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For the Eightieth Anniversary of the Birthday of V.V. Davydov (1930–1998)

The Experience of Thinking About Thinking

The article is dedicated to the eightieth anniversary of the birth of an outstanding psychologist and educator, V.V. Davydov, who (together with D.B. Elkonin) worked out the psychological principles and pedagogical practice of developmental education. The center of the program they worked out was the development of theoretical thinking and the formation in schoolchildren of a readiness to think and ability for conceptual thinking. The article tries to apply the notions of theoretical thinking developed by Davydov to an analysis of thinking per se. The most attention is focused on reflection and intuition.

*The independence of thought from the state is a
matter of importance to the state.
—S.S. Averintsev*

More than half a century ago D.B. Elkonin and V.V. Davydov initiated the creation of developmental instruction. They decided to place the emphasis in instruction on the development of thinking, by proceeding from an indisputable thesis vividly laid out E.V. Ilyenkov: “School must teach how to think” [22]. It is now hard to say why the authors of the concept found this

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to be inadequate. Perhaps they felt that the Soviet era was “not the season for thought” (a phrase originated by A.M. Piatigorskii) and therefore defined a task that was ideologically safer: the development of theoretical thinking in children, beginning from early school age. This kind of exoticism, at any rate, could not immediately prompt opposition from the ideologically preoccupied authorities. Or perhaps there was no guile in this. But most likely Daniil Borisovich [Elkonin] interpreted and adopted this task as a “smokescreen,” but did not disappoint his young colleague, who was fascinated (not without Ilyenkov’s influence) with the philosophical problems of dialectical thinking. Davydov did indeed believe in the possibility of developing theoretical thinking in children. Then again, it was not so simple for him to believe this, either. V.A. Petrovskii told me that after one public presentation Davydov was asked: “Do you believe that the development of theoretical thinking will become universal in every school in the Soviet Union?” He replied: “I am a realist.” Be that as it may, Davydov pitted theoretical (reasoned) thinking against empirical (rational) thinking and directed his efforts at working out a conceptual framework and techniques of learning activity that would meet the tasks of forming theoretical thinking in schoolchildren.

For several decades I closely observed the life of Moscow School no. 91 (my son graduated from there), where the experiment was under way and is continuing, but did not hear that its graduates had become prominent theorists, that is, creators of theories (to be fair, I should say that the experimenters had not promised such a result). Nor am I sure that the pupils at the school were specifically taught theoretical thinking, but the fact that they were developing learning activity, a readiness to think, and an ability to think with thoughts, rather than with memory or the heat of inflamed emotions, is beyond question (see [14], [18], [19]). Still, what was done by the scientists and the staff members and teachers working under their direction was enough to trigger aggression and shameful sanctions against them from the “agencies” and “their own” Academy of Pedagogical Sciences [APS] of the Soviet Union. Two academicians in particular, A.A. Bodalev and A.G. Khripkov, who at the time were functionaries and members of the Presidium of the APS, stood out in their vilification of Elkonin and Davydov. There were also administrative consequences. This entire shameful affair was described by Davydov himself in an interview given to Jacques Carpay, a Dutch psychologist [23]. All of this happened so long ago that it would not be worth recalling (and besides, this article is not about that) if not for a brand-new book by another academician-functionary—this time a “volunteer”—D.I. Fel’dshstein, a vice president of the Russian Academy of Education [RAE] [28]. The book is filled with a mixture of insinuations and overfamiliar references directed at the late Davydov and other eminent scientists who are gone (Ilyenkov, F.D.

Gorbov, A.V. Petrovskii), who can no longer respond. Then again, these insinuations characterize the author himself and reveal his true face, which hid for so long behind a scientist's veneer. I am very sorry that I have to deal with a nonacademic subject in an anniversary article. But the good memory of those who are gone makes it incumbent upon me.

* * *

It would seem that before forming anything one must not merely know what it is, that is, have a theory of it, at least an image. But this is true only in theory; in practice it is different. A.A. Ukhtomskii remarked with some irony that a human being first learns to walk, and then ponders how he managed to do so. If he ponders . . . World champions in racewalking scarcely have a theory of it. At best, they have an image, but each person has his own image. Despite the outstanding research by N.A. Bernstein and his followers, science does not have a theory of walking, either. At best, it has a theory of the stride. Does the same thing not happen with thinking? I would venture to say that there is no generally accepted theory of thinking in psychology. What are called theories of thinking are, rather, its more or less complete and object-appropriate images. Here is one of the best images of thinking, which comes from J.W. Goethe. He saw in cognition and thinking "an abyss of presentiment, a clear contemplation of the present, mathematical depth, physical accuracy, the height of reason, the depth of rationality, agile, yearning fantasy, a loving joy in the sensual" (see [30]). It seems to me that Goethe drew his own self-portrait. It is quite difficult to imagine a researcher who would take up the study of the incredible orchestra (organ) that the thinking of the great poet, thinker, and scientist represents. It is even more difficult to image a teacher, even a group, who would undertake to mold polyphonic thinking in their pupils according to this model.

But what about the theory of thinking? Thinking about thinking is much harder than thinking about walking. Walking, at least, is self-evident and it can be recorded with all of the biomechanical and psychophysical precision that is conceivable today. Unlike walking, thinking is not given to the outside observer, and even to the thinker it is given only in an extremely fragmentary way. The most precise description of thought (lapidary as it was) came from K. Duncker: Thinking is a process that by means of insight (understanding) arrives at appropriate responses. Its indisputable virtue is the author's conscientiousness and honesty. He does not pretend to know what insight is.

Davydov reasonably refrained from defining thinking per se. He dissociated himself from a description of thinking as mental activity, assigning it a place only as a special component of the overall structure of activity that supports the realization of its other components [12, p. 28]. At the same time,

he kept in his thesaurus the concepts of “mental activity,” “mental action,” and even “thought activity.” What is to be done? A student and follower of the psychological theory of activity cannot escape it. So perhaps the choice of a target for developing theoretical thinking, as one of its numerous types and forms, was not as sly as I assumed at the beginning of this article.

Evidently, the general rule is that it is far easier to discover and identify the characteristics of a certain type of some unknown than it is to determine the unknown itself. Davydov proceeded in precisely this manner. Without defining thinking, he highlighted what he felt were the most significant, logical characteristics (acts) of theoretical thinking: *content generalization and analysis* as a method of identifying the genetically primal foundation of some whole; *reflection*, thanks to which a person constantly reviews the bases of his own thought actions and thereby mediates one of them with others, thus revealing their internal relationship. “Finally, theoretical thinking is performed as a thought experiment that is typified by a person’s execution of the thought action of *planning*” [12, p. 69].

The description (image) of theoretical thinking in Davydov’s version was not cited by chance. I would like to test whether theoretical thinking can serve in the role of a tool for understanding thinking per se. First we look at how specific the features highlighted by the author are.

I will start from the end. *Planning* may be a component of any action, not only a thought action. Besides, the creation of a plan (especially a reasonable one) in itself presupposes the presence of thought. In especially complex cases it may be a special activity (recall the Soviet Gosplan [State Planning Committee]) that consists (according to Davydov’s logic) of thought as a component. Needless to say, planning is often done even without this component. As for a thought experiment, no thinking, including the empirical kind, can do without it.

The next characteristic is *reflection*. Here one can agree with the author, but a more extensive specification of this phenomenon is needed with reference to theoretical thinking in particular. Moreover, there are different kinds of reflection. Its interpretations are too numerous (V.A. Lefebvre, G.P. Shchedrovitskii, N.G. Alekseev, E.G. Iudin, A.M. Piatigorskii, V.K. Zaretskii, I.N. Semenov, and many others). The interpretation of reflection offered by G.A. Zuckerman comes closest to theoretical thinking (see [32], [33], [34]). A wonderful description of reflection came from Joseph Brodsky: reflection is a postscript to thought. But it cannot play the role of a postscript to reflex (reflex and self) and action. Whether it is a postscript to thought or to action will make no sense unless it is simultaneously a preface to the next thought or the next action. Attention is seldom paid to the fact that reflection is not only intellectual but also (perhaps even to a greater degree) emotional in nature. In

the process of development emotional assessment shifts from the end to the beginning and assumes the character of emotional anticipation (L.S. Vygotsky, A.V. Zaporozhets), that is, it becomes a “preface” to action, including intellectual action. There are forms of reflection without the self. The effects of this procedural background reflection are detected not at the end of an action and not at the beginning but while it is taking place. They occur up to three or four times a second [9]. The effects of rapid reflection were also observed by Lefebvre. It is unclear whether reflection within thought is possible, unless, of course, action is considered to be thought. Be that as it may, reflection can be adopted as a characteristic of theoretical thinking.

Finally, the principal characteristic of theoretical thinking, which Davydov placed at the top of the list, is *analysis*, but not just any kind—analysis that makes it possible to identify the genetically primal foundation of some whole. P.A. Florensky called this thought technique “the identification of roots.” Recalling his childhood, he wrote: “I am accustomed to see the roots of things. This habit of vision later permeated all thinking and defined its basic character—a desire to move vertically and minimal interest in the horizontal” [30, p. 99]. There is hardly any doubt that Florensky possessed theoretical thinking, although his thinking, like his consciousness, was more likely polyphonic. What is more important is that it grew out of living contemplation, object-based action, and pretheoretical, living knowledge. It is equally difficult to object to identification of genetically primal foundations or roots, aside from the fact that too often they do not lend themselves to any thinking, except perhaps the mythological kind: the origin of the universe, the origin of the solar system, the origin of life, the origin of man, his consciousness, thinking, and so on, all remain a mystery. However, learning (or a surplus of often absurd hypotheses) about the origin of all of the above does not interfere with a study of forms that have already ripened or developed. Theoretical thinking (apparently, in its broader sense) is no less necessary in such a study than in the study of their origin and development. G.G. Shpet repeatedly expressed doubts (sometimes ironically) regarding explanations based on “found roots”: “One should . . . be afraid or beware, like the plague or stupidity, especially of theories that boast of ‘explaining’ one thing based on another, the ‘origin’ of the meaning of a rational word from a meaningless howl, the ‘origin’ of understanding and reason from frightened trembling and grimaced convulsion of a protoanthropos. Such an ‘explanation’ is merely a veil for the shameful picture of our ignorance” [37, p. 213]. Such doubts should be heeded, because in the development of living things, acts of transformation, transmutation, conversion, and birth of the new are no less important than the preservation of the old. Shpet’s protest extended as well to the problem of the origin of thought: “Leaving aside, because they are nonsensical, all the origin theories,

including the theory that thought originated from feeling, we will concede that what is given by sensory means is indeed the *reason* for thought. What is given through the senses is a springboard, and from there we jump to the ‘pure object.’ We proceed this way as though we are crossing mountain peaks—no looking down, otherwise one will begin to get dizzy” [ibid., p. 221].

Still, we will accept Davydov’s thesis that it is essential to identify the genetic foundations in order to analyze what thinking and thought are. Of course, acceptance of this thesis certainly does not mean that *my* thinking about thinking will definitely be theoretical (after all, I did not study in the school of theoretical thinking under my friend Davydov).

Since thinking is the movement of a thought, I will begin with that. If we ask ourselves what the solemn word “thought” means, we will discover that this word is used too broadly. Everything that crosses one’s mind is called a thought. Many thoughts come to us unbidden, as though from afar, which is also true of feelings. In 1987 the prominent Russian mathematician Iu.I. Manin conducted an experiment: he sat down on Old Arbat with a piece of cardboard inscribed, “I will buy original intelligent thoughts at 15 kopeks apiece,” and began to wait for offers. The yield was modest: “A little boy stood there for a long time moving his lips, then finally walked away, blurting, ‘That’s just too many thoughts that I would need to buy a car!’”

Indeed, no two thoughts are alike. There is “the great thought of Nature,” there is divine or God-inspired thought, there is happy thought, there is intelligent thought. There is *Human stupidity, / Hopeless, imposing* (A. Blok). Thoughts may be satanic, dark, black, or thoughts with ulterior motives. Thoughts may be clear, bright, transparent, deep, or they may be foolish, obscure, fuzzy, frivolous, petty, or thoughts that come out of nowhere. Thoughts may be vibrant, appropriate, timely, and stillborn, belated, like regrets. There are thoughts that are indolent, anemic, or obtuse, and there are thoughts that are pointed, energetic, and incisive. There are thoughts that are lofty, noble, and kind and there are base, selfish, and malicious thoughts. There is free thought—a primary thought, an act—and there is *the frustration of captive thought*, that is, wandering, fainthearted, timid thoughts, which are different from legitimately engendered, confident (good if they are not self-confident) thoughts. There are tragic and absurd thoughts. And there are arbitrary thoughts, which at times are nagging ones, that are stronger than we are, it is very hard to rid ourselves of them. Here we encounter an amusing paradox: a human being, after all, is not only unique in his entirety. Everything about him is unique: from his fingerprint and iris to each movement he makes, each word he utters. The latter are not reproducible with absolute precision even by him. He seems to do everything for the first time. Except for thought. If a thought has occurred to a person, then in the vast majority of cases one can be

sure that it has occurred to other people. Without much effort we can “think” any nonsense, but an original thought does not come on command. It is an event of being (M.M. Bakhtin).

J. Dewey, in his book *Psikhologiia i pedagogika myshleniia*, gives a useful definition not of ordinary thought but, for our purposes, rigorous thought:

In its [next] sense, thought denotes belief resting upon some basis, that is, real or supposed knowledge going beyond what is directly present. It is marked by *acceptance or rejection of something as reasonably probable or improbable*. This phase of thought, however, includes two such distinct types of belief that, even though their difference is strictly one of degree, not of kind, it becomes practically important to consider them separately. Some beliefs are accepted when their grounds have not themselves been considered, others are accepted because their grounds have been examined.

I would like to point out that, although Dewey describes thought, essentially he is referring to the work of thinking with a thought and the fact that thinking, unlike faith, consists of the identification and examination of the grounds on which thought rests (or is in a state of unrest). For Davydov, working with grounds—whether they be genetic or those of one’s own thought—is the main element in theoretical thinking. What is also significant is that “belief,” “acceptance,” and “rejection,” to which Dewey refers, are not only thought but also a feeling, which is part of his definition of thought. Many thoughts, Dewey continues,

grow up unconsciously and without reference to the attainment of correct belief. They are picked up—we know not how. From obscure sources and by unnoticed channels they insinuate themselves into acceptance and become unconsciously a part of our mental furniture. Tradition, instruction, imitation—all of which depend upon authority in some form, or appeal to our own advantage, or fall in with a strong passion—are responsible for them. Such thoughts are prejudices, that is, prejudgments, not judgments proper that rest upon a survey of evidence [13, pp. 8–9].* People learn such thought, and with great success, outside school as well. But how does one learn to have thoughts come to us like God’s children and say: Here we are! That is approximately how Goethe described the inflow of thoughts.

We constantly find that thought, regardless of whether it is true or false, manifests itself now in language, now in an image, now in action, now in an act, now in all of these together and something else as well that is elusive and

*Quotation taken from John Dewey, *How We Think* (Boston, New York, Chicago: D.C. Heath, 1910), pp. 4–5.

mysterious, although this elusive factor may be what is most significant and interesting in thought. Vygotsky used to refer, for example, to “the lightning bolts of Spinoza’s thought.” This means that thought springs up, illuminates, and startles, like lightning (both the author and the person who is ready to perceive it). V.V. Bibikhin says of A.F. Losev’s thinking: “There is an *instrument* that gives off sparks no matter what it encounters. It is not even important what kind of spark. There is no system. There is some kind of *inner flint*” [3]. (Is the lack of a system not a condition of thinking about different things, including a condition of creating poetry from “rubbish,” of creating systems from “miscellany?”) How is a thought to be picked up, how is to be retained? And once it is retained, how is it to be evaluated in order then to hold on to the thought or to stay with the thought? It is unlikely that anyone can give a clear answer to the question of what thought is and what its mechanism for springing up is. Metaphors, of course, provide some notion of this, but this is still far from understanding.

What is important is not so much the unequivocalness and certainty of the answers to these questions as an intention to find out, comprehend, and discern something that lies behind the situation or behind the thought. The appearance of such an intention is the first sign of a genuine thought that is different from something that “comes into one’s head,” from an opinion. “To discern behind” should be understood in two senses. The first is to discern what lies behind a situation, behind what is self-evident. If this is successful, then what lies behind something may be imagined with equal clarity as something else or be used directly in activity. This is what thinking is. The second sense is to discern what lies behind a thought, which is already thinking about thinking, which requires removal (G.G. Shpet), defamiliarization (V.B. Shklovskii) of the person reflecting on thought as the object of reflection, or the placement of thought in the category of an object of inquiry (E. Husserl). To discern behind a thought is intellectual reflection regarding the thought, its postscript, as Brodsky said, the beginning of its substantiation, its proof. (In Davydov’s terms, the substantiation of the identified grounds.)

Let us enumerate, without evaluation, some answers to the question of what lies behind thought. Descartes discerned behind thought or in thought a state of self-evidentness, including that of his own existence. William James discerned behind thought a raw stream of our purely sensory experience. I.M. Sechenov discerned behind thought not only sensory series but also series of personal actions. The psychoanalyst W. Bion discerned behind thought frustration, caused by a lack of knowledge. A.M. Piatigorskii discerned interest behind thought, defining an object of interest as that which stimulates thought here and now and does not stop thinking or allow thought to remain in its habitual

patterns and prods a person to forget his convictions. M.K. Mamardashvili discerned behind thought (or in thought) his own inner experiences, adding that an act of thinking is part of our experience of our destiny. Albert Einstein discerned behind thought visual images and even certain muscular sensations, that is, certain actions performed by him. In Bakhtin's terms, Einstein experienced sensations of generative activity. A. Bely discerned motion and rhythm behind thought. Zaporozhets discerned object-oriented, practical action behind thought. Vygotsky discerned language behind thought and, in addition, affective and volitional tendencies. Shpet discerned thought behind language, language behind thought, and language in thought. This very birth of thought in interaction with language is cited by the poets:

*I love the uprise of a texture,
To see after two, three
Or sometimes four gasps,
When a straightening breath will come.*

*I wait with my pleasure and effort,
For that instant to approach,
And suddenly the arc expansion
Rings out in my own murmuring sounds
—O. Mandelstam*

The arc expansion is that same lightning again! The appearance of a thought, of course, is a miracle:

*I have forgotten the word that I had meant to say.
To palace of shadows flies a blind swallow. . .*

And then, a clarification:

*But I forgot what I want to say
And fruitless thought returns to the palace of shadows.*

And again:

*True clear thoughts—
Transparent strict texture . . .
Count the pointed leaves—
Stop playing with words
To the heights of which clearing
Your leafy clamor recedes,
The dark tree of language
The blinded tree of thoughts.*

Hence not every word is given meaning or, as Shpet put it, is thought, not every thought is expressible, or at least easily expressible verbally. Expressing a thought is difficult work. Let us continue our list. É. Claparède *discerned* silence behind thought, saying that thinking seeks to proscribe speech. The mathematician J. Hadamard, who specifically investigated the process of creativity of great twentieth-century physicists, confirmed this: “Language is completely absent in my mind when I am actually thinking” [1, p. 72]. The poet R.M. Rilke said this in his own way: *The sages rendered audible their lips*. Bakhtin *discerned* intonation in thought: “thinking that is actually occurring is emotionally volitional thinking, intonational thinking, and this intonation permeates all of the substantive aspects of thinking” [2, p. 36].

J. Ortega y Gasset *discerned* behind thought the depths of the soul: “The pupils of my eyes peer with curiosity into the depths of the soul, and energetic thoughts spring up to meet them halfway” [26, p. 93]. Ortega saw behind thought not only curiosity but also the vibrant passion of understanding, thanks to which a discharge can occur, a lightning-like epiphany of understanding. It has been well known for a long time that such an epiphany is accompanied by a sense of complete confidence in its reliability, that is, by the condition of Descartes’s self-evidentness. What Descartes calls self-evidentness, M. Proust calls joy. Mandelstam *discerned* behind thought a semantic satisfaction equal to a sense of having carried out an order. Brodsky *discerned* thought behind thought: people do not think in some language but with thoughts. A.S. Pushkin said this beautifully: *Developing thought with thought*.

These astonishing declarations by the poets were clarified by Mandelstam: “Right now, for example, as I am expressing my thought in as precise as possible a form, but by no means a poetic one, I am essentially speaking with my consciousness rather than language” [25, p. 168]. We should note: he said *speaking* with consciousness. Mamardashvili puts it his way: thinking is always greater than what has been thought. And hence it is possible to think what has been thought. The soul and language are not forgotten. As Plato portrays it in the *Theaetetus*: the soul discusses with itself what it is contemplating; as it reflects, it is specifically conversing with itself, asking itself, affirming, denying. That same Socratic, dialogic nature of thinking and thought are affirmed here.

I will conclude this listing with the beautiful and mysterious statement by I. Kant: “The soul (not speech), filled with feeling, is the greatest perfection.” Mamardashvili makes the following comment on this:

Kant, of course, does not have in mind a sensitive soul. He has in mind the state of a person who is exerting himself for the longest time, in a state of intense perception and concentrated thinking. Kant realized that the very

phenomenon of a soul filled with feelings is a miracle and an incredible event in the world. After all, often where we should think, we stand obtusely in front of things and stare at them. [24, p. 9]

Hence, thought is backed by the state of a soul that is filled with feelings. This is what produces the event of thought. But how does one enter this state? How does one not fall out of it? Kant acknowledged that thinking may become tiring from the exertion and not be able, due to the fatigue, to maintain the exertion. Thinking is indeed difficult. As with any task, the first step is the hardest: He who has thought will always think, and a mind that has tried to think once cannot remain at rest, J.-J. Rousseau said.

The reader himself will add similar examples. What do they say? One can scarcely regard these diverse, at times polar views of what lies behind thought as fantasies, errors, or illusions of self-observation. More likely the opposite: all of the above thinkers, scientists, and poets are right in their own way, and what lies behind thought is an entire human being, all of the energies of his spirit, soul, and body: not only an intellect but also a will and passion. This conclusion, of course, is irrefutable, but it is too general. We are interested in a specific connection between thought and something else, without which it basically cannot exist. According to Shpet, that “something else” is language. It is the latter that is the *principium cognoscendi*—the basis of cognition. Any thought contains at least embryonic language.

While we experience and undergo the impressions of being, we are not required to have a particular ability to “suffer” or a particular ability of the mind—to actively intervene in the “experience”: once it captures us, the stream of life carries us with it. . . . Just to stop experience for an instant before oneself and to make it an object of “observation,” one must know how to say “here it is,” “here is something,” “here is what I want to be aware of,” and so on. These initial, purely perceptual sentences entail entire systems of new sentences, primarily in the same perceptual-indicatory form: “this is something,” “this is a sign of something,” “this is such-and-such an action,” and so on, and then the entire system of abstract, concrete, ordinary, complex sentences, and so on, and so forth. . . . The moment that inner experience assumes verbal form is the first *logical* act of the mind. To know how to observe and to know how to read mean the same thing in empirical cognition: knowing how to understand the meaning of a verbal sign, which refers to a corresponding part of reality. [36, pp. 228–29].

In discussing the difference between a naturalist and a historian, which is usually described as the “self-evident” difference between an observer and a reader, Shpet enunciated what in his view was the only correct principle: “one must observe the way people read, rather than read the way people observe”

[*ibid.*], that is, regard the world as a text that we are learning to read. “Regard” is not enough; one must also have a means of transforming the world into a text and a means that makes it possible to stop Heraclitus’s stream, to stop experience, to record the thought of it, and then the thought of the thought as well. Language is such a means (see [16, 17]). Brodsky was right when he said that a person is the product of his reading; and I would add, not only of text, but also of the world. According to Shpet, sensuality and inner experience do not develop directly into thought:

Emotional content is condensed into *meanings* and semantic contexts, which we understand, interpret, and turn into thoughts only in *their own* system of signs. The latter, regardless of their genesis and relation to the natural “image,” are the authentic signs already of *meanings*—although the meanings lie in the formal sphere of the expressive structures themselves—that is, authentic *symbols* of expressive substantiveness. . . . Obviously, any symbolization of an expressive system—a gesture, mimicry, an expression of emotion—is established and comprehended by us not by means of sympathetic understanding, empathy, and so on, but by the same means and methods that any logical and poetic symbolization is established. [37, p. 497]

As we see, Shpet, despite his allergy to explanations “from the origin,” takes a substantial step forward in explaining the unity of affect and intellect that Vygotsky cited. The latter produced the idea of intellectualizing such psychic functions as attention, imagination, memory, and feeling. Feelings not only become “intellectual” but also change their place in the structure of activity, shifting more and more from its end to its beginning. As Zaporozhets showed, they are used not only to evaluate the result of the activity but also to anticipate how successfully (or unsuccessfully) it proceeds. This evolution (transformation) of affect, however, does not necessarily have to occur. Listen again to the “antigeneticist” Shpet:

Genetic theories that have derived language with meaning from expression have caused a great deal of confusion here. The simplest observation is enough to notice that the development of meaningful language use and its emotional coloration proceed independently of each other and achieve harmonization relatively late. We are familiar with the particular, often delightful distinctiveness of a child’s speech, which derives from his use of strong, emotional locutions and evaluations without a trace of the corresponding inner experiences and without harmonization with meaning. The child’s emotional expressiveness comes before any use of language, but post hoc does not mean propter hoc, and screeching, squeaking, yelling, and crying do not turn into thought, just as the sun does not turn into the moon for the night. The child meanders through impulsive movements

and gestures, but regardless of the artistry he achieves in them, he begins to recognize and identify things, and then to understand and communicate. Much later, this involves “meaningful” gesticulation and emotional expression. There are individuals who completely master impulsive movements and yet to the end of their days do not know how to harmonize what is being communicated with expression. [37, p. 282]

Thus, a connection between emotions and language (thought) is possible; in fact, it is essential. As Mandelstam said:

*We will only grasp from the voice
What the scrabbling was, what the struggle was.*

The question remains, which we will address below, how is this connection established, how do emotions become “intellectual?” If we are to believe Shpet, for the moment they remain, like sensuality, merely a reason, a springboard for thought. While accepting (in advance) the proposition regarding the intellectualization of emotions, we can posit that emotions also influence the intellect, and in addition to “intellectual emotions” an “emotional intellect” takes shape. Then again, the latter, like the former, may occur, or it may not occur. For example, one of V.I. Lenin’s contemporaries called him a “thinking guillotine.” L. Grossman gave the following description of the character Stavrogin in F.M. Dostoevsky’s novel *Demons*, who could certainly be considered a prototype of Lenin:

Stavrogin is the embodiment of exceptional intellectual brainpower. His intellect absorbs all other spiritual manifestations, paralyzing and sterilizing his entire inner life. Thought elevated to the level of a monstrous force that devours everything that could blossom alongside it in the spiritual organism, some kind of phenomenal intellect—a Baal to which the entire, abundant domain of feeling, fantasy, and lyrical emotions is sacrificed—this is the formula of Stavrogin’s personality. [11, p. 450]

Let us return to the unity of affect and intellect. First, this unity is a potential one, not always attainable; second, two unities are possible: one dominated by emotions, the other dominated by the intellect. After all, in the end, emotion remains emotion, and the intellect remains the intellect. Shpet writes unambiguously about this: “We are dealing with a sensory impression (*Eindruck*) in contrast to meaningful expression (*Ausdruck*), with a co-feeling on our part in contrast to co-thinking. What takes place here is ‘understanding’ of a completely special kind—*understanding* that is fundamentally *without understanding*—*sympathetic understanding*” [36, p. 212]. But after all, it is still understanding, albeit in quotation marks. Shpet, however, continues

to separate emotion and thought, insisting on completely different identities (unities): “. . . expressions are themselves emotions (as language is thought)—for the percipient, at any rate” [ibid., p. 284]. Such a separation exists, but one clings to the other, which provides for interaction and reciprocal influence between affect and the intellect and allows us to speak (at least for our purposes) of intellectual emotions and an emotional intellect as unities in which either the intellect or emotion is dominant. These unities (or generative structures) may, during their coexistence and interaction, give rise to (awaken?) a higher unity—Reason, which occasionally may even supersede the intellect. The reasonableness of Reason, however, should not be overestimated:

*The soul is struck down by a curse like a thunderbolt:
Creative reason has overpowered it—and killed it.*
—A. Blok

Unfortunately, activity as a whole and the thinking and feelings woven into it are not dispassionate and not meaningless only in its ideal form. Once again I will cite the authoritative comment by Goethe, who regarded cognition and thinking as chasms of hope, the height of reason, the mobile impetuosity of fantasy, joyous love for the sensory. It would seem that the genius should have earned trust, but neither he nor other thinkers were able for centuries to shake the classical ideal of rationality. Contrary to what is self-evident, nonclassical rationality (it is too early to speak of an ideal) has trouble making its way in the scientific consciousness. Psychologists are pleased, of course, that their colleague Daniel Kahneman received the Nobel Prize in economics for proving that human decision-making processes in a situation of uncertainty consist of mechanisms (including emotional and aesthetic ones) that go beyond the bounds of classically rational thinking.¹ In this context, however, one could add that he received it instead of Spinoza. Or Goethe. Or L. Wittgenstein. Or at least another hundred thinkers, such as Rilke, who wrote almost a century before Kahneman:

*Even smart animals already grasp,
How unreliable our life is
In a world of intellect.*

By way of foreshadowing the topics to come, I should cite a highly important specific feature of human thinking. A meaning found by a person or a thought that he has generated are objective; to be more precise, they become objective in acts of reflection. In such acts the thinking self separates the thought from himself and can evaluate it as an object, as a thing, that is, as

something that can or cannot be realized, that must be evaluated, including from a moral, cultural, and ethical perspective. And in this sense a generated thought is an action. Moreover, a thought that is drawn into an event, according to Bakhtin, becomes an event itself. An event-thought takes on the character of an “idea-feeling,” an “idea of strength,” which may not be harmless, as discoveries are not harmless. Who knows, if the great nuclear physicists had read beforehand the lines written by Bely in 1911:

*The world was exploded in Curie's experiments
by an atomic bomb that burst,*

then perhaps the twentieth century would have been different?

If we take seriously the well-known compliment that man is a *homo sapiens*, we will arrive at the equally well-known proposition that thinking and being are one and the same. Vygotsky wrote: “Thought itself is born not from another thought, but from the motivating realm of our consciousness, which encompasses our proclivities and consciousness, our needs, our interests and impulses, our affects and emotions” [7, vol. 2, p. 357]. In essence, Vygotsky, from the vantage point of psychology, is affirming in his own way the existential nature of thinking and thought. Shpet spoke much earlier of how meaning is rooted in being and agreed with Parmenides that “one and the same are thinking and being.” Or Parmenides says it even more clearly: “one and the same are thinking and that at which thought is directed, and without that which exists, depending on which a thought is expressed, you will not find thinking” [38, p. 233]. We should remind the reader that Hegel, and later E.V. Ilyenkov and K. Popper, affirmed the identity between thinking and being. Bakhtin wrote a great deal about the involvement of thinking in being, and Mamardashvili reflected in a similar vein.

Nevertheless, the birth of thought, regardless of what lies behind it, remains a miracle and a mystery. Goethe, of course, was being sly when he said that thoughts came to him like God's children. Einstein was more candid: “I am not sure,” he told Max Wertheimer, “whether it is really possible to comprehend the miracle of thinking” [6, p. 262]. This did not prevent Einstein from spending hours relating to the psychologist the dramatic events that culminated in the creation of the theory of relativity.

Thus, from the standpoint of theoretical or any other thinking, the emergence of thoughts is a riddle. They may come from everywhere or arise spontaneously. Considering the identity between thought and being, anything at all can become a thought, or more precisely, the material or reason for one: a thing, an image, a concept, a feeling, an event, and so on. Much of this does not deserve to be called a thought—at best, they are protothoughts. But let us not forget that there is “manual thinking,” even “manual concepts,” and there

is also figurative and visual thinking. In all of these instances of thinking we speak of the manipulation or management of things, images, signs, symbols, and so forth. We speak of the generation of new images that carry a semantic weight and make meaning visible. For example, the generation of semantic images of the double helix of the genetic code, the benzene ring, the planetary model of the atom (incidentally, is such thinking theoretical?), and so on. If a thought is random, spontaneous, then thinking is most likely arbitrary; it is subordinated to some task, and the purpose of the mental task hovers over it as it would hover over an action (according to Bernstein).

In keeping with Davydov's demand, let us ask the question: What are the genetic roots of thinking? While no time is needed for a thought to spring up (a lightning bolt), or it is not measurable, since the starting point for the measurement is unknown, it is required in order to manage thoughts or protothoughts.

Let us begin with the question, How is it possible to shift from preaddressed, instinctive systems of immediate action to free, rational systems of delayed action [20]? To answer this we must understand how the space between, or inter-event space, is born. To avoid confusion, I will make a necessary clarification. We must define Buber's in-between space, for example, between man and man. In this instance "in-between" can also mean "together": confluent interaction, joint action, collectively distributed activity, and so forth. And there is between-space in individual behavior and activity, for example, time intervals, gaps between perception and action, intention and action, decision and action, and so on.

In the simplest case, for example, the task of making a choice must be accomplished in the interval, in the gap between the situation surrounding the choice and the choice itself. Mamardashvili called such an interval the continual-experience gap [21]. But where does the gap or the particular space between the situation and the response come from? Or in other terms. For the conceptual schemata of stimulus–response and subject–object, delays in a response that are not learned and not planned are a problem. For the schema of Man–World a delay is good. S. Freud, in his article "Formulations on the Two Principles of Mental Functioning," wrote about the occurrence of a gap and a delay between the internal impulse and its discharge—satisfaction. In everyday language, we can speak of the origin of patience. Quoting Freud himself:

The increased significance of external reality heightened the importance, too, of the sense-organs that are directed toward that external world, and of the *consciousness* attached to them. Consciousness now learned to comprehend sensory qualities in addition to the qualities of pleasure and unpleasure. . . . A special function was instituted which had periodically to search the external world, in order that its data might be familiar already if an urgent internal need should arise—the function of *attention*. . . .

A new function was now allotted to motor discharge, which under the dominance of the pleasure principle had served as a means of unburdening the mental apparatus of accretions of stimuli and which had carried out this task by sending innervations into the interior of the body (leading to expressive movements and the play of features and to manifestations of affect). Motor discharge was now employed in the appropriate alteration of reality; it was converted into *action*. . . .

Restraint upon motor discharge (upon action), which then became necessary, was provided by means of the process of *thinking*, which was developed from the presentation of ideas. Thinking was endowed with characteristics which made it possible for the mental apparatus to tolerate an increased tension of stimulus while the process of discharge was postponed. (see 11, pp. 57–58)*

We are not going to follow Freud and rush to speak of consciousness and thinking. Bion [5] is more cautious. He views the ability to tolerate frustration as a factor that is inherent in the personality of a small child, a factor of great significance for the process of the development of thinking and the ability to reflect. Tolerance of frustration (the beginning of the ability to “take a pause” and, accordingly, of volitionality), according to Bion, activates a mechanism that *modifies* it, which in turn, in the case of the infant, leads to the production of images and thoughts that represent “things-in-themselves.” If the ability to tolerate frustration is sufficient, then, for example, the absence of the mother’s breast becomes a thought and a “thought-thinking apparatus” develops. Bion posited that thoughts exist *from the outset* (we will believe this for now, although the translation must be clarified) and are the reason for the appearance of an apparatus for manipulating them, called thinking. From the genetic and gnoseological standpoints, this sequence—first a thought, then thinking—has some basis to it. Objectless (nonexistential) thinking is impossible. First the object of reflection must appear. True, its appearance does not guarantee thinking: it is difficult to think. Thinking a thought through to the end often requires courage. In general, the presence of an enormous number of thoughts that have not been well-thought-out, not thought through to the end, have been taken on faith and settled into the consciousness does not represent a major problem, but only as long as they are not implemented. I should note that trust, faith, and disbelief are feelings that may become an object of thought, but in thinking about them, affect prevails over reason. One of the revolutionary heroes of A. Platonov thought solely through the heat of his aroused feelings.

*Quotation taken from S. Freud, *The Freud Reader*, ed. Peter Gay (New York: Norton, 1989), pp. 302–3.

There are also thoughts from which a person wants to rid himself. Bion's reflections in this regard are interesting. For him, all objects for which a person experiences a need are bad objects; the person needs them because he does not control them. Otherwise he would not experience the sensation of needing. With reference to the infant, primitive thoughts or protothoughts are bad objects from which the infant seeks to rid himself. I will not delve any further into an exposition of psychoanalytic thoughts (fantasies?) regarding early childhood, which were developed by A. Freud, M. Klein, Bion, D. Winnicott, and E. Erikson. This is a separate and highly fascinating subject. Its main component is the emphasis on the importance of need, striving, and the emotional sphere—frustration, enduring it, overcoming it, and experience in the development not only of thinking but of the whole psyche, including consciousness. One of Bion's books is titled *Learning from Experience*. For our purposes, this topic may be designated as Dostoevsky's topic: "through suffering to consciousness." In our tradition, Ukhtomskii has written about striving as an indispensable characteristic of life; Florensky wrote about striving (e.g., of a plant toward the sun) and about endurance (as a condition of development). Vygotsky maintained that inner experience is a unit not only of consciousness but also of the personality; A.N. Leontiev disputed this, insisting that consciousness and personality are produced by activity. Elkonin develops the idea that endurance and suffering play the leading role in the development of the psyche, specifically in the formation of intermediate, including mental, action.

In the 1920s, N.L. Figurin and M.P. Denisova observed the aural concentration in two- and three-week-old infants, and visual concentration in the third and fourth weeks. At the end of the first month and the beginning of the second month of the infants' lives they observed in them an animation complex. This may be interpreted as the beginning of the formation of the in-between space—between the child and the world, between the child and the adult—and concurrently with this a space in which a "thought-thinking apparatus" can emerge. The discreteness of behavior and activity, including James's stream of consciousness with its twists and maelstroms, is confirmed by a microstructural and microdynamic analysis of living motion, which is not continuous but has the character of a quantum wave [8]. A decision comes not during the fierce action but during its cessation, its termination. This is true even of the anthropoids that W. Kohler studied. This does not contradict the idea that thinking itself is an action, that there are spiritually active, image-related, verbal, and other kinds of thinking.

It is significant that thought appears during a pause, during rest. Winnicott called such a pause a resting place. Following the appearance of thought, or, more precisely, the appearance of thought may cause a new surge of fierce action.

After all, *Service to the muses does not tolerate something there* (Brodsky).

Similar reflections are also possible in regard to the relationship between affect and intellect. Vygotsky was right, of course, when he spoke of their unity. But both Freud and Bion were also right in maintaining that the occurrence of thought requires overcoming frustration, enduring it. Affect is a poor adviser in a matter as serious as thinking. The same situation prevails here as with action: after thought arises, a new surge of frustration and affect is possible. We are not going to deny the principle of the unity of affect and intellect, just as we would not deny the unity of action and thought. But both unities are highly contradictory. Between affect and intellect, as between the contradictory “unity of consciousness and activity,” there is probably more of a reciprocal relationship, which is carried out with a delay. Perhaps there is between them a relationship of reciprocal generation or, at a minimum, reciprocal awakening or impulses. The relationship between thinking, thought, and action may be conceptualized in the same way. An additional argument in favor of both of the above relations of thought to action and to affect is the old assertion by Descartes that action and passion are one. According to this maxim, they jointly obstruct thinking, a tenet that does not contradict the idea that the latter is also action, but mental action.

Thus, we have defined the conditions for the emergence of an in-between space, in which a special form of activity emerges (is born) that is aimed at creating (constructing) a “thought-thinking apparatus.” True, neither Freud nor Bion reported anything significant, other than the fact that this apparatus manipulates finished thoughts or protothoughts. That is at least something to be thankful for! We will accept that this “place” is a place for initiation of a special type of activeness (activity) aimed at creating new, dynamic functional organs (the individual and the nervous system), about which Ukhtomskii, Bernstein, and others wrote. Speaking in terms of the cultural-historical psychology of Vygotsky, this “place” is a place for the creation of new psychological system-milestones. Of course, the new working, dynamic functional organs for new psychological systems include not only the “thought-thinking apparatus,” and not only the “organ of consciousness intended for overseeing other mental functions” (Freud) but also simpler functional organs and psychological systems. Nevertheless, there is some truth to the reflections of the psychoanalysts about the most complex constructs. After all, by picking up something “simple,” one can discover its complexity, delve into it, and forget about the initial intent. For example, Zaporozhets, who was an actor in his youth, was attracted to psychology by an interest in emotions and inner experiences on the stage. Hence, he became a pupil of Vygotsky. But then he was diverted from this path by Leontiev, with whom he created the psychological theory of activity, and for many years studied sensory, perceptual, and mental

actions and voluntary movements and actions per se. Their “simplicity” proved deceptive, so he did not focus on emotions until the end of his life. There is another argument in favor of starting with complex ideas. F. Engels once said that the key to the anatomy of a monkey lies in human anatomy.

The reader has probably already guessed that in order to understand the “miracle of thinking,” thinking alone, even on a theoretical level, is not enough. Kohler once incisively pointed out that intellectualism is at its most helpless in explaining the intellect. One has to turn to cognition, to ontology, existentialism, and phenomenology, and analyze (or reduce) the experience of firsthand inner experiences, and of course to reflection as well. Reference was made earlier to the fact that reflection, self-observation, and self-awareness (or at least fragments of these) have been used to obtain a rich variety of responses to the question of what lies *behind* thought. It is also self-evident what lies *in front of* thinking and thought. It is the world with its uncertainty, unpredictability, and problems (real or contrived). Also found was the thinking “place” in the continual-experience gap, where “active rest” takes place—also known as a state of unrest or “Descartes’s vortical motion” (Ukhtomskii). There is only one last little problem—to understand exactly what thinking is. It is intuitively clear that answering this question is impossible without resorting to observation. It is also clear that reflection, in its customary meaning associated with the self, is powerless to provide an answer. Otherwise it would have been known a long time ago. It was stated earlier that thinking is greater than what has been thought. Thinking would seem to be greater and broader than reflection on thinking. In this case, however, things are not that simple. It is both narrower and broader than thinking. It is broader because it is an instrument (not always a conscious one) of consciousness and activity. It is also an instrument of awareness of the identity of the self and in general it is an instrument of life that works both together with the self and without the self. In the latter case, we are dealing with process-related, background reflection. That is, reflection surrounds thinking (both before and after), but reflection with the self cannot penetrate into its core. Apparently, this forced Piatigorskii to separate the concepts of “observation” and “reflection.” In his lectures on observational philosophy he formulated the postulate of observation: “*something is structured like that which is observed and that which observes. But it is precisely something that is structured this way, not the world and not everything. . . . Something is the object of thinking in which there is no thinker about this object*” [27, pp. 9, 10]. It is a rather paradoxical assertion: there is no thinking self, but there is an ability to observe. This paradox, however, is very much alive and real. Piatigorskii, in a sense, is desubjectivizing (or depsychologizing) *mental activity*. And at the same time, he writes that “‘observation,’ on the one hand, already presupposes that

some reflection has been completed, perhaps unconsciously, with regard to the sensory (or any other) perception of an object being observed, and on the other hand, presupposes a certain intentional state of the observer" [ibid., p. 19]. The reference to "some unconscious reflection" applies at least as much, if not more, to action, which also involves a comparison, without the self, of the current motion with what is required, a comparison in which intent is undoubtedly present. Zaporozhets wrote that the reason action turns out to be "intellectual" is by no means that it is guided by some higher intellect external to it. With regard to such observations and facts in psychology, Mamardashvili and I wrote that "it" is working, not the self, that subjectivity is a reality that is independent of its perception and of where, when, and by whom it is perceived [23]. Such "objective, living subjectivity" also includes unconscious background reflection. And as such it is not susceptible to "the language of the internal," and in spite of this it has already undergone objective examination. Its essence (in Piatigorskii's terms) consists of the following. Sensuality may be regarded as the "something" that is being observed and that is observing. Similarly, living motion also may be regarded as "something" that is being executed and is observing. The results of either observation will prove useless unless they are associated with the intentions, tasks, and purpose of behavior, activity, and action. Background reflection is not simply a reduction of direct sensory readings of sensuality to a situation and of its potential development and sensuality to motion and the possibilities of its implementation to a single element, to a sense of I can, I will succeed, I will cope. This reduction is preceded by the extraction (condensation) of the meaning of each of these different types of "observations." It is the collision of the extracted meaning that imposes a semantic sanction (or prohibition) on a continuation of the action or on changes in its direction, pace, and other features. Intuitively this is acceptable and unobjectionable. It is astonishing that this comparison and reduction to a single element occurs several times a second even when simple motions are executed [9]. The regulation of the "simple" is monstrous in its complexity, since the scope of this act of reduction, comparison, evaluation, and semantic sanction of the impending action consists of the temporal and spatial features of the current situation and the internal possibilities of action in it (with it, over it). Furthermore, the current aspect includes the past and the future, that is, a spatial-temporal direct and reverse perspective. Defined in this manner, the act of unconscious, process-related, background reflection is simultaneously an act of sensory intuition that may contain the rudiments of intellectual intuition.

The imperviousness of background reflection, whether it is in perception, in action, or in thinking, to the "language of the internal," does not contradict the possibility that the "internal observer" postulated by Piatigorskii is present in such acts (not to be confused with the dubious myth of the "absolute

observer”). Piatigorskii provisionally identified this “internal observer” as “Reflex Z”—a reflex without the self, it is *non-personality-based*, but rather *extra-personality-based*. Reflex Z keeps together three aspects of thinking: the thinker, thinking, and what is thought. Mamardashvili (even before his friend Piatigorskii “invented” Reflex Z) repeatedly emphasized the extraordinary difficulty (the near impossibility) of keeping in a thought all three aspects of such thinking. I am at a loss to say whether such thinking is theoretical; it could be some kind of “super-thinking” that until now has been impenetrable to examination. It may seldom occur, so there is no point in speaking of how it forms. The path to understanding it, however, is less a theoretical path than a philosophical one, which, it is true, is not lacking in pragmatism, primarily of the reflexive kind. In concluding the discussion of reflection, I will cite a postulate by Piatigorskii that is useful for the psychological analysis of thinking, namely, that reflection is not only essential for thinking about thinking, but precedes it. He regards thinking in itself about thinking as the epiphenomenon of reflection, which I am inclined to consider a form of his “philosophical” showing off. More significant is the author’s expansion of the postulate of observation: *thinking as an object being thought applies to objects whose conditions of existence include thinking about them* [27, pp. 149–50]. M.O. Gershenzon called thoughts that run in the stream of self-awareness “mutually seeing.” Thus, thinking about thinking is not an epiphenomenon and not only a condition for the potential perception of thinking, but a condition of its existence. Piatigorskii, of course, also discusses second-order thinking, which does not include thought about the thinker. Gershenzon said that this is thought with eyes only on the outside but not on the inside. This does not prevent, however, unconscious, “unresponsive” or background reflection without the self from participating in such thinking. It is this kind of already “interpreted” sensuality, including the sensuality of living motion, that can be called “intuitive reflection” or “reflective intuition,” that can become the reason or springboard for thought.

Neither reflection can help answer the question about the roots of thinking. Peering inside oneself, inside one’s soul or one’s thinking, has its limits. A person sees his soul much more clearly by investing it in someone else or in an endeavor that he values. The same is true of thinking: it sees itself more in its results than in itself. What interests me more now is not how complete the observability of thinking about thinking is, but the fact that reflection cannot identify the roots of thinking and answer the question: Where does it come from? This same question remains, in effect, even if we acknowledge background reflection to be such a root or rudiment of thinking. After all, we linked both reflection and thinking to the continual-thinking gap. But they *appear* rather than *arise* in the gap. What if there is no experience yet? Is it

possible in general to assimilate experience without thinking? Was Mandelstam not right when he said:

*And those to whom we devote experience
Acquired features before experience.*

Could these features not include thinking, or at least thought, which, as Bion wrote, preceded thinking? It is helpful here to consider Piatigorskii's reflections to the effect that knowledge and thinking, for the time being, remain in different worlds:

There is one aspect of ethics that pertains to knowledge: I cannot blame anyone for not knowing something. But I can blame him for not thinking about something. After all, I may know about something without thinking about it for an instant, but I can think about something my whole life and not attain knowledge about that object. . . . It is precisely for this reason, from the standpoint of ethics, and not only semantics, that "thinking" is much closer to "wanting" or "being able" than "knowing." [27, p. 158].

The author categorically asserts that "thinking cannot, other than extremely hypothetically, either be equated with the process of knowledge or, least of all, be derived from already attained knowledge" [ibid.]. I should note that the whole system of developmental education of Elkonin and Davydov is based on this. For future reference another distinction that Piatigorskii discusses is useful: "Is thinking a mental action or a mental event? I think that these are not merely different ways of expressing the same thing, but that this alternative points to a difference in meanings. 'Action' may imply the questions 'whose?' or 'whom?' that is, it refers us back again to the 'thinker,' a reference that is not necessarily suggested by the word 'event'" [27, pp. 143–44]. An equally significant difference is that an event, especially a thought event, most often occurs spontaneously, while a mental action, like any other kind, is subordinated to the task, the intention, has features of volitionality, and so on. And, granted, as an action, it is difficult to mold. P.Ia. Galperin, P.I. Zinchenko, Davydov, and Elkonin led pupils *through* the molding of various mental actions to the memorization and assimilation of knowledge. What interests me, however, is the possibility of a preexperiential thought event, that is, the problem of "roots" and the origin. One cannot say that this is a completely new problem. Davydov sympathetically cites Vygotsky's assessment of the theory of J. Piaget: "For Piaget the indicator of the level of a child's thinking is not what the child knows and not what he is able to assimilate, but how he thinks in a field where he has no knowledge. Here the sharpest contrast is drawn between education and development, knowledge and thinking" [7, vol. 2, p. 227]. Davydov agrees with this assessment [12, p. 80]. But after all, it

is on this contrast that his idea of the development of theoretical thinking is based. If this thinking is not prepared to solve unprecedented problems, what is it good for? I think it makes sense to heed another line of thinking. Shpet [35], Florensky [29], M. Heidegger [31], and Bibikhin [4] attach paramount importance not to education, not to development, but to the human infant's possession of "intelligible intuition," "receptive existential understanding," a sense of "I can—I think—I understand"; in short, a preexperiential readiness to master language and culture. All of the above authors wrote about the incredible richness of this undifferentiated foundation, the depth of which cannot be compared with reflexes and instincts, and linked it to the unity of birth and the fact that it belongs to the human species (for more detail, see [15, 17]). What is key in preexperiential readiness is Shpet's prelogical intelligible (comprehending) intuition, which under the influence of development and education becomes sensual and intellectual. A concept equivalent to intelligible intuition is that of the intuition of the conscience, introduced by Ukhtomskii, which he viewed as a mysterious and judging voice inside us that gathers the inherited impressions from the life of the species. Without intuition, no matter what kind it is, no thinking is possible. But the same may be said of reflection, whether it is conscious or unconscious. In describing literary creativity, Shpet wrote: "From the time a subject is chosen until the final moment of completing a creative work, stylizing fantasy operates spontaneously; every step here, however, is *simultaneously* reflection that reveals *formal* and ideal laws, methods, internal forms, and so on, of the model that has been assimilated" [37, p. 487]. Reflection in the context of spontaneous creativity should be construed as a special semantic sanction pertaining to the appropriateness of the form and content of the creative steps. This sanction includes an emotional component similar to Mandelstam's satisfaction that is equal to a sense of having carried out an order.

Returning to the problem of the roots of thinking, we should add to preexperiential and prelogical intelligible intuition the ability of unconscious reflection, which generates a sense of "I understand," "I can," "I want." As a result we will obtain a certain primary integral (syncretic) formation, a kind of complex of symptoms that includes, in a still-undifferentiated form, primal forms of all the classical attributes of the soul—cognition, feeling, and will. Their differentiation into separate mental functions and acts is due to the centuries-long efforts of philosophers and psychologists. When, as a result of this work, the soul disappeared and cognition, feeling, and will ceased to recognize one another, the time came to gather stones. The attempts to gather what was divided up was named the path to nonclassical forms of rationality. Perhaps the reminder of their sources will ease the progress along this path. I would like to point out to the reader that a possible illustration (but no more

than that) of progress along this path may be this article. It has attempted to interpret and coalesce the philosophical, poetic, psychological, and psychoanalytic concepts of thought and meaning, intuition and reflection, affect and inner experience. All of this wealth is combined in acts of thought that occur in the continual-experience gaps. Progress along this path may lead us to an understanding of the microstructure and microdynamics of the creative act.

A few words in conclusion. It would be a good idea for Davydov's followers to devote attention not only to reflection but also to intuition, including emotional and intelligible intuition. To be fair, it must be pointed out that at the end of his life Davydov (seemingly continuing the tradition of Vygotsky and Zaporozhets) tried himself to go beyond a logical description of thinking, including theoretical thinking, and focused more and more on inner experiences and affects.

I am not sure that Davydov and his colleagues specifically developed theoretical thinking in schoolchildren, but the fact that he strove to have reason predominate over the intellect in his pupils—and succeeded—is beyond doubt. I think this predominance contains the nucleus of theoretical thinking. There is also no doubt that Davydov himself was fully proficient in theoretical thinking, which he himself combined well with empirical thinking. Without this, Elkonin would not have been able to build a system of developmental education, which exists to this day and continues to develop in interesting and successful ways.

Note

1. At the same time, it is regrettable that the creators of the rational Gosplan [State Planning Committee] economy of the Soviet Union did not have the good sense at the time to submit their “works” to the Nobel Committee. That we should have priority is beyond question!

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