

(*this article will be published in a Finnish book. Please do not quote)

Alexei Alexeevitch Leontiev's Non-Classical Psycholinguistics

Dorothy Robbins

Introduction to the life of A. A. Leontiev

Alexei Alexeevitch Leontiev was born on January 14, 1936. His father was A. N. Leontiev, who worked with Vygotsky, and who was the head of the Department of Psychology, Moscow State University (MSU) from 1966 to 1979. As a child, Alexei Alexeevitch studied German, and later translated poems from German into Russian. He finished school in 1953, winning the coveted "Gold Medal." He wanted to study many subjects at university, such as history, organic chemistry, languages, and psychology. He entered the philological department of "Romance and German Languages," finishing in 1958. At this point in time, he started working at the Institute of Foreign Languages AN SSSR. In 1963, he successfully defended his first dissertation. In 1968, he completed his "Habilitation" (second doctorate needed to be a professor) in psychology. In 1967, Alexei Alexeevitch started giving lectures on psycholinguistics for psychologists at Moscow State University. Alexei Alexeevitch worked at the Department of Foreign Languages at the V. I. Lenin Moscow State Pedagogical Institute, starting in 1968. In 1969, a group was formed to work on problems of psycholinguistics and theories of communication at the Institute AN SSSR. During this time, Alexei Alexeevitch was on the staff at MSU at the Scientific Methodological Center for Russian as a Foreign Language. In 1990, he served as an "expert advisor for foreign languages" with the Russian Ministry of Education; and, in 1992, he became a member of the Russian Academy of Education. In 1994, he served as the President of the L. N. Tolstoy Institute of Foreign Languages and Cultures. In 1997, Alexei Alexeevitch received the honor of being a member of the Academia of Pedagogical and Social Sciences. As well, he was active in supporting curriculum changes in Russia, and from 1997 on he served as the scientific head of the inter-regional society called "School 2000," which has been extended to "School 2010." Over 4000 schools around the Russian Federation are reached by this program. In 1998, Alexei Alexeevitch became a professor of psychology at the Department of Psychology, Moscow State University. Altogether he published over 900 articles and 30 books. He died on August 12, 2004.

Non-Classical Psychology

Vygotsky's method is usually labeled "cultural-historical theory," while A. N. Leontiev (A. A. Leontiev's father) is known for his school of "activity theory." Although it is argued that there is indeed one school of thought within Russian-Vygotskian psychology, the branches of this school are very different from each other. Some Western attempts to fuse these two areas together into CHAT (Cultural-Historical Activity Theory), without a clear differentiation of the similarities and differences of the two theories, is

viewed by this author as a misguided attempt. A. A. Leontiev was loyal to both his father's activity theory, and he returned to Vygotsky's theories of language as the prime motivator of continual development of the higher mental functions.

There is a call to establish a differentiated fusion of Vygotskian/Leontievan theories, *inter alia*, called non-classical psychology. However, the main focus of this approach is to return to the theories of L. S. Vygotsky in anchoring future research.

Daniel Elkonin (1989) stated that Vygotsky was the founder of non-classical psychology, with the following definition: non-classical psychology is "the science of the way the subjective world of a single person emerges from the objective world of art, the world of production tools, the world of the entire industry" (p. 478). Non-classical psychology does not stand in opposition to classical psychology, but transforms it. According to A. A. Leontiev, non-classical psychology relates to the deeds of a free, creative personality, the infinitely evolving human being in an endlessly changing world. Non-classical psychology has the image of constant, fluid movement, change, and development with the image of flow and zone(s).

One of the starting points within non-classical theories of language is image (of course, "needs" and "motives/motivation" are the actual starting points), always related to the development of "personality." In many ways the problem of behavior is thus the inverse of the problem of image. Where an image is a representation within the organism of its environment, a behavioral act is a representation in the environment of something within the organism (cf. A. A. Leontiev). The ready answer to the question of how movement becomes transformed into action is that a form of the imaging process must initially occur in the motor cortex, and that image is a momentary Image-of-Achievement (or sometimes, a lack thereof), which contains all input and outcome information necessary to the next step of that achievement. This Image-of-Achievement encodes environmental forces, not patterns of muscle contraction. The Image-of-Achievement regulates behavior much as do the settings on a thermostat: the pattern of the turning on and off of the furnace is not encoded on the dial, but represents the set-points to be achieved. (cf. K. Pribram, 1971, speaking about the theories of N. Bernshtein).

The second important aspect within a newer understanding of non-classical psychology is the relationship between the whole and the parts. One of the key elements of non-classical psychology is the word "relationship," which automatically takes us from a static to a dynamic worldview. Within this understanding it is not possible to reduce research/analysis to a view of isolated, separated elements. It is necessary to understand the dynamic movement of dialectics, within an equally dynamic whole, sometimes labeled Spinozian monism. This latter understanding can only be comprehended through the

use of metaphors, or non-spatial thinking, something Vygotsky understood very well. "Consciousness is regarded as something non-spatial in comparison to the mental functions...Each interfunctional change must be explained by a change of consciousness as a whole" (Vygotsky, 1997, pp. 129-130). It should be understood that various dynamic "hierarchies" are in place; however, in a different sense than is normally understood. For example, A. Koestler (discussed in K. Wilber, 1982) coined the term HOLON (whole + parts). All hierarchies are composed of holons, wholes that are simultaneously parts of other wholes---the term Hierarchy should be understood as Holarchy= wholeness, unity, functional integration. For example, A. Asmolov (1977) has stated something to the fact that every act of human activity has its own motivational determinants, with a hierarchy of sets governing it. The word holarchy translates for this author as a moveable, flexible unity.

Non-classical psychology primarily focuses on the development of a "self-determined," "self-regulated" personality, which is individual, cultural, and social. The focus on personality does not refer to the sum total of relationships of a single individual, but is actually a construct transcending the biological and the social. There is a feeling of shared development between the cultural/social, outside world, as well as relations to other individuals and artifacts, and intra-mental/ developmental growth, all of which is connected through synthesis. One basic goal of non-classical psychology is to "bridge the gap between the objective and subjective, between the realm of mind and the realm of culture, between the person and the world" (D. Leontiev, 2005, p. 26).

In closing this short introduction on non-classical psychology, the following can be stated: (1). There is a focus on viewing the similarities among sets of problems, rather than viewing problems which are isolated. (2). Instead of exclusively focusing on the dichotomies of external/internal, there is a new focus on content/process, which incorporates the intent of A. N. Leontiev. (3). Language, signs, sense, image, units/levels, etc., are viewed within a functional system of process, flow, change, situated in culture and history (which are always viewed in movement and change). (4). In short, non-classical psychology views the potential of the individual and the social, within a new zone of fusion. (5). The key element in non-classical psychology is the development of a personality. A. N. Leontiev (1978) defined personality as "...the study of what, why, and how a person can use what is inborn in him/her and what is acquired."

Alexei Alexeevitch Leontiev's Non-Classical Psycholinguistics

One of the defining characteristics of non-classical psychology is that learning is not focused on the acquisition of rules only, but rather on the development of procedures/techniques ultimately forming a methodology. Leontiev's method attempts to understand the holarchy of a system, a program, and a methodology. Another overall point of understanding is Leontiev's return to the field of semiotics, mostly connected with real-life and developmental-learning situations. He did not restrict his psycholinguistics to dissecting/analyzing linguistic structures out of context, and he was interested in

many different areas of life, including poetry, aesthetics, cultural comparisons, travel, learning/teaching foreign languages, advertising, etc. It should also be remembered that in Russia, psycholinguistics is placed within the field of psychology [which includes semiotics], uniting various disciplines that are separated in the West, such as sociolinguistics, applied linguistics, etc. What is important to remember is that Leontiev focused on sign systems, instead of just signs, both of which are placed within a framework of dynamic processes.

Signs – Sign Systems

It is precisely the relationships within the sign systems, and between the signs and other levels, that were of interest to him. And, many of his ideas have double or triple levels, such as language system and “norm.” For example, a language system is “...a system of language invariants or an aggregate of language phenomena that serves in defining a specific function in language (usually the function of distinguishing, and can take the form of a network of oppositions (structures)...A ‘norm’ in language is an aggregate of the language phenomena that does not carry an immediate distinguishing function in language, taking the form of common and generally accepted (traditional) realizations [thoughts taken from E. Coseriu]” (cf. A. A. Leontiev, 2006b, p. 94). So, we come to very new conclusions, different than in the West: There is no such thing as a static sign, but only sign systems, sign functions, etc., and these systems are alive, social, political, etc. At the same time, we must be able to analyze signs. Vygotsky (1997) stated: “Naturally, the very meaning of analysis must be radically changed. Its principal task is not to break down the psychological whole into parts or even into pieces, but to isolate certain traits and instances in each psychological whole that have retained the preeminent importance of the whole” (p. 67). Therefore, when a sign is viewed dialectically, it cannot be reduced to a single element. A “sign system” or “system of signs” is the way we designate a special type of dependence on the functioning and development of signs—specifically an interdependence of signs that are analogous in terms of their place and function in activity.

In returning to an understanding of “signs,” there are different sign types for A. A. Leontiev: (a). The sign as a “thing,” something material. As it applies to language, it is a material linguistic “body” incorporated into the activity of a person; (b). Sign is also understood as an equivalent of the real sign in everyday consciousness. This is called sign image. Leontiev felt that most linguists work within this understanding of sign image; (c). As well, there is a sign model, understood as a product of the scientific conceptualization of the structure and function of the objective. This includes both semantic and phasic (bodily) components. (d). There are also virtual and real signs. A virtual sign refers to certain features of activity divorced from specific sign operations, which are attributed to the corresponding material object that is fixed in a sign form. This understanding includes activities objectified in a sign. A real sign is an element of a specific sign operation; (e). A sign is not a thing, but a process, an interweaving of relations in which social relations are always included even when we are dealing with natural signs, as it is only in a social context that something can exist as a sign. (cf. A. Ponzio, 1990). A real sign can only be

understood as an element of a specific sign operation, where signs are always polyfunctional; and, signs are only achieved through action (cf. Pribram, 1971). As well, there is “no cultural sign, once taken in and given meaning, [that] remains in isolation; it becomes a part of the unity of the verbally constituted consciousness” (Vološinov, 1973, p. 15).

Within a sign system there is also sign activity, which occurs accordingly and unevenly. Regarding changes within the process of development of sign activity, Leontiev (2006b) states that A. A. Potebnia was correct with his metaphorical comparison: “with footprints in the sand---they can be followed, but that does not mean that they contain the foot itself; and the word does not contain the meaning itself, just a footprint of the meaning” (p. 93).

Speech Program

The next level of language theory in the new non-classical holarchy is that of a program. In beginning a new understanding of a speech program, Leontiev agreed with N. I. Zhinkin in hypothesizing that speech programs generally do not use a code of words (or other speech elements), but a code of images and schemata, or an objective-representative code. Also, the content of the speech program (or what the speaker encodes) cannot be reduced to “meaning” only [often defined differently by various authors]. There are multiple levels of meaning, such as referential/categorical meaning; personal meaning, etc. And, it is important to know that meaning is not always objective, and sense is not always subjective. Within the field of semiotics, meaning can be understood as denotation (or being culturally engendered), code, and it is syntagmatic; while, sense can be understood as connotation (which is traditionally viewed as being more subjective in the field of “becoming”); it is understood within the levels of the symbolic/sign, and it is paradigmatic [this explanation is extremely superficial, and a caveat should be given regarding this interpretation. The concept of “personal meaning” will not be introduced here].

Although it is impossible to fully describe a speech program within this paper, the final stage of language production is the mastery of functional grammar, *inter alia*, which represents a transition from the level of speech acts to the level of speech operations [with a slightly different nuance than A. N. Leontiev’s use of the term], which helps to clarify the problem of carrying out the speech act. The framework for this understanding is sometimes called speech (act) activity (*Sprechtätigkeit*), with social factors penetrating and influencing speech activity. It is the creativity of becoming that is stressed, placing a new emphasis on certain aspects of growth, history as change, and development.

Together this approach represents a new type of thinking, and it represents a metaphor of new thinking that might be understood with the following image: Without truly changing our entire focus of psycholinguistic thinking and analyzing, we are sometimes in a regressive process of only using nouns to

describe gerunds, instead of using the gerunds themselves. Leontiev invites us to change our static psycholinguistic views, to replace them with a new, dynamic understanding of a cohesive, dialectical, changing unity within activity.

The flexibility of Leontiev's approach is then connected to a system, which underlies all other levels of his language theories. The understanding of a system is always connected to the process and result of inner speech, inner programming, speech production. Therefore, we have Language—Speech (act) Activity—Speech. As well, Leontiev does not refer to a speech act alone, but refers to Thinking-Speech-Act.

Speech acts, operations, and utterances are not viewed as isolated entities, but function within an Umfeld, an environment. Some of the influences on their development are: (a). Dominant motivation; (b) environmental afferentiation (a term used by A. N. Leontiev), which could mean reflexivity in today's terms; (c) Image-of-the-Result (K. Pribram, inter alia), or Image-of-Achievement (cf. N. Bernshtein, which is sometimes called probability forecasting); (d). The role of image is understood within an image system, which is dynamic, placed within a zone of movement, change, development (which is sometimes regressive). A better English term for speech acts would be speech[ing] acts, with characteristic features of activity that are independent of the conditions of the act, and are determined exclusively by the structure of the activity as a whole. Any motivated speech[ing] act will include the formulation and implementation of a program/plan + a comparison of the results of the program. Within the speech[ing] act there is the substantive aspect, determined by the goal of the act, and the operational aspect, determined by the conditions of the act. The substantive aspect of a speech[ing] act (or any other act), is what is programmed. This program includes the aspects of the act that control its implementation, but which are independent of the actual implementation (cf. A. A. Leontiev, 2006b).

Two other functions need to be mentioned in this context: (1). Speech operations have characteristic features of activity that are determined by the conditions of the act, and are not dependent on the structure of the activity. (2). Speech utterances are physiological, psychological, and linguistic, with a long list of examples. Utterances are placed within a system/program; for example, planning speech, speech[ing] act, and analytic speech, all of which are related to the third level of the tripartite model, which represents a methodology. The model looks like this: system – program – methodology.

Alexei Alexeevitch analyzed many physiological levels of the organization of speech, such as communicative speech, nominative speech, echolalic speech (repetitive speech), stochastic speech (probability predictions, memorizing sets of material), "constructive" speech, etc. The main goal of these descriptions was to discover the primacy of these types of examples within a teaching methodology.

Which types of speech organization can lead to “active” speech, and which types might lead to “reactive” speech? Also, with his understanding of a “program” he went beyond most applied linguistic structures by including areas such as “habit” [from below, “continuous realignment”], and “imitation” [from above, “automatization/reduction], and “skills,” offered as examples.

Before leaving the area of “program,” three more aspects need to be discussed: (a). inner speech, inner articulation/pre-speech ; inner programming; (b). memory; (c). units of analysis.

Inner Speech

Inner speech is a speech action moved inside, produced in a compact form. Inner speech is most often accompanied by inner articulation in cases where it is closest to conversational, discursive speech. It is not understood as a problem-solving mechanism. A. R. Luria, for example, understood inner speech as having a vital role in recoding subjective elements into a syntagmatic scheme (cf. Vocate, 1987). Inner speech, which is preeminently the word, is actually an inner sign (cf. Vološinov, 1973). Consequently, it is not the word which is the expression of an inner self, but the inner self which is a word expressed or driven inward. Vološinov (1973) has offered interesting thoughts on inner speech:

Closer analysis should show that the units of which inner speech constituted are certain whole entities somewhat resembling a passage of monologic speech or a whole utterance. Most of all they resemble the alternating lines of a dialogue. These whole entities of inner speech are not resolvable into grammatical elements...These units of inner speech, these total impressions of utterances, are joined with one another and alternate with one another not according to the laws of grammar or logic, but according to the laws of evaluative (emotive) correspondence, dialogical deployment, etc., in close dependence on the historical conditions of the social situation and the and the whole pragmatic run of life. (p. 38)

R. Damasio (1994) stated that “most of the words we use in our inner speech, before speaking or writing a sentence, exist in auditory or visual images in our consciousness. If they did not become images however fleetingly, they would not be anything we could know” (p. 106).

Inner Articulation / Pre-Speech

The inner articulation/pre-speech plane stands closer to external speech than inner programming; yet, on the other hand, it is not external speech, because it is for a person only. This stage occurs when a person tries to solve a problem.

Inner Programming

According to A. A. Leontiev (2006b), “inner programming is the unconscious construction of a certain scheme on the basis of which a speech utterance will be generated in future” (p. 46). It can unfold in external speech (bypassing inner speech), and it can unfold in inner speech. Therefore, inner programming can have various types, such as the programming of a concrete statement, or programming of a verbal whole. It represents an inner structure of speech production, and it is at the stage of inner programming that Zhinkin’s “code” becomes meaningful. Inner programming is the “tool that fulfills thought, the connecting link between the intention that gives rise to thought and the elaboration of the thought in an objective linguistic code” (Leontiev/Ryabova [Akhutina], 2003, p. 36). Also, “A. A. Leontiev observes that the [inner] program fixes the content of an entire verbal whole as well as of individual utterances” (Akhutina, 2003, p. 68).

Memory

A. A. Leontiev analyzed research on memory regarding psycholinguistics, viewing aspects such as situational memory, memory of necessity, program memory, content memory, form memory, native-language memory, operational memory, inter alia. Although we will not discuss memory here it is interesting to note that, according to Leontiev, when there is a delay in the storage of utterances, it is not the utterance that is stored, but its program.

Units of Analysis

It is interesting to note that A. N. Leontiev did not put quotation marks around the word “unit,” with activity being a holistic, non-additive unit. He also offered no definition of “unit” (cf. A. A. Leontiev, 2006a). As L. K. Naumenko (1968) claimed, “units of analysis” do not have their own existence, independent of the object of study; a descriptive system cannot be opposed to the system of an object. “Units of analysis” must be understood within a holistic flow model of change. As well, there are many hierarchies of motives, units of analysis, activity, sense, meaning, etc. N. Bernshtein spoke of “levels,” and this understanding of hierarchy must be reevaluated in light of current theories today, such as sociocultural theory, cognitivism, and postmodernism (which often represent a “fladbed wholism” [without hierarchies] for K. Wilber, 1982). Traditionally, we tend to think of a single construct when we speak of “motive,” “goal,” “ZPD,” “units of analysis,” etc., instead of understanding asymmetrical layers that intersect. Within non-classical psychology, a new comprehension of “units” needs to be developed.

Vygotsky (1997) stated that “the trend toward studying processes as wholes, toward disclosing structures that are the basis of psychological phenomena is the opposite of the old analysis” (p. 66).

Methodology: Example of Teaching/Learning Foreign Languages

For A. A. Leontiev, methodology fits within a program and a program fits within a system, with system being the starting point. The main function of programmed learning is to help orient the student to the subject of instructions. It is not a construct of algorithms, not a method, but rather a technique. Theories of language learning include the independent problem of constructing a model of a functional grammar, that is, a model of the generation of verbal utterances based on a rule for moving the form of a given content to the various possible forms of its expression in a particular language. There is a focus on the inter-relationships between conscious operations used with the language, and the transfer of existing speech skills and habits. The speech act viewed within traditional teaching methodologies normally takes the form of learning the “past-present continuum,” and Leontiev suggested using more “fictitious circumstances.” Foreign language textbooks should preferably be designed like a work of interesting literature, allowing for the reader’s transference of its “heroes.” The L2 student should be confronted with the task of performing a speech act “together with” or “instead of” the hero. This type of motivation includes the understanding of speech intention, which is a core aspect of functional grammar [from content to expression]. Within this framework, one does not speak of competency or proficiency, but of mastery. Leontiev is very clear regarding the mastery of a new language, which is a transition to a new world image. The creation of a new world image is the basic goal of Leontiev’s psycholinguistic theories, used to develop a more unified “personality.”

Language is a system of orienting points, necessary to act in this world. This system can be used for self-orientation or for the orientation of “others,” or our partners---this difference is not a matter of principle. Communication is mainly a type of “correction making” of others’ world images. Consequently, the mastery of a new language is a transition to a new world image, necessary for mutual understanding and cooperation with people speaking this language. To serve as a means of communication, language must ensure a common or similar understanding of reality. And, on the contrary, [it represents] a similarity in understanding reality, in a co-ordination of actions; and, within it the possibility of adequate communication as a precondition is provided. (A. A. Leontiev, non-published paper, n.D., p. 3)

References

Akhutina, T. V. (2003). The role of inner speech in the construction of an utterance. *Journal of Russian and East European Psychology*, Vol. 41, 3/4, pp. 49-74.

Asmolov, A. (1977). Deiatel'nost' i urovni ustanovok. *Vestnik Moskovskogo universiteta, ser. 14. Psikhologiya*, no. 1.

Damasio, R. (1994). *Descartes' errors: Emotions, reason, and the human brain*. N.Y.: Putnam Publishing Group.

Elkonin, D.B. (1989). Ob istochnikakh neklassicheskoi psikhologii (On the sources of non-classical psychology). In: Elkonin D.B. *Izbrannye psikhologicheskie trudy (Selected psychological writings)* (pp. 475-478). Moscow: Pedagogika.

Leont'ev, A. A. (1971). *Sprache – Sprechen – Sprechtaetigkeit. (Language –Speech – Speech Activity)*. Stuttgart, Germany: W. Kohlhammer.

Leontiev, A. A., Rybova (Akhutina), T. V. (2003) The phase structure of the speech act and the nature of plans. *Journal of Russian and East European Psychology*. Vol. 41, 3/4, pp. 33-38.

Leont'ev, A.N. (1978). *Activity, Consciousness, and Personality*. Englewood Cliffs: Prentice-Hall.

Leontiev, A. A. (2006a). Beyond barriers: Language, culture, personality, activity. *Journal of Russian and East European Psychology*, Vol. 44/3.

Leontiev, A. A. (2006b). Beyond barriers: Language, culture, personality, activity. *Journal of Russian and East European Psychology*, Vol. 44/4.

Leontiev, A. A. (n.D.). *Psycholinguistics, World Image, Personality*. Non-published paper.

Leontiev, A. A., Ryabova, T. V. (2003). The phase structure of the speech act and the nature of plans. *Journal of Russian and East European Psychology*, Vol. 41, Nrs. 3 / 4, pp. 33-38.

Leontiev, D. A. (2005). Non-classical psychology: Beyond the internal and external. In A. Gulerce, A. Hofmeister, I. Staeuble, G. Saunders, and J. Kaye (Eds.), *Contemporary Theorizing in Psychology: Global Perspective* (pp. 19-28). Concord, Canada: Captus University Publications.

Naumenko, L. K. (1968). *Monizm kak printsip dialekticheskoi logiki. (Monism as a principle of dialectical logic)*. N. P.: Alma-Ata.

Ponzio, A. (1990). *Man as a Sign: Essays on the Philosophy of Language*

Pribram, K. (1971). *Languages of the brain: Experimental paradoxes and principles in neuropsychology*. Engle Woodcliffs, N. J: Prentice Hall.

Vocate, D. (1987). *The theory of A. R. Luria*. Hillsdale, NJ: Lawrence Erlbaum.

Vološinov, V. N. (1973). *Marxism and the philosophy of language*. Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1997). The history of the development of the higher mental functions. In Robert W. Rieber (Ed.). *The Collected Works of L. S. Vygotsky*, Vol. 4. New York: Plenum Publishers.

Wilber, K., (Ed.) (1982). *The holographic paradigm and other paradoxes*. Boulder, CO. and London, England: Shambhala. Emiliano Sánchez Rodríguez

Zhinkin, N. I. (1972). *Soviet psycholinguistics*. The Hague: Mouton.