'society' or 'social motives'; the actions of the researcher and the artifacts that they have at hand are the actually existing entities by means of which the culture and wider spheres of social practice are presented to the subject's experience as stimuli for their actions. Vygotsky always focused his scientific work on *interactions between individuals*, rather than using representations of societal phenomena and institutions abstracted from their constitution in specific forms of the activity of human beings. This is his strength, and does not detract from the significance of his work for understanding societal activities. After all, societal institutions exist only in and through individual actions and interactions between individuals.

All the essential aspects of the concept of activity are present in Vygotsky's concept of joint artifact-mediated action. Well, almost. We will return to this question later. In the meantime, we will look briefly at the work of Alexander Meshcheryakov, which demonstrated the potential of Vygotsky's theory in practical application.

Meshcheryakov's Work

Alexander Meshcheryakov was a student of A. R. Luria, and an associate of the leading philosophers of the third generation, Feliks Mikhailov and Evald Ilyenkov. In his application of Vygotsky's ideas, he was able to respond *in practice* to criticisms of Vygotsky's concept of activity.

Meshcheryakov (2009) developed Vygotsky's conception of learning in his work in the education of deaf-blind children. A child who is deaf and blind from infancy will generally not develop a fully human consciousness without scientific intervention. This work gave Meshcheryakov's staff the opportunity to bring consciousness *into being* where it did not previously exist. Further, the teacher is not just 'experimenting' on the child, but *assisting* the child in achieving something it needs to achieve: helping the child gain access to a human life.

In Meshcheryakov's scenario, the teacher manually helps the novice complete a task using an artifact taken from the cultural life of society, and then gradually withdraws that assistance, in such a way that the novice is able to take over the teacher's actions and complete the task autonomously.

In using a spoon to eat, the child does not just satisfy its immediate need for nourishment, but by mastering practical-sensuous actions with the spoon, forms an internal image which contributes to a reconstruction of the whole universe of social conventions and practices with which the spoon, its shape and its presence at dinner time is associated. Meshcheryakov takes us through the process whereby his students learn, step by step, the skills of self-care, play and communicating with others, learn the lay-out of their home, their neighbourhood and the activities which go on in the various buildings, learn a daily timetable, a calendar, the important national holidays and their meaning, learn to grow and prepare food, learn to travel by public transport and explore the country and so on and so forth; in other words, to reconstruct in their own consciousness and activity the entire sweep of the culture of their society.

Meshcheryakov calls the unit of analysis '*shared object activity*' (Meshcheryakov 2009: 294).

"A kind of vicious circle develops: in order to know how to act with the tool the child has to know it, and in order to know the tool it is essential that the child act with it. The vicious circle is broken when the adult begins to teach the child to act with the tool in the process of satisfying its needs. This instruction is only possible in the form of joint object action shared between the adult and the child" (Meshcheryakov 2009: 239).

By means of finite interactions with people and artifacts which are part of a definite cultural-historical society, a person gradually learns the ways of this society and very soon develops their own will, their own life-goals, and goes on to become a full and equal member of the society.

This is a practical demonstration that Vygotsky's scenario contains what is necessary to represent societal phenomena in the psychology of human beings.

Vygotsky's Cultural Psychology

The great strength of Vygotsky's psychology was that he did not begin from abstractions, "just-so" tales or metaphysical entities, but made the foundation of his work individual human beings, their activity and the material conditions and artifacts (including words) that they used. His conviction was that all that was required for a psychology which reflected the formation of the individual by their participation in the ever-changing social life of society was contained in these elements.

Further, Vygotsky began not from the behavior of mollusks searching for food, but from the highest development of social life, including art and literature, science and literary criticism.

Cultural practice is *built into* the artifacts a person uses and the actions of those with whom they are collaborating. Neither Meshcheryakov nor Vygotsky, however, went on from these ideas of interpersonal collaboration to develop an approach to understanding societal phenomena on a broader scale, that is to say, a critical social theory. And this is the problem which Leontyev tackled, to which we will turn shortly.

The fact remains that actions do differ from the activities of which they are a part. What appears to lie over the horizon of Vygotsky's vision is how the aims of the action are interpreted by the acting subject. It cannot be taken for granted that the aims of the action can be inferred by the subject from the actions of those they are interacting with or the nature of the artifact mediating the action. There is room for misunderstanding and non-recognition. Many writers (for example Wertsch and Cole) hold that the *context* of the activity conditions what and how the subject may experience the interactions and the artifacts being used. The teleological aspect of actions presumes an intelligible context in which it all makes sense. Further, the word 'joint', in 'joint mediated activity', is not as well defined as it seems at first sight. What precisely does it mean to say that an action is 'joint'? These matters will be dealt with later.

But what is meant by 'context'? The context is potentially an open-ended infinity of social, physical, cultural and historical circumstances. Just as the understanding of 'social situation of development' entailed forming a *concept* of the situation which captures the way in which the situation determines social interactions and psychological development, so in this more general sense, we need to determine a concept of context which captures the teleological content of a person's action.

Bakhtin

Mikhail Bakhtin was a contemporary of Vygotsky's with whom we see a number of similarities, although Bakhtin was no Marxist. For Bakhtin (1986: 67) the unit of analysis was the *utterance*. Being the entire speech act between 'turn taking', rather than a 'word', this is a more pragmatic unit than Vygotsky's. That is, attention is focused on social interactions between speakers, what Ratner (2008) calls 'micro-culture', rather than the cultural-historical circumstances which invested a word with meaning ('macro-culture'), appropriated by individuals. Also, Bakhtin developed the idea of *genre*. To be intelligible, an utterance must be taken to belong to this or that genre. The genre characterizes the manner in which an utterance is to be interpreted. The genre is not simply the context in which the utterance is uttered, but rather, is a potentially ambiguous property of the utterance itself, which places it in a family-like relationship with other utterances. Like the words and concepts, the utterance is adopted by the speaker from those made available by the culture.

Posed in this way, the relevance of the 'hermeneutic circle' mentioned above is immediately obvious. That is, an utterance gets its meaning in large measure from the genre it is taken to be part of, and the genre is communicated by a wide range of techniques many of which are not linguistic as such.

Bakhtin uses the word 'unit' (Bakhtin 1986: 67-99) and it is clear enough that the concept he is evoking is the same as Vygotsky's unit of analysis. Utterance is a unit which may include many word meanings, much as a molecule can include many atoms. So what we have is two different conceptions of human behavior and consciousness which will clearly shed light on different groups of problems but there seems to be every reason to believe that the concepts of the two sciences are distinct but compatible, in the same way as are those of chemistry and physics. It would seem that Bakhtin's approach is particularly strong in the study of interpersonal action rather than concept-formation.

The idea of turn-taking marking the objective and unambiguous beginning and end of an utterance forces us to reflect on what marks the beginning and end of an action. There would seem to be some merit in taking a similar approach in our understanding of communicative action. When we consider that all actions are carried out within some social context of personal initiative, command, cooperation, collaboration, the idea of turn-taking would seem to be admissible to a generalization. In action we take turns, too. In his early critique of the 'reflex arc', Dewey (1896) argued somewhat to the contrary that the idea of an action beginning from a stimulus and ending with a response must take account of the fact that the act of *perceiving* and the act of moving are both equally sensori-motor acts, and can only be contrasted on a functional or teleological basis, not a qualitative basis. This needs to be taken into account.

The aim of this book is an immanent critique of Activity Theory, so it would divert us from our project to go too far into Bakhtin's theory, but it does seem that elements of his approach ought to be appropriated by Activity Theory, as part of a resolution of its own problems.

In conclusion, we can say that Vygotsky's unit of analysis for the science of consciousness (i.e., psychology) was joint, artifact-mediated action, meeting all the requirements which are appropriate for science in the tradition of Goethe, Hegel and Marx. There are however some problems in the way in which this unit of analysis captures or fails to capture the narrative context, problems which motivated Leontyev to found Activity Theory.

Notes

1. Zinchenko (1985) and Engeström (1987) just list requirements arbitrarily, according to their own reflections on the matter, without any enquiry into the origins of this concept. It was in order to overcome these shortcomings that we have devoted such attention to the sources of CHAT prior to Vygotsky.
2. Descartes set off from consciousness as his starting point, possible because he relied on introspection, but this led to a number of well-known difficulties, including the mind/matter dichotomy which necessarily follows from the use of consciousness as the starting point for understanding itself.
3. Similarly, the central concept of "Capital" was capital, but Marx began with the commodity, which had its historical origins outside of bourgeois society.
4. Marx always uses the word 'philosophers' either to mean Hegel, or ironically, meaning 'an alienated human being', and never as a proxy for truth.