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ARTICLES

The Object of Activity: Making Sense of the Sense-Maker

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The concept of "the object of activity" plays a key role in research based on activity theory. However, the usefulness of this concept is somewhat undermined by the fact that a number of problems related to its meaning and its contexts of use remain unsolved. This article is an attempt to address some of these problems. The article focuses on 3 potential sources of uncertainties and inconsistencies, which may be obstacles to a more fruitful application of the concept of the object of activity in both research and practice. The first source is difficulties related to translation of ideas, originally formulated by Leontiev (1959/1981) in Russian, into English. The second source is different interpretations of the concept of the object of activity within two contemporary approaches in activity theory, the one developed by Leontiev (1975/1978) and the one developed by Engeström (1987). Finally, the article finds the original Leontiev (1975/1978) definition of the object of activity as "its true motive" problematic and calls for separating the object of activity from the motive of activity. The implications of that separation are discussed.

The "object of activity" is undoubtedly one of the most basic concepts of activity theory. Even a brief reading through the most authoritative writings in activity theory immediately reveals numerous references to "object-relatedness" (or "object-orientedness"), which is considered a key attribute of human activity. According to Leontiev (1975/1978),[1]

> A basic or, as is sometimes said, a constituting characteristic of activity is its objectivity [or, rather, "object-relatedness"]. Properly, the concept of its object (*Gegenstand*) is already implicitly contained in the very concept of activity. The expression "objectless activity" is devoid of any meaning. Activity may seem objectless, but scientific investigation of activity necessarily requires discovering its object. Thus, the object of activity is twofold: first, in its independent existence as subordinating to itself and

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[1]The dual reference to the year of publication indicates, respectively, the year of original Russian publication and the year of the English translation listed in the References.

> transforming the activity of the subject; second, as an image of the object, as a product of its property of psychological reflection that is realized as an activity of the subject and cannot exist otherwise. (p. 52)

The prominence of the "object of activity" in the conceptual framework of activity theory is hardly surprising. It appears that much of the theory's appeal to researchers and practitioners alike lies in its view of subjective and objective phenomena as being fundamentally inseparable, and of the object of activity as a crucial link relating them to each other. The object of activity has a dual status; it is both a projection of human mind onto the objective world and a projection of the world onto human mind. Employing the object of activity as a conceptual lens means anchoring and contextualizing subjective phenomena in the objective world, and changes one's perspective on both the mind and the world. Instead of being a collection of "mental processes," the human mind emerges as biased, striving for meaning and value, suffering and rejoicing, failing and hoping, alive, real. On the other hand, the world is no longer just a collection of physical bodies, organizational structures, and so forth, but a place full of meaning and value, a place that can be comfortable or dangerous, restricting or supporting, beautiful or ugly, or (as it is often the case) all of these at the same time.

From a research perspective, the concept of the object of activity is a promising analytical tool providing the possibility of understanding not only what people are doing, but also why they are doing it. The object of activity can be considered the "ultimate reason" behind various behaviors of individuals, groups, or organizations. In other words, the object of activity can be defined as "the sense-maker," which gives meaning to and determines values of various entities and phenomena. Identifying the object of activity and its development over time can serve as a basis for reaching a deeper and more structured understanding of otherwise fragmented pieces of evidence.

In recent years, there has been markedly increased interest in using the concept of the object of activity as an analytical tool in studies of organizational practices, especially those related to scientific and technological innovations. A number of studies based on activity theory have been focusing on historically developing representations of objects of activities, representations that orient, structure, and motivate individual and collective subjects (Foot, 2002a, 2002b; Hyysalo, this issue; Miettinen, this issue; Nardi, 1996, this issue; Saari, 2002, 2003; Sutter, 2002). The complex nature of the relationship between subjects and objects of their activities is characterized as "passion," "falling in love," "desire," "contradiction," and so forth.

To sum up, objects of activities can be considered powerful sense-makers, both for subjects of activities and for researchers. On one hand, creating a concrete representation of the object of activity provides a basis for both rational and emotional dimensions of setting priorities and goals, commitments, planning, and coordination. On another hand, the concept of the "object of activity" is employed as a useful conceptual tool helping to structure and interpret otherwise fragmented and confusing empirical data.

At the same time, it is becoming increasingly evident that the concept of the object of activity itself is problematic. It is important to understand more clearly the specific meaning or meanings of the concept to avoid potential misunderstandings and use of the same term for different meanings. Besides, an analysis of the content of the concept can help apply it to concrete research and practice (for instance, to decide what is or what is not the object of an activity in an individual case) and thus make the concept more operational.

This article is an attempt to reflect upon the meaning of the concept of "the object of activity," its roots in the history of activity theory, and its use in current research. The rest of the article is or-

ganized as follows. The next section starts with an account of how the concept of the object of activity was introduced by Leontiev (1959/1981, 1975/1978) and proceeds to discuss the specific meaning of the Russian word used by Leontiev to denote "the object" in case of the object of activity. After that, different perspectives on the object of activity within two influential approaches in activity theory are compared. Finally, it is argued that the concept of the object of activity can be separated from the concept of motive to provide a better theoretical account of the phenomena of poly-motivation and developmental transformations of the object of activity.

FLAGGING A LINGUISTIC GAP: "OBJEKT" VERSUS "PREDMET"

Activity theory has its roots in German philosophy, and its immediate origins in Russian psychology of the last century. Accordingly, the main ideas and concepts of this approach were first formulated in Russian, with direct references to their German counterparts. It includes the concept of activity itself. Its Russian name, *dejatelnost*, corresponds to German *tätigkeit* rather than *aktivität* (cf. Russian *aktivnost*; Leontiev, 1975/1978). For this and other reasons, the task of translating the grounding works in activity theory to some other languages, especially English, proved to be notoriously difficult and is yet to be completed (cf. Engeström, 1999). Although solving this task is certainly beyond the scope of this article, some implications of translation problems for clarifying the meaning of "the object of activity" are worth mentioning.

The Russian language has two words, *objekt* and *predmet*, both of which are typically translated to English as "object." Leontiev (1959/1981, 1975/1978) used *predmet*, to denote "the object of activity." In Russian *objekt* and *predmet* have very similar meanings, and in many contexts are fully interchangeable. However, there are some subtle differences, which are difficult to grasp even for many native Russian speakers. Although *objekt* deals mostly with material things existing independently of the mind, *predmet* often means the target or content of a thought or an action (Ozhegov, 1982). For Leontiev (1959/1981, 1975/1978) it was important to emphasize these differences (see Stetsenko, 1995). To make the reasons behind this distinction apparent it appears worthwhile to trace the introduction and the use of the concept of the object of activity in Leontiev's (1959/1981, 1975/1978) work.

The conceptual framework of activity theory was developed by Leontiev mostly in two books, *The Problems of the Development of Mind*, originally published in 1959 and translated into English in 1981, and *Activity, Consciousness, and Personality* originally published in 1975 and translated into English in 1978. The first book aimed at providing a historical account of the mind, from the emergence of the most basic forms of mind early in biological evolution to advanced forms of consciousness manifested in human beings. To carry out this project, one of the most ambitious projects in the history of psychology, Leontiev had to develop a conceptual framework, which would be general and fundamental enough to serve as the theoretical basis for that endeavor. The concept of activity was introduced by Leontiev very early in his analysis as the most central concept of the proposed approach. He stated, "I will call the processes of activity the specific processes, through which a live, that is, active relation of the subject to reality is realized, as opposed to other types of processes. " (Leontiev, 1959/1981, p. 49).[2] Immediately after that, Leontiev introduced the concept of the object.

[2]The book was originally published in 1959. This and other quotations from the book refer the fourth Russian edition, published in 1981 and translated by the author of this article.

> Accordingly, I will limit the meaning of "object." Usually this concept has two meanings: in a broad sense, it is a thing related to other things, that is, a "thing having an existence;" in a more narrow sense, it is something that opposes (German *Gegenstand*), something that resists (Latin *objectum*), something at which an action is directed (Russian *predmet*), that is, something to which a living creature is somehow related, as an object of his or her activity, no matter if this activity is an external one or an internal one (for example, "the object of eating," "the object of labor," "the object of contemplation," etc.). From now on the term "object" will be used in this more narrow, special meaning. (Leontiev, 1959/1981, p. 49)

Several things are worth mentioning concerning the initial introduction of the concepts of "activity" and "object" by Leontiev (1959/1981). First, from the outset, the concept of activity and the concept of the object of activity were considered closely related and even inseparable. Second, during the early stages of his work on activity theory Leontiev (1959/1981) did not contrast *objekt* and *predmet*. Instead, he identified two meanings of the same word, *predmet*, to convey the idea of the special status acquired by things when they are involved in activities of living creatures interacting with the world. It was not until later in the evolution of his thinking that Leontiev (1975/1978) came to emphasize the special meaning of *predmet* by contrasting this word to *objekt*. Third, the meaning of the word *predmet* was explained by way of analogy with a German word, *gegenstandt*. The choice of the word *predmet* was likely an attempt to find a Russian equivalent for this concept, which was developed in German philosophy (see also Hyysalo, this issue; Nardi, this issue).

The fundamental ideas of activity and its object, formulated by Leontiev (1959/1981) in the beginning of his analysis of the development of mind, were substantially elaborated over the course of the analysis. Therefore, the outcome of Leontiev's (1959/1981) evolutionary exploration of the mind was twofold. On the one hand, the study produced an account of main developmental stages and transformations in the evolution of the mind. On the other hand, most important concepts and ideas underlying activity theory were developed as a "by-product" of that historical-evolutionary exploration.

These concepts and ideas were then more systematically presented in *Activity, Consciousness, and Personality* (1975/1978). In that book, Leontiev used both *objekt* and *predmet,* carefully selecting them to emphasize the dimension of meaning previously described. Both *objekt* and *predmet* played an important role in formulating basic concepts and principles of activity theory. *Objekt*, denoting the objective, material reality in general (as "things having an existence"), was used to describe a pole of the "subject-object" opposition, through which opposition the notion of activity as a process of mutual transformations between subject and object was defined (Leontiev, 1975/1978, p. 50). The term *predmet* was used consistently with the previous analysis (Leontiev, 1959/1981), that is, to denote objective orientation of activity. The crucial role of the object (*predmet*) of activity was emphasized by Leontiev by repeatedly referring to activity as "object-related" activity (*predmetnaja dejatelnost*).

Therefore, the distinction between *objekt* and *predmet* was intentionally used by Leontiev (1975/1978) to define key concepts of his approach, including the concept of the object of activity. For reasons already mentioned, an adequate translation of this distinction into German and some other languages does not present a serious problem. However, when translating *predmet* into English, there is little choice but to use the same word as the one used to translate *objekt*, that is, "object." Therefore, an important conceptual distinction carefully made by Leontiev (1975/1978) is

lost in English translations. Paradoxically, it appears that one of the few alternatives to separate *predmet* from *objekt*, available in certain contexts, is to translate *predmet* as "subject."[3] For instance, "a subject of dispute" is an accurate translation of the Russian expression *predmet spora*. However, for obvious reasons, using this option when translating Leontiev's (1975/1978) works is likely to be more confusing than helpful.

This discussion may create an impression that it is practically impossible to translate *predmet* into English adequately without extensive commentaries. In general, this impression is probably correct. However, in the specific case of "the object of activity" the linguistic barrier to reconstructing the original meaning of this concept in a language different from the one in which the concept was developed, is not as severe as it appears to be. A few simple guidelines, or rules of thumb, can be used by readers of English translations of Leontiev's (1975/1978) work to identify the intended meaning of "object." These rules can be summarized as follows:

1. In general, the reader should rely on the context, taking into account that "object" is likely to have the meaning of *predmet* if a special emphasis is made on intentional, social, meaningful, and integrated qualities. Running the risk of oversimplification, one can say that *predmet* is more "subjective," and *objekt* is more "objective."
2. In the expression "the object of activity" and related uses, "object" has the meaning of *predmet*.
3. In the "subject–object" distinction and related uses, "object" has the meaning of *objekt*.

Therefore, even though difficulties with translating the original meaning of the Russian word *predmet* do cause certain problems for interpretation of the concept of the "object of activity" in some languages, these problems can be considered technical and can be solved relatively easily. To deal adequately with these problems, one has to keep in mind the semantic differences between the Russian words *predmet* and *objekt* (previously described), and, most importantly, follow the underlying logics of introducing and using these concepts in specific contexts.

UNCOVERING A CONCEPTUAL GAP: HIERARCHIES VERSUS TRIANGLES

Activity theory is not a monolithic approach. Instead, it can be described as a variety of approaches sharing basic principles but differing in how these principles are implemented. Two approaches in current activity theory-based research can be considered the most well known and influential: the one developed by Leontiev (1975/1978, 1959/1981) and the one proposed by Engeström (1987, 1990, 1999). As will be shown, these two approaches provide two different views on the object of activity, differences that are often ignored. Understanding the differences can help increase awareness that the same concept can have different meanings in different contexts, and thus avoid possible confusion.

Before analyzing the two approaches, it should be noted that a comprehensive analysis of similarities and differences between Leontiev's (1959/1981, 1975/1978) and Engeström's (1987,

[3]The double uncertainty associated with translating *predmet* to English was pointed out to the author by Michael Cole (personal communication, May 5, 2003).

1990, 1999) versions of activity theory is a special problem, which requires special treatment. This article does not intend to make a systematic comparison of these important approaches. The aim of the following discussion is more modest and specific, that is, to compare interpretations of the notion of the object of activity within these two frameworks. Second, this discussion focuses on differences between the approaches, rather than on what they have in common. However, this does not mean that these differences are irreconcilable and the approaches are mutually incompatible. On the contrary, these approaches are understood as complementary frameworks, each of which has its strengths and limitations. Because contradictions are the driving force of dialectical development, articulating differences between two prominent voices in activity theory can be considered a way to ensure sustainable development of activity theory as a whole.

For Leontiev, the object of activity is predominantly the object of individual activity,[4] its "true motive" (1975/1978, p. 62). The focus on the individual is determined by the fact that Leontiev developed activity theory within a primarily psychological framework and the category of activity was introduced and explored by Leontiev in the context of psychology. This point can be illustrated by the following quotation:

> Human psychology is concerned with the activity of concrete individuals that takes place either in conditions of open association, in the midst of people, or eye to eye with the surrounding object world—before the potter's wheel or behind the writing desk. Under whatever kind of conditions and forms human activity takes place, whatever kind of structure it assumes, it must not be considered as isolated from social relations, from the life of society. (Leontiev, 1975/1978, p. 51)

Therefore, all activities are considered by Leontiev (1975/1978) to be social, including those that are not carried out collectively. Even if people work alone, their work is determined by social and cultural practices, tools, values, and so forth. In other words, activities can be either individual or collective in respect to their form, but they are always social.

Another idea illustrated by the previous quote is that in the context of psychology activities are understood as *activities of concrete individuals*, even if they are carried out by the individuals collectively, that is, in collaboration with other individuals. In other words, Leontiev's (1975/1978) analysis was predominantly dealing with activities taking place at the individual level, that is, activities as units of life of individual human beings, individual subjects. Even though the possibility of extending the scope of analysis and applying the concept of activity at supra-individual levels, for instance, to consider activities of individuals as contributors to a larger-scale activity carried out by a group or organization, was clearly indicated by Leontiev, his framework was specifically developed for individual activities (i.e., activities in a "narrow sense;" cf. Leontiev, 1975/1978, p. 50). The entirety of life processes of a concrete individual, a human being, was deemed an overarching context for activities (including actions and operations), not the other way around:

[4]It should be noted that Leontiev (1975/1978) relatively seldom referred to "individuals" as subjects of activity. Activities were more commonly described as "activities of the subject" (e.g., p. 50). The reason behind that was that Leontiev understood "the individual" in a special sense, as a predominantly "genotypical formation" (1975/1978, p. 106). He criticized the use of this term in psychology as being excessively wide, and contrasted "the individual" to "personality." A whole section (5.2. "The Individual and Personality") of *Activity, Consciousness, and Personality* (1975/1978) is dedicated exclusively to a discussion of the concept of "the individual." This article uses "the individual" in a more common, broader sense, compared to its use by Leontiev; it freely refers to "individual activities" or "activities of the individual."

> Thus in the total flow of activity that forms human life, in its higher manifestations mediated by psychic reflection, analysis isolates separate (specific) activities in the first place according to the criterion of motives that elicit them. Then actions are isolated—processes that are subordinated to conscious goals, and, finally, operations that directly depend on the conditions of attaining concrete goals. (Leontiev, 1975/1978, pp. 66–67)

As a result of the focus on individual activities, on employing the concept of activity in psychology, the apparent potential of applying the basic principles of activity theory in other disciplines, that is, disciplines dealing with supra-individual activities, was practically not realized by Leontiev (1959/1981, 1975/1978) and his colleagues. An attempt to explore this potential and extend the scope of application of activity theory was made by Engeström (1987, 1990, 1999).

Within that approach the unit of analysis is defined as "object-oriented, collective, and culturally mediated human activity, or activity system. Minimum elements of this system include the object, subject, mediating artifacts (signs and tools), rules, community, and division of labor" (Engeström & Miettinen, 1999, p. 9).

Therefore, activities are understood by Engeström (1987, 1990, 1999) as collective phenomena, both in respect to the scale (as carried out by communities) and in respect to the form (as carried out collectively). Individuals, according to Engeström (1999), can only carry out actions within a larger-scale collective activity system. Using as a point of departure Leontiev's (1959/1981, 1975/1978) view of activity as a mediated "subject–object" interaction, and drawing on a variety of other sources, including biology, anthropology, and philosophy, Engeström introduced the third component of the interaction, community (Engeström, 1987). Adding that component resulted in a model describing a three-way interaction between subjects, objects, and community. This model was then elaborated by suggesting that each of these three interactions can be mediated, and proposing three different types of mediators: tools, rules, and the division of labor. The resulting model is typically represented as a triangular diagram describing the relationship between these components (see Figure 1).

One component of such a model is crucial for this discussion, namely, the object of activity. It is defined as "the 'raw material' or 'problem space' at which the activity is directed and which is molded and transformed into outcomes" (Center for Activity Theory and Developmental Work Research, n.d.).

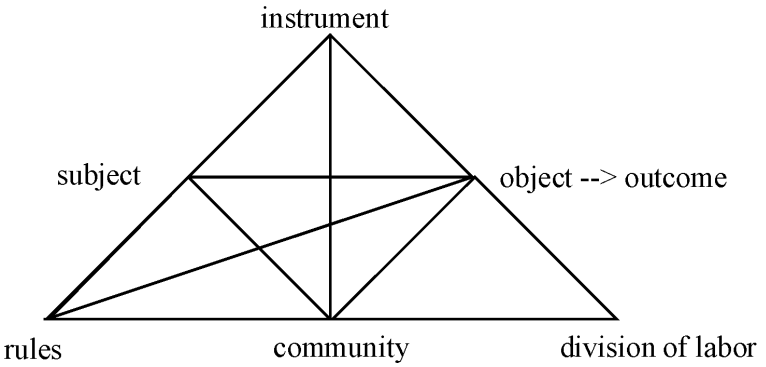


FIGURE 1 The structure of activity according to Engeström (1990).

TABLE 1
Two Perspectives on the Object of Activity

Facets of Activity	*Leontiev*	*Engeström*
Activities are carried out by	Individuals (predominantly)	Communities
Activities are performed	Both individually and collectively	Collectively
The object of activity is related to	Motivation, need ("the true motive")	Production (what is being transformed into the outcome)
Application domain	Psychology	Organizational change

Main points of this discussion can be summarized as follows (see Table 1). For Leontiev (1975/1978), the object (*predmet*) of activity is considered an object of activities carried out by individuals, either collectively or individually, and is related to motivation. The key domain for application of this approach in activity theory is psychology. For Engeström (1987), the object, introduced through the "subject–object" distinction (i.e., as *objekt*), is the object of collective activities. It is predominantly related to production, producing an outcome, even though its relation to human needs and motives is also mentioned. The main application domain of this framework is organizational change. The relative emphasis on, respectively, (a) individual activities and motivation and (b) collective activities and production, characteristic of the two versions of activity theory, should be taken into account when comparing the meaning of "the object of activity" within these frameworks.

The different meanings of the concept within these approaches may cause certain problems for researchers and practitioners. However, the very existence of these differences cannot be interpreted as a weakness of activity theory in general. Quite the opposite, these approaches, which share a number of fundamental theoretical assumptions, can be considered complementary versions of activity theory, each of which is custom designed to deal successfully with practical and research issues in their respective domains, that is, psychology and organizational change. Therefore, these two approaches in activity theory do not compete with each other. They have different scopes and can be fruitfully applied for solving different types of research and practical tasks. In the future, these approaches can be expected to be integrated within a larger-scale multidisciplinary framework.

As mentioned, the difference between these two perspectives is often ignored. In particular, it is sometimes stated that in both approaches, activity is understood as collective. Moreover, Leontiev (1959/1981) is claimed to be the one who introduced a distinction between collective activities and individual actions:

> Mediation by other human beings and social relations was not theoretically integrated into the triangular model of action [proposed by Vygotsky, 1978]. Such an integration required a breakthrough to the concept of activity by distinguishing between collective activity and individual action. This step was achieved by Leont'ev by means of reconstructing the emergence of division of labor. (Engeström & Miettinen, 1999, p. 7)

As shown before, the focus of Leontiev's (1959/1981, 1975/1978) analysis was on activities of individuals, carried out either collectively or "eye to eye with the surrounding object world." The above distinction between collective activities and individual actions is not consistent with the

general framework developed by Leontiev. So, why is this distinction so commonly assigned to Leontiev? It appears the source of the confusion can be found in an interpretation of Leontiev's example of a collective hunting activity, the famous "hunting example" (Leontiev, 1959/1981). In this example Leontiev describes an individual participating in a primeval collective hunt, whose role as a beater is to frighten animals and direct them towards other hunters, hiding in an ambush. This example is used by Leontiev to illustrate that division of labor clearly induces a difference between what motivates a person (in this case, food) and to what person's actions are directed (in this case making animals run away).

The hunting example allows for various interpretations. Of course, it can be interpreted as pointing out that in some cases, human actions appear to make no sense if taken out of the context of a collective activity. However, the intended meaning of this example, according to Leontiev (1959/1981), is somewhat different. The example illustrates that dissociation between individual's activities and actions, that is, between motives and goals, initially emerges as a result of division of labor in collective activities. Eventually, this dissociation becomes a basic aspect of human activities in general, either individual or collective. Leontiev (1975/1978) makes it clear through a less-known "fishing example":

> Let us suppose that the activity of man is aroused by food; this [i.e., food] also constitutes its motive. For satisfying the need for food, however, he must carry out actions that are not aimed directly at getting food. For example, the purpose of a given individual may be preparing equipment for fishing*; regardless of whether he himself will use the equipment he has prepared in the future or give it to others and obtain part of the total catch*, things, which aroused his activity and those to which his actions were directed, are not identical. (p. 63, italics added)

In other words, the "universal law of psychological development," formulated by Vygotsky (1978) for individual development, appears to be also applicable to historical evolution of human mind: new functions and attributes first emerge as distributed between the individual and their social environment (i.e., as "inter-psychological") and then become appropriated by the individuals (i.e., become "intra-psychological").

The extended discussion of Leontiev's (1959/1981) hunting example in this section is intended to demonstrate that the purpose of this example is to provide an insight into historical transformations of the structure of individual activities rather than to point out that activities can only be collective. Therefore, this example cannot be used as an argument for equating the concept of the object of activity developed by Leontiev (1975/1978) with a similar concept used within the approach developed by Engeström (1987). It can be concluded that the object of activity, depending on the approach adopted, can be considered either predominantly individual or exclusively collective. Once again, the differences between these complementary activity-theoretical perspectives should be judged not as a disadvantage of activity theory but as an indicator of diversity, interdisciplinarity, multivoicedness, and developmental potential of the approach.

REVISING THE FRAMEWORK: OBJECTS VERSUS MOTIVES

Finally, some problems related to the notion of the object of activity may result from inconsistencies and contradictions within the conceptual framework of activity theory itself. It should be noted

that activity theory is a developing framework, and it is inevitable that certain concepts should be reformulated or abandoned, and new concepts should be introduced. The ability to overcome its limitations and create new concepts and ideas to meet new challenges, caused, for instance, by application of the framework in a broader range of domains, can be considered an essential strength of the approach.

The analysis that follows deals with one version of activity theory, namely, the approach developed by Leontiev (1975/1978). However, it might have implications for other versions of activity theory, as well, because all research conducted within activity theory is to a large extent inspired by Leontiev's ideas (e.g., Engeström, 1987, 1990, 1999; Miettinen, this issue).

One of the concepts of activity theory that appears to be in a need of a revision is the concept of the object of activity itself. This concept is defined by Leontiev (1975/1978) as follows:

> According to the terminology I have proposed, the object of an activity is its true motive. It is understood that the motive may be either material or ideal, either present in perception or existing only in the imagination or in thought. (p. 62)

It appears that problems with the concept begin with the definition. If the object of activity is its true motive, then two concepts—"the object of activity" and "the motive of activity"—mean basically the same thing. The advantages of having another concept that has the same meaning as "the motive" are not clear. Is the purpose of that concept to differentiate between "true" motives and "untrue" ones? However, no definition of "untrue" motives is provided, which makes such a differentiation impossible.

Another problem with defining the object of activity as its true (or actual) motive is an apparent inconsistency in Leontiev's writing regarding a motive's ability to direct activities. In *Activity, Consciousness, and Personality,* Leontiev (1975/1978) presents two different views. On the one hand, he appears to claim that motives do direct activities. He states, "The main thing that distinguishes one activity from another … is the difference of their objects. It is exactly the object of an activity, that gives it a determined direction." (p. 62).

On the other hand, on the next page of the same book the directing function of the motive is questioned:

> The function of excitation [stimulation, impelling] is, of course, fully presented in the motive. The function of direction is another matter: The actions that realize activity are aroused by its motive but appear to be directed toward a goal. (Leontiev, 1975/1978, p. 63)

Therefore, the question of whether or not the motive directs activity remains open. This question will be addressed later in this section.

One more problem with treatment of the concepts of the motive and the object of activity in Leontiev's (1975/1978) framework is related to poly-motivated activities. The idea that an activity can have several motives at the same time is explicitly expressed by Leontiev (1975/1978): "activity necessarily becomes multimotivational, that is, it responds simultaneously to two or more motives" (p. 123).

However, this idea has practically no impact on the fundamental analysis of needs, motives, and the object of activity carried out by Leontiev (1975/1978). The analysis appears to be based on an implicit assumption that there is a 1:1:1:1 correspondence between activities, needs, motives,

and objects. When Leontiev (1975/1978) points out that the motive emerges as a result of a need meeting its object or when he emphasizes that "an activity does not exist without a motive" (p. 62), he consistently avoids mentioning cases when activities have several motives.

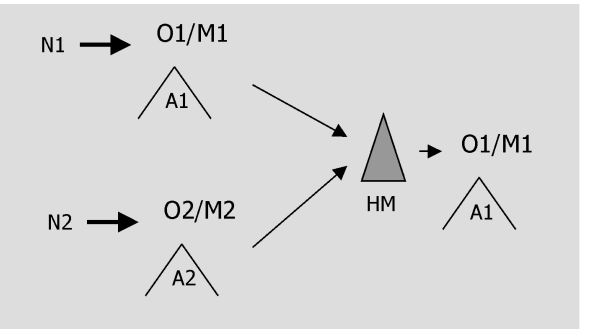
Obviously, extending the scope of analysis to poly-motivated activities cannot be accomplished only by acknowledging the existence of several motives of one and the same activity. A number of questions arise, which cannot be answered without an additional deliberation. For instance, how do multiple motives of an activity emerge? Do the constituting needs meet their respective objects, which results in adding new separate motives to the set associated with a certain activity? If the motives are separate, why does a set of motives define one activity instead of a multiplicity of activities? The main problem that needs to be solved to answer these questions is to understand the mechanisms underlying conflict resolution between different motives.

According to Leontiev (1975/1978), there can be two types of motives of an activity: sense-forming motives, which give the activity its meaning, and motive-stimuli. For instance, for an artist their creative self-expression can be a sense-making motive, and achieving recognition can be a motive- stimulus. Motive-stimuli can stimulate a person and elicit various emotional reactions (sometimes coming into conflict with the general meaning of an activity) but they are of secondary importance compared to the sense-forming motives. Therefore, in the case of a conflict, sense-making motives prevail over motive-stimuli. A more general conflict resolution mechanism proposed by Leontiev (1975/1978) is the so-called "hierarchy of motives," (p. 123) which determines the ranking of an individual's motives. In case of a conflict the hierarchy of motives indicate which motive should prevail.

This discussion indicates that the concepts proposed by Leontiev (1975/1978) to deal with phenomena of poly-motivated activities cannot provide an adequate account of these phenomena. The main shortcoming of these concepts is a lack of explanatory and predictive power when it comes to both moment-to-moment and long-term developmental dynamics of activity. For instance, the concepts previously described predict that more important motives, that is, sense-making motives or motives with a higher rank in the hierarchy of motives, will always determine the course of activities, and that objects of activity do not change over time. However, there is ample evidence that the general importance of the underlying motive is not the only factor determining the choices people make in their everyday life. A relatively unimportant thing can be quite urgent, so that dealing with undeniably more important issues can be postponed. Also, some people are willing to take risks and pursue less important and even potentially dangerous goals if they think the level of risk is acceptable. Besides, the object of activity can undergo developmental changes that take place over a relatively long period of time, even though the basic motives of the activity do not seem to change (e.g., Miettinen, this issue; Hyysalo, this issue).

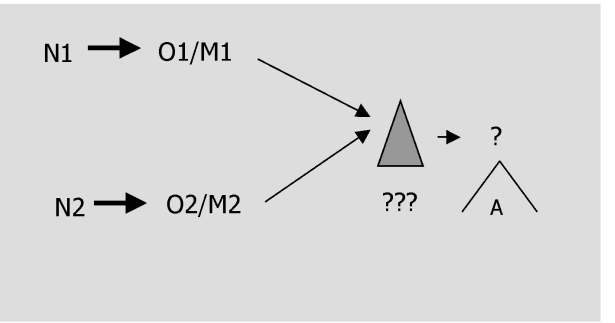
The main conclusions of such an analysis can be summarized as follows. First, the concept of the object of activity appears to duplicate the meaning of the concept of motive. Second, Leontiev's (1975/1978) statements regarding whether or not the motive (and, consequently, the object of activity) can direct activities or just "impel" them seems to be contradictory. Third, the systems of concepts, including the concepts of "need," "activity," "motive," and "object" cannot be easily applicable to the case of poly-motivated activities.

A possible solution to these problems is to revise the definition of the object of activity as its "true motive" and separate the notion of motive from the notion of the object of activity. This idea can be illustrated by the following set of diagrams. Figure 2 shows the relationship between activities, needs, motives, and objects, which appears to be implicitly implied in most of the analyses



1 motive – 1 object – 1 activity

FIGURE 2 Model A. 1:1:1.



n motives – n objects – 1 activity

FIGURE 3 Model B. N:N:1.

conducted by Leontiev (1975/1978), that is: one need, one motive, one object, and one activity (Model A). If there are several needs that can come into conflict, there are also several potential activities, only one of which can be carried out. The selection of that activity is based on a comparison of the competing motives through the hierarchy of motives. The motive with the highest rank in the hierarchy takes over, and the activity oriented towards that motive/ object is carried out.

A limitation of Model A is that it does not account for activities, which have several motives at the same time. The possibility for an activity to have several motives has been mentioned by Leontiev (1975/1978), as well as some other researchers (e.g., Bratus, 1983) but not explicated. Model B, shown in Figure 3, is an attempt to modify Model A to provide an account for poly-motivational activities.

According to Model B, an activity can have several motives and objects. The procedure for selecting the motives and objects, which will direct the activity in case these motives/objects contradict to each other, is not quite clear. One possibility is to employ the hierarchy of motives, which,

as mentioned, cannot explain the moment-to-moment dynamics of priorities within the same activity (cf. Cypher, 1986). Besides, if the conflict resolution takes place within the same activity, its outcome should not necessarily be limited to the situation when one of the competing motives gets through the selection process unmodified and all the others are completely rejected. Activities, which have several motives, are likely to be shaped by the whole configuration of effective motives, not just one of them. Therefore, Model B leaves several questions that cannot be easily answered within Leontiev's framework.

Finally, Figure 4 shows Model C, which separates the notion of the motive from the notion of the object of activity. According to this model, if there are several conflicting needs, these needs can correspond to either (a) two different activities (which can be described by Model A) or (b) different aspects of the same activity. The latter, case (b), is described in Figure 4. According to Model C, in that case one or more motives corresponding to the needs affect the activity. However, even if these motives are very powerful, the activity does not have a direction and does not really start until the object of activity is defined. The object is different from any of the effective motives and is cooperatively defined by the whole set of motives that the subject strives to attain in their activity.

This idea can be illustrated with an example of a hunting activity different from the hunting example discussed earlier in the article. Consider a hunting activity that is shaped by a number of motives. Let us mention just two of them: food and self-preservation. If both motives are strong enough—for instance, getting food is a matter of life and death but the prey is dangerous—a hunter can be in a state of confusion and hesitation. One of these motives can take over and the hunter would either flee with the risk of starving to death, or recklessly assault the animal with the risk of being killed. It is more likely, however, that hunter's activity is going to be directed towards a desired outcome, which will make it possible to attain both motives. For instance, the hunter can decide to chase the animal until it gets tired and no longer presents a danger. In that

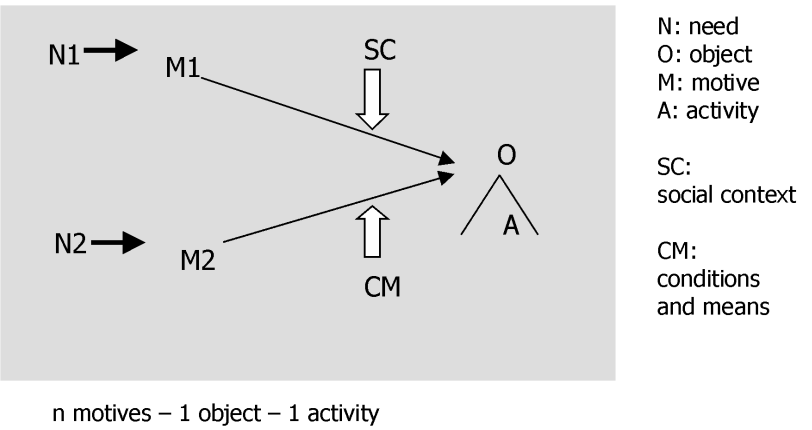


FIGURE 4 Model C. N:1:1.

case, both food and self-preservation are influencing the hunter. The object of the hunting activity, however—safely obtaining food by chasing the animal and making it tired —is what gives the activity structure and direction.

There are several distinctive features of Model C, differentiating it from both Model A and Model B: (a) there is only one object of activity, no matter how many motives are involved, (b) the object of activity is cooperatively determined by all effective motives, and (c) the object of activity is both motivating and directing the activity. These features of the model make it possible to address the problems with defining the object of activity as its motive, as previously described. First, the distinction between motives and the object of activity eliminates the duplication of concepts. Second, if the functions of exciting (impelling) and directing an activity are distributed between, respectively, motives (exciting), the object (both exciting and directing), and goals (directing), then the contradictory claims about the directing function of the motive can be reformulated to make them logically consistent. Third, the model makes it possible to deal with poly-motivated activities.

CONCLUSIONS: DESIGNING THE OBJECT OF ACTIVITY

The main conclusions of this article can be summarized as follows. First, there are linguistic problems with translating the concept of the object of activity, originally introduced in Russian, to English and some other languages. However, that it is possible to reconstruct the intended meaning of the concept, and the article suggests several "rules of thumb" to help the reader. Second, there are differences in understanding the concept of the object of activity in current approaches in activity theory. A proper use of the concept of the object of activity requires understanding of the specific framework within which the concept is used, as well as reflection on implications of the framework at hand for the meaning and scope of the concept. Third, the article calls for differentiating between the concepts of "the object of activity" and "motive." It is argued that such differentiation can help solve a number of uncertainties and contradictions associated with the traditional definition of the object of activity as activity's "true motive."

The last conclusion implies, in particular, that objects of activities are dynamically constructed on the basis of various types of constraints. These constraints include the needs that the activity at hand is striving to satisfy, available means, other potentially related activities, and other actors involved, each with their own motives and objects. When some of these components change, for instance, the importance of a certain need is increasing, or new means become available, the whole configuration of constraints may require a redefinition of the object of activity to meet the new constraints (cf. Hyysalo, this issue). Therefore, the process of constructing and reconstructing the object of activity can be considered as a process of design. As in any case of design, the outcome should meet certain criteria to qualify as a successful design. Some preliminary criteria for "successful" objects of activities include: (a) *balance*: the effective motives should be properly represented; if a motive is systematically ignored, the activity may face a breakdown; (b) *inspiration*: the object of activity should be not only rationally feasible but also attractive and energizing, (c) *stability*: if the object changes too often, the activity can be disorganized; and (d) *flexibility* (the opposite of stability): when the factors, such as motives and available means, change, the object of activity should be redefined to avoid becoming obsolete and ineffective.

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