

Journal of Russian & East European Psychology

A JOURNAL OF TRANSLATIONS NOVEMBER-DECEMBER 1995

The Legacy of A.N. Leont'ev

Guest Editor: Jacques Haenen

Journal of Russian and East European Psychology

NOVEMBER-DECEMBER 1995/VOL. 33, NO. 6

The Legacy of A.N. Leont'ev

Guest Editor: Jacques Haenen

Introduction

MICHAEL COLE 3

The Legacy of A.N. Leont'ev

An Introduction
JACQUES HAENEN 6

The Assimilation of Scientific Concepts by Schoolchildren

A Problem in Pedagogical Psychology
A.N. LEONT'EV 12

Problems in the Psychology of Activity

A.N. LEONT'EV 39

The Role of the Principle of Object-relatedness in the Theory of Activity

(Criticism from "Without" and from "Within")
A.P. STETSENKO 54

The Structure of an Image

(In Commemoration of the 90th Anniversary
of A.N. Leont'ev)
F.E. VASILUK 70

Author Index to the *Journal of Russian and East European Psychology*

Volume 33 (January-December 1995) 93

F.E. VASILIUК

The Structure of an Image

(In Commemoration of the 90th Anniversary of
A.N. Leont'ev)

It is a special joy to get one's hands on a good instrument, and it is particularly pleasant to show it to people who will be good judges of it. I should like to present to my colleagues' attention a theoretical model I have found to be a very convenient intellectual tool useful in both psychodiagnostics and for psychotherapy.

This tool was once buried in empirical material. In analyzing the results of a psychopathological experiment done with the subject L., a patient in the acute ward of a psychiatric hospital, I noticed some characteristic images that arose as he performed a "pictogram" test. For example, his response to the word *dream* was to draw a line that grew thicker in the middle: ". . . this is a line, and on it is a bump," explained the subject. "If it slipped off, that would be reality. But this way it is a dream. It nurtures the idea."

I was working at that time in a psychiatric clinic and, like any clinical psychologist, I encountered such phenomena every day, and each time the problem of the language of description arose for me. It is not that clinical psychology does not have enough words: such a pictographic image could quite well be designated "formal," "eviscerated," or "pseudo-abstract," and that would be quite sufficient for the tasks of

Russian text © 1993 by "Shkola-Press," and "Voprosy psikhologii." "Struktura obraza." *Voprosy psikhologii*, 1993, No. 5, pp. 5-19.

The work on the topic dealt with in this article was financed in 1993 by the Foundation for Basic Research as part of the project "The psychotechnology of consciousness."

routine differential diagnosis. But in using such terms I became aware that I was simply putting normative-evaluative labels on facts, and that these labels were not capable of meaningfully describing the inner essence of the phenomena, but were needed merely to sort them into predetermined compartments bearing the inscriptions “schizophrenia,” “neurosis,” “psychopathy,” etc.

If clinical psychology is not simply a handmaiden of psychiatry, I thought, if it has its own independent scientific tasks that cannot be reduced to subserving existing psychiatric practice, it cannot go on being content with a preset picture of reality imposed from without, but must undertake its own primary interpretation of facts, i.e., it must think not in terms of medical nosology, but in a psychological semantic field. What sort of a field is this? It is the space of human life—thus came the answer—that the science of psychology reveals to be a space of activity and consciousness.

In the course of such reflections, it was natural for me to turn to Leont’ev’s theory of activity for a language of description, inasmuch as I have belonged to that school since my university years. This theory proposes a fruitfully evolving, if not fully developed, psychological conception of consciousness [1,6,10,11,13]. In its initial variant, three principal “constituents” of consciousness were distinguished: personal sense, meaning, and sensory fabric [5].

In some cases these concepts can quite accurately describe empirical facts, but from time to time one gets the impression that they are getting very close to the facts, that they are, so to speak, on the point of touching them, but are quite unable to capture their essence. Can one, for example, describe the response of our subject L. with these concepts?

Consider: This was an original and unique image that occurred only to this person and that therefore expressed his individual relation to the word *dream*, yet one cannot say that some *personal sense* was clearly revealed in this image. The image reverberates with no personal feeling, no partiality, no personal biographical overtones; and consciousness is clearly oriented not toward reflection and expression of a subjective attitude toward the world, but is objectively oriented, toward the idea of the word *dream*. Compare it, for example, with such an ingenuous image given in response to the same word by an adolescent: “Dream? Oh! It’s a bicycle, a racing bike; it was promised me for my birthday. I’ll draw a bicycle.” The personal sense here is beyond a doubt dominant in the entire image. Against this background it is clear

that the formative element “personal sense” practically did not participate in subject L.’s construction of a pictographic image.

As for the participation of *meaning*, here, for comparison’s sake, is the response of another subject in which this formative element of consciousness clearly dominated over the others in the generation of the image: “Well, a dream is a product, a fruit of the imagination and a fantasy about something desired, something ideal.” (He draws a rough picture of a person with a cloud rising over his head.) In this case thought takes the path of almost a dictionary definition of the term *dream*, and the drawing illustrates this definition in a universal way. But for our subject L., although thought is also directed toward the idea of the word *dream*, it does not capture this objective, generally significant idea. It manages only to capture one nuance of the generally understood meaning (namely, that a dream is not reality, but can become reality), and then behaves as if there were nothing other than this nuance in the meaning, i.e., it replaces the whole with the part, so that the whole becomes unrecognizable. Indeed, no one would have been able to guess what word had been given to the subject on the basis of his drawing and explanation (if, of course, one removes his direct mention of it from his explanation). Such a reverse experiment would show how far removed the subject’s uniquely contorted thought is from the essence of the word *dream*. Accordingly, although the image has an orientation toward the meaning, there is no cultural meaning, just as there is no personal sense in it.

That leaves the last formative element, the *sensory fabric*. But here, too, it seems that this, at least in the form in which we found it in Leont’ev’s theoretical description, does not figure in the image being analyzed. If the patient had reacted to the presented word *dream* as did subject V.: “A dream about recreation—the summer, the forest, the river. Let me draw some spots—yellow, green and blue,” we should note that it was the sensory tones of the imagined objects that dominated in the symbol selected for memorization, and consequently we might think that the sensory fabric was intensely and clearly represented in the mental image retrieved by the subject, that the world at that moment had turned its sensory (specifically, its visual) side to the subject’s consciousness, and that meanings and senses were left in the shadows.

But the image given by subject L. (a dream is a “line and on it is a bump”) seems also to consist of sensory fabric, though it is in some sense a completely different kind of sensory fabric. Every word, every

movement of the pencil, every intonation expressed a direct bodily sensation. The problem is not even that the sensory fabric is not picturesque, but rather graphic, and that through this graphic image sensations of another modality clearly show through: not visual exteroceptive, but interoceptive kinesthetic (“slip off,” “nurture”) modalities. The fundamental differences between these two sensory fabrics lie elsewhere. In the first case, the subject’s consciousness is turned toward the objective world (forest, river, summer); and it, so to speak, places itself under the rays of color, odors, and sounds coming from that world and notes only the strongest, brightest, and at the same time most easily imaginable impressions (yellow, green, blue). In the second case, consciousness is turned toward the world of ideas, and the process comes from the inside out, from inner sensations to the objective idea. The sensory fabric here is not yet saturated with a fully formed thought, but “nurtures” it (using the subject’s own word); it seethes and simmers with the idea being born from it. This gives rise to a second question: What is the quality of this thought; what is its relationship to social and cultural standards? The most important thing for the time being is that we have here a sensory fabric that is not passive material for an image, but active material generating an image.

This is precisely Leont’ev’s “sensory fabric.” We should recall that in his writings, sensory fabric is always some *impression* [5. Pp. 138, 148], i.e., some sensory imprint of the objective world generated in the process of practical activity with that world. Sensory fabric always preserves “its original objective reference” [Ibid. P. 148] and thus performs the function of imparting a sense of reality to images in consciousness. This formative element of consciousness is regarded as the “sensory composition of concrete images of reality” [Ibid. P. 133], the material of which a perceptual image is built. This material is not itself spontaneously active, nor does it have any intrinsic meaningfulness; it is hidden to the outside and is organized by perceptual activity, which gives it form and intelligibility.

An integral human image is meaningful; but the meaningfulness, the intelligibility, of an image is given to it by meanings, not by sense data. Meanings and sensory fabric combine to form an image; but this is a quite external, not mutually penetrating, union: “In themselves meanings have no sensory quality” [Ibid. P. 148], and a sensory quality has no immanent meaningfulness and significance. Meanings are nonsens-

ory, and a sensory quality has no significance. Such a quality, one may say, is earthly, is only lifeless material; and meaning is only life-giving and form-giving spirit.

That is Leont'ev's notion of sensory fabric in his theory of consciousness. Let us sum up the most important points: sensory fabric (a) is generated in practical interaction with the external, objective world as an immediate impression from it; (b) it serves as a material from which conscious, objective ("significant") images are built; (c) it fulfills the function of witness to external reality, the function of "imparting to reality a conscious picture of the world" [Ibid. P. 134].

The form in which sensory fabric was manifested in the response of our subject L. does not fit into this theoretical concept. Sensory fabric in this case is not an impression coming from without, but a quality arising from within; it is not pliant material for an image, but a bubbling magma, generating forms and thought; it is not its business to impart reality to a picture of the world since it is a phenomenological primal reality.

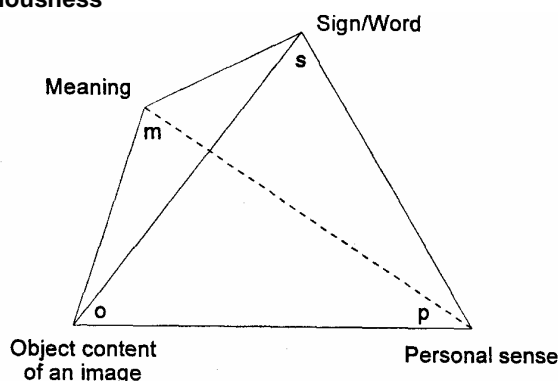
If a theoretical notion does not correspond to the facts, it needs revision. However, the circumstance that Leont'ev's notion of sensory fabric describes well other facts (for example, processes taking place in inverted vision [7, 8]), compels us to draw the conclusion that it is not so much inaccurate as incomplete. The present concept of sensory fabric pinpoints only a part, only one aspect, of that reality that as a whole warrants the name *sensory fabric*.

One may offer a hypothesis: that the sensory fabric of an image is a multidimensional substance. But what are the dimensions of this substance? To answer this question, we must modify the notion of an image in consciousness as developed in the theory of activity.

Let us try to reason naively. What, generally speaking, determines human consciousness and its particular images? The external world, the inner world (a person's motives, his needs, his values, etc.), the culture in which he lives, and, finally, language (people speaking the same language may belong to different cultures and their consciousness will differ accordingly; similarly, the consciousness of people living in the same culture but speaking different languages will also differ).

In a concrete, vivid image in consciousness, each of these elements has its own representative, formed, as it were, by the nerve centers, the nodal points of the image. The external world is represented by an objective content, the world of culture is represented by meaning, and

Figure 1. A psychosemiotlc tetrahedron—model for the structure of images in consciousness



O—Object content of an image; o—sensory fabric of the object content; P—personal sense; p—(emotion) the sensory fabric of personal sense; M—meaning; m—sensory fabric of meaning; S—Sign or word; s—sensory fabric of a sign (word).

the representative of language is the word; the inner world is represented by personal sense. Each of these nodal points of an image is essentially transitional, one side of which is turned toward objectively existing reality (the external world, the inner world, language, and culture) while the other is directed toward immediate subjectivity. All these nodal points together stake out the space in which a vivid image pulsates and into which it flows. Let us represent this in the form of a tetrahedron (see Figure 1).

What is this space filled with? With the vivid, fluid, breathing plasma of the sensory fabric. The sensory fabric lives and moves in the four-dimensional space of an image as plotted by the force fields of its nodal points, and, being integral, becomes denser, more concentrated, and acquires the characteristic features of the particular dimension near each of the poles of this field.

This model of an image provides fruitful possibilities for a description and analysis of various phenomena of consciousness. A better way to acquire initial familiarity with these possibilities is to take a little excursion over the most informative points of the model, i.e., around the different poles of the image, and look into the contiguous zones where the sensory image grows denser.

Our guide in this excursion can be one of the cue words in the pictogram test, e.g., the word *justice*. We see that different subjects

responded to this word with different images depending on what pole of the structure of the image became dominant in their consciousness.

The object pole

Subject B.: “Justice? Well, for example, dividing up a cake evenly. That’s justice.” He draws a cake.

The subject does not really hear the word, he does not ponder the concept; his consciousness is directed immediately away from the word through the concept to the external world, in which he seeks and finds an appropriate objective situation. The concept “justice” is only applied. It functions subjectively almost as a natural property of the situation itself. Here is a cake, it is divided evenly, and there you have justice. There is nothing more in “justice” for the present consciousness of this subject than an evenly divided cake. Of course, this evenly divided cake was influenced by the idea of equality, which for this subject is part of his idea of justice; but once it appeared, it became self-sufficient in its empirical concreteness, and there was no further return to the idea that gave rise to it. The image here came to rest completely in the object and forgot about the meaning that participated in its generation. The word closed directly on the object, so to speak, and became frozen in it. The object became the dominant of the image.

One or another pole of an image can dominate as a consequence of mental pathology, or because of a particular task that a person’s consciousness is dealing with at the moment. We must distinguish *domination* from the *splitting-off* of a pole as a result of the decomposition of an integral image. Below we have some examples of this splitting-off.

In a culturally elaborated form, images with strong domination of the object pole may be found, for example, in realistic painting. The concrete canvas, of course, has all the elements of the image in it: through the actual items depicted by the artist, a word is uttered, a meaning (idea, thought) is expressed, and a personal relation is conveyed. All this shines through the object and gives it an esthetic sense. But one can also observe changes in the degree of domination of objectivity in different currents and different genres. For example, it completely disappears in an allegory, in which the object is only a sign for an idea; and it increases to its maximum in the transition from realism to naturalism. In naturalism the object is sufficient unto itself:

it becomes a sign in itself, and things are enlivened in their primordial, unnamed, and, as it were, unsignified being. It creates the will to stroll freely through the world as if next to one there was no one, and it gives us a chance to satisfy a childlike curiosity and look behind the things, to see what they do when they are left alone.

The sensory fabric of an object

Consciousness may be directed toward an object, but at the same time be focused not on the object itself, but on an impression from the object. If we touch a needle with our finger, we can say it is sharp, or we can say that it is a point. If we look at a lamp, we can say that it is bright, or we can say that it blinds the eyes. In the first case, consciousness is focused on the object, on its objective property; and in the second, it is focused on the sensory fabric of an object, the subjective impression from it.

Among the pictograms of the word *justice*, an example illustrating this focus of consciousness is provided by the following response of subject R.: "To achieve justice a person has to cross so many thresholds, overcome a multitude of obstacles and routines. It is a matter of continuous efforts and struggles to prevail." (The drawing is of an arrow penetrating a hill.) We see here that the subject's consciousness is directed not toward an attempt to define and express the general meaning of the concept of justice, toward expressing his own personal valuation, attitude, or feelings about justice and injustice in his life, nor toward a game with the word *justice*: his consciousness is directed toward the objective reality behind this word. The subject imagines some generalized person who has obtained justice. But, inasmuch as it is turned toward objective reality, his consciousness concentrates not on it itself, but on sensations evoked by activity with reality, toward feelings of effort and struggle. In response to the expression "a dark night," a subject drew not traditional stars, but closed eyes, and then gave the explanation: "That's the same thing, dark." When a subject after hearing "a warm wind" did not draw arrows with the symbol "+t—", but recalled: "First this is a soft sensation," we are dealing with the same mode of consciousness. The sensory fabric of an objective content becomes the dominant of the entire image of consciousness. It will be convenient to call these images *impressive* images.

Actually, the whole of impressionism is based on attraction to the

objective world. The artist admires it, strives to feel it with each cell of his own being, to immerse himself in this sensation and convey it to us as it is, a sensation, albeit ephemeral, but warm and sensuous—not the world in its objectivity and alienation.

Personal sense

Subject T., who worked as a chief bookkeeper, responded to the word justice by drawing several human figures: “When they don’t toe the line, I sometimes censure someone; and they say to me, ‘Ira, you’re not being just.’ ” Here are some more pictograms of the same type. Subject Ia. responded to the word *development* by drawing a house and the Eiffel Tower. “One must be a developed person. I dreamed of being an architect. But my development was feeble; for this you have to be developed.” Subject G. responded to the word *friendship* by drawing her “faithful friend,” and to the word *happiness*, she drew a man with epaulettes: “I should have married him. This is a specific person. He is a serviceman.”

In all these cases, the cue word immediately put the subject’s consciousness in a context of his personal life, as if he had answered the question: “What does friendship mean for you personally? With what is the word *happiness* associated for you?” In this context, an episode is selected, a biographical detail linked with the particular word. The literalness, the photographic quality, the reproductiveness of these images, are striking: there are no attempts to ponder the concept, to generalize it, to compare one’s own experience with the experience of others, or with its general cultural meaning. Thought and imagination are silent; only memory and affect speak. The word is perceived only as relating to oneself, only as a thing for oneself. Consciousness set in this way recognizes no objectively existing things for themselves. The opposite side of the moon simply does not exist. Similarly, there is also no thing-for-another: no attempt is made to ponder the generally significant sense of the word, to compare one’s own dream, one’s own happiness, one’s own development, with the experience of other people.

Images with marked domination of the personal sense pole are naturally called *egocentric*. A high percentage of egocentric images is observed in some forms of mental pathology, particularly in patients with hysterical neurosis. However, egocentricity of images is by no means an unequivocal sign of mental pathology. Such a focus of conscious-

ness can be a culturally productive esthetic orientation, for example, in lyrics and in feats of memory.

The sensory fabric of personal sense

When the word *justice* was presented, subject Z. drew a strange jagged figure in abrupt movements and said vehemently, gesturing with his hands: "The top peaks are bigger; they show that justice prevails. This is an affirmation of oneself. It is kind of a moral satisfaction." Nonobjective passion and affectivity are dominant in this image. What is depicted here or, more accurately, what is graphically expressed is the subject's emotional state, which is aroused only by the word *justice*, not by a concept of justice, an idea of actual manifestations of justice, or the personal experience of encountering justice or injustice. The emotional state, or affect, is effectively split off in consciousness from all the other aspects of a life of justice and ultimately exists separately and independently of them. This is a clearly endogenous feeling seeking an outlet and using any external objective forms merely as pretexts and channels for self-display.

In ordinary states of consciousness (which, from the standpoint of our schema, can be described as states in which there is no sharp dominance of any pole and, especially, of being split off from others, states in which all are synchronously joined), emotions provide an immediate sensory bedrock for personal sense. Emotion is made meaningful and sense is made emotional in their unity. This state of unity is not a dead connection, but a dynamic play in which thought seeks explanations, justifications, and the expression of emotion; they flow together in a unity, and then draw apart, and again seek a new fusion. But emotion is capable of breaking off, even severing itself, from meanings and displaying its own independent being.

Here are a few further examples illustrating this separation to one degree or another.

Subject T. was presented with the expression "a tasteful lunch" and drew a window, the moon, and a plate, commenting on the drawing emotionally: "I love everything beautiful. A tasty lunch is relaxation." And then he continued pensively: "A pretty flower, an odor, a tasty meal raises one's spirits." An affective-esthetic relation dominates in this image. It is not the lunch itself that is important: it is only an occasion for expressing a lyrical mood, to which the subject abandons

himself with pleasure. He is so taken up by his emotional empathy with the imagined situation that an extremely characteristic definition appears: "A tasty meal is relaxation."

Subject S. drew lightning in response to the word *jealousy*: "Lightning is connected to the nervous system. It is stress. When you get jealous, you get troubled in your mind. There is thunder and lightning."

Most important of all in the image occurring to this subject is not the general meaning of this feeling, not the situations causing jealousy, and not individual personal sense, but the explosiveness, as a distinctive feature of the direct inner emotional experience of jealousy.

Images in which affect so clearly dominates is called *expressive*. Expressionism as a school of art enabled us to see the prototypes of the cultivation and cultural fixations of states of consciousness in which all power is relinquished to feelings forming from deep within; and the whole world and all external, objective elements put in their appearance only to a degree and manner (obviously highly distorted from the standpoint of being outwardly realistic) sufficient to convey this rebellious passion, seeking more to cry out than to make a statement. The whole world becomes the signifier relative to feeling, the signified. Feeling is transformed from a coloration, a signal, or an evaluation into the nucleus, the root, and the very seed of the world.

Meaning

Among the pictograms of the word *justice* we often encountered a picture of scales, accompanied by explanations such as the following: "Justice is fairness and equity. I'll draw scales, the symbol of justice." The subjects' consciousness in such cases is directed not toward looking for concrete pictures and situations in which justice (or injustice) might be found, but in the generally understood cultural meaning of the word *justice*. By standard association, fairness and equity correlate with the concept of "justice," which in turn is depicted by a standard symbol. The subjects had no difficulty pondering the concept of "justice"; but nonetheless, they made this concept, together with its general cultural signification, the focal point of their consciousness in their attempts to find a pictogram suited for memorization. Making the concept the center of their consciousness is not at all the same thing as simply using it, looking through the prism of the concept at the objective world or their own lives.

When in response to the proposal to remember using a pictogram for the expression “a warm wind” a subject drew two circles (“clouds”) and in them placed the symbols for pressure used in physics (P_1 and P_2), wrote $P_1 > P_2$, and drew an arrow from the first circle to the second, placing over it the symbol “+t—”, it was clear that there was almost nothing left in his image of the sensuous object that is a “warm wind” or of a personal emotional relation to it: all that remained for him was to make an attempt at a scientific description of the meaning of this expression. Such an orientation of consciousness is often evident when this procedure is carried out in that subjects try to give a definition of the proposed word before venturing to draw it even though there is nothing in the instructions that requires this.

Any scientific concept may serve as an illustration of the dominance of the pole of meaning in an image since in the process of forming such a concept, it is purged of all impressions of a sensuous object, of any emotional relation, and of all influences of the natural language (it need hardly be mentioned that I am speaking here of just dominance, no more, that such a “purging” is never total for, if it were, the image would become totally dessicated, and the concept could not fulfill its function in the process of scientific thought). However, dominance of the pole of meaning is encountered not just in science: it is also found in other areas of social life (road signs, for example, and culture, including in art). For instance, allegories, fables, and fairy tales can have an exceedingly rich plastic content, be charged with extremely strong emotional force, and be woven out of extremely rich linguistic fabric; but all these things are only means of expression and affirmation of some generally significant form or idea—they are only means to direct the reader’s mind toward this idea.

The sensory fabric of meaning

“Justice is truth. Truth is rectitude; it overcomes crookedness,” said subject K., as he drew two intersecting lines, a straight one and a wavy one. In this example, as in the pictogram of a “dream” with which I began my analysis at the start of this article, the subject’s consciousness was turned toward the general idea of justice; but he did not reflect on the meaning of the concept of justice, but rather focused on the sense impression elicited by retention in the mind of the idea of justice and its associations.

The dominance in an image of the sensory fabric of meaning was encountered very rarely in the subjects' pictograms (about 4% of cases), as a pilot study showed.

However, as soon as the usual instructions were changed and the subjects were asked not to remember the word, but to express the given concept in graphic form, the proportion of such images increased sharply, and even appeared in response to such "object" words as *house*. A subject drew [a house and said]: "A house is an enclosure. A house is something that joins together different parts (i.e., different people) and sets them apart from the outside" [9].

Images of this sort can be called *intuitive-plastic concepts*. The fact that this was a concept, not a percept, is obvious: there are no windows, doors, chimneys, or walls in this definition. But this concept is not a product of discursive thought, in which it would be brought into relation with other concepts. In this case the subject thought his way into the idea of a house. However, he did not analyze it as an outside observer, but with his intuition, by feeling himself directly into the very core of the idea. He entered into this "house" and gave his own essentially plastic description of his inner experiences from within it.

One can find instructive examples of the dominance of the sensory fabric of meaning in "abstract painting." Take, for example, the *Torso in a Yellow Shirt* by Kazimir Malevich. This painting is, of course, not an attempt at a realistic portrayal, but it is also not an attempt at expressive self-expression. The artist does not strive to splash his soul's passions on the canvas and has no desire to "draw a phenomenon or objects precisely as they are" [4. P. 15]; he has an "idea to resolve," he feels a need to express some as yet unknown truth, but there are no finished meanings or general cultural forms for this thought.

This tension between an inwardly sensed, inwardly experienced thought thirsting to be expressed and the fact that it has not been expressed, the absence of a finished form in which it could be recognized, creates a tremendous pull that draws realistic, objective details, abstract elements, expressive chords, etc., all into its flux. But all these elements—the "yellow shirt," the white circle (in a painting by A. Rodchenko), or the crab with open claws at the center of P. Filonov's painting *A Formula for Blossoming. The Last Stage of Communism* do not begin to speak about themselves, but are transformed into "symbolic raw material," into a material out of which a new form is differ-

entiated for a new thought, and from which a sensory “formula” is born (for example, “A Formula for the Universe” or a “Formula for Spring”).

The word (sign)

The subject M. drew a homunculus in response to the word *justice* [*spravedlivost'*] and beside him a narrow, elongated strip, commenting, as he drew his pictogram: “The man is showing that *to the right is a long tube* [*sprava—dlinnaia truba*].” The subject’s consciousness did not move from the cue word to some other aspect of what the word stood for—to an object, a concept, or personal experiences associated with justices—but stopped short on the word itself, on its “phonetic form.” Consciousness began to play with the phonetic shell of the word, breaking it down into parts and assembling new words out of them that together were consonant with the first word: *sprava-dlinnaia*. It is important to note that these manipulations did not cause the word to lose its value as a linguistic unit, transform it into a meaningless sound or a separate thing: it remained a full-fledged essence, though bled dry, among the living, spontaneous elements of language. One could operate with this essence, perhaps not in a completely appropriate manner, but then again, not in some Martian manner either, but as the unwritten norms of the language permitted.

Another example of this sort is provided by pictograms occasionally encountered to the word *development* [*razvitie*] when the subject went through roughly the following stages in his mind: *razvitie—rasvIvat'sia—rasvEvat'sia* [develop—to develop—to unfurl]: “I’ll draw a flag—it unfurls.”

The factors arresting consciousness on the phonetic form of the word, not permitting it to pass through the prism of the word to its meaning, can be extremely varied: the complexity of the meaning, or unfamiliarity with it, the indeterminacy of the objective content, or, for example, the painfulness of its personal sense, or perhaps a reluctance, conscious or unconscious, to enter into in-depth substantive contact with the experimenter, or bravura, demonstrativeness, and an expression of protest against the experiment itself, etc. But what is important for us right now is not these factors, nor the clinical classification of such phenomena, but the fact itself, which demonstrates a type of mental image in which the pole of signs is almost split away from the other poles, so

that practically it alone represents the whole image. Instead of an integral image of “justice” in which different thoughts, ideas, notions, aspiration, etc., come together—in place of all this—our subject had in his hands the empty shell of a word, and he carried out manipulations with it, moving from it to other derivative words, *sprava* and *dlinnaia*, associated with the original word only through consonance.

Earlier I stated that it was necessary to distinguish between the dominance of some pole of an image and its splitting away from the other poles, in which cases it wholly or partly loses its connection with them. When any pole is split off, a fissure forms between it and the others, impeding and distorting the flow of semantic currents and in general splintering the image in such a way that its individual fragments may be encountered in consciousness. But when one pole dominates temporarily, the image remains whole; and floating on the waters of consciousness, only one of its tips appears above the surface. That, for instance, is the situation of the poet when he has difficulty finding the rhythm for a particular word. At that moment only the sound pattern of the word remains at the surface of clear consciousness, and all other aspects of the image recede into the shadows. But as soon as the candidate rhythm appears and its phonetic qualities fully meet the poet’s demands, the pole of the word recedes for a while into the shadows, and semantic and affective aspects of the image move into the focus of consciousness. If the latter do not please the poet, a regime of temporary dominance of the pole of the word is again created in consciousness.

In painting, the stable dominance of the pole of the sign may be observed in various forms of abstractionism. Here is a typical manifesto of this school of painting:

We propose to free painting from its enslavement to finished forms of reality and to make it above all a creative art, not a reproductive art. The esthetic value of a picture without an object lies in the fullness of its vivid content. The compulsiveness of reality impedes the artist’s creativity, and as a result, common sense triumphs over free reveries; but a feeble reverie creates unprincipled paintings, mongrel hybrids of contradictory world views. [Quoted in 3. P. 31]

For us, however, the important question is not from whence came abstract painting, but to what it came. From the standpoint of the

proposed model of consciousness, one can say that abstract compositions such as those, for example, of Exter or Rodchenko, of course do not direct our consciousness to any realities in the external world, do not express any cultural tradition, and do not state any lyrical truth about themselves. These compositions and their elements are signs as such, signifying forms, capable—and this is clearly sensed in them—of signifying something; but if they do not connect with their meaning, they are capable, it appears, of becoming a part of some language, but not this language. It is not as if what we have is a signifier passionately awaiting its signified; it is rather a signifier that has taken a vow of celibacy and closed its valence in on itself, becoming a quasi-object in whose veins flows the blood of a sign, but which is condemned forever to remain a thing.

The sensory fabric of the word (sign)

In my clinical collection of pictograms of *justice* there is, unfortunately, none that would illustrate the dominance in an image of the sensory fabric of a word. But if we try by analogy to create artificially the needed illustration, a response of the following type, for example, may serve: “*Justice* is a kind of lisping word. I’ll draw a child: children often pronounce the letter ‘r’ poorly.” Sometimes the subjects might respond idiosyncratically not to the sense of the word, but to its sound. For example, the request to remember the word *abracadabra* with the aid of pictograms produced the following response in subject Sh.: “That’s an unpleasant word; I’ll draw a minus sign.” An 11-year-old girl I know said, without thinking, when she heard there was a number composed of a one and one hundred zeros and it was called “gugol”: “That number has the sniffles.”

In all these cases, consciousness stopped on the sound of the word, without penetrating its content and meaning and its associations; but the subject did not make the word itself, as a unit of language, the object of his attention, but rather the sensory impression caused by uttering or hearing the word. In the first and third examples, this was an emotionally totally neutral sensation; but in the second, it was negatively colored. Reality could be glimpsed through the word, as through a glass prism; the prism itself could be examined, and one could focus consciousness on sensations from the prism—cold from the glass, heaviness in the hand holding it, etc.

Tsvetaev's famous verses to Aleksandr Blok will serve as a splendid illustration of poetic use of the sensory fabric of a word:

Your name is a bird in the hand,
Your name is ice on the tongue.

The reader is invited into a whole world of sensations, nuances, and associations caused by the utterance of the name Blok. B-l-o-k: the same roundness in the movements of the mouth as in the palm embracing a little bird; and it seems one can even hear the heart beating: Blok, Blok, Blok . . . Stopping on a single pronunciation followed by a prolonged cocking of the ear, as when a connoisseur penetrates the nuances and tinges of the aftertaste of a sip of wine:

A stone, tossed into a quiet pond,
Splashes like your name.

The echo lingers until the circular waves reach the bank. Rapid repetitions, the chiming of the name ("A silver bell in one's mouth"): The demiurge and ruler of the world formed by this poem is a name, a word, taken as an independent, dense reality in its immediate sensory aspect, with an entire palette of sensations of different modalities—heaviness, roundness, coolness, etc.

I cannot refrain from giving one more example. In "Spring in Fialta" Nabokov writes: "I love this city very much: perhaps because I sense the sweetish-moist odor of a small, dark, most crumpled of flowers in the hollow of its name, not in its tone, although there is a distinct echo of Yalta in it." The name of the town, thus rendered, is perceived not in some accustomed, mechanical way as an indication of a place of action, but conditionally, as a sign, and sensuously, as if it were a thing. The word has a taste, an odor, a color, a volume, and a consistency. But why a "hollow"? Try to pronounce this word slowly, especially while breathing in (otherwise, how can one sense the smell of a violet?), and follow the evolution of the movements of the mouth, tongue, and throat to sense clearly the hollow left in the mouth after the "a." Thus do children make little spheres out of a burst balloon by sucking in the stretched rubber, letting air from outside enter the cavity of the mouth, covering the palate with the taut film thus formed, and then quickly closing the mouth and twisting. But the "hollow" is only

one note in the bewitching melody of Nabokov's sentence. The sentence forces the reader to pronounce Fialta—Fialka—Yalta, slowly, soundlessly, but distinctly, intermittently inhaling the fragrance of the most "crumpled of flowers," so that the mouth fills with saliva—and this is not incidental: the entire first page of the story is filled, in terms of its content, with the element of water. In this way an artistic metaphor is created through use of the sensory fabric of a word, a metaphor that does not simply evoke pictures in the mind, but acts literally, physiologically. Reading in this way is done not only with the eyes and imagination but with all the muscles of the mouth, with the sense of smell, with the salivary glands, and, indeed, with the entire body.

Thus, we have examined the nodal points of an image, the angles of the proposed model of the psychosemiotic tetrahedron, and the zones contiguous to it. This raises a question: With what is the space in the center of this tetrahedron filled? Since the inner zones contiguous to the corners consist of the sensory fabrics of objective content, meaning, the word, and personal sense, it is natural to think that all this inner space consists of some undifferentiated sensory tissue. When one penetrates attentively one or another particular image of a particular person, one gets the impression of living, feeling, playing, breathing, pulsating matter, a kind of sensate plasma acquiring more definition, becoming denser, near the poles of the image (see [10. P. 75]). If the poles are representatives of the world of objects, the world of culture, the world of language, and the inner world, then what does this living, sensory fabric of an image represent? It represents the body. Any image associated with the most abstract idea is always embodied in sensory material, is always "filled" with a whole congeries of conscious and unconscious body movements and inner sensations.

Such is the first description of the model. It is, of course, far from complete. In this article I have provided only a structural-morphological analysis, and only the nodal points of the model have been examined. Though they are undoubtedly the model's principal and characteristic points, representing the main organs of a single organism—the image—nonetheless, a complete description of an image would have to include a description of the functions of these organs, the particular tasks of consciousness that they are used to accomplish, the morphological and functional constellations of these organs, and their pathology (for example, ruptures in the connection between Word

and Meaning, Word and Object, etc., and the resultant distortions in the images and processes of consciousness); the ways in which two or more images are made to cohere and mutually penetrate one another, to form new entities (i.e., problems of associations and metaphors), etc.

But even such an admittedly incomplete description of the model should enable one to see some promising directions for its practical use in psychodiagnostics and in psychotherapy.

Based on my experience as a clinical psychologist in a psychiatric clinic, I can say that the model of a psychosemiotic tetrahedron is a convenient map for providing an orientation in diverse mental disorders. What is valuable about this map is that it combines in a single space the most disparate kinds of disorders (e.g., emotional-motivational distortions of thought and purely intellectual defects), yet has a high power of resolution, enabling outwardly very similar phenomena to be differentiated.

The model has quite obvious possibilities for both qualitative and quantitative analysis of mental pathology. Pilot experiments have shown that retrieved images feature the dominance of one particular pole rather than another one, depending on the kind of mental disorder.

The model of a psychosemiotic tetrahedron enables us to understand the "hidden springs" of a number of tests in clinical psychology, developed to some extent intuitively, so that they can be modified systematically and consciously. For example, the empirical findings from the test "Comparing Concepts" contain pairs of "noncomparable words" that can induce subjects to use "latent" attributes of concepts and objects in performing this operation. Here are two such pairs: "fox—deer" [*lisa—osen*], "axis—goose" [*os'—osa*]. In the first case, the inducing factor is the similarity of these concepts on the pole of "the sensory fabric of objective content" ("A fox is ruddy, and so is a deer; they are similar in color," said one of subjects); in the second case, it is the pole of words.

Using this model of an image, one can select an entire set of inducing pairs, and what will then be diagnostically significant is not only the simple fact that a subject falls systematically into an experimental "trap" but also the type of trap into which a particular subject falls. Behind different "mistakes" are different defect structures that accordingly require different therapeutic recommendations.

For psychotherapy, the model of a psychosemiotic tetrahedron also offers a multitude of interesting possibilities. In particular, adoption of the

model makes it possible to develop a professional sensitivity to the nuances in a patient's discourse and consequently to broaden the spectrum of psychotherapeutic responses. For example, during a psychotherapy session, a patient says: "My mother oppressed me very much when I was a child." The therapist can respond to this statement taking a cue from meaning ("You felt you were deprived of freedom?") or from emotion ("That hurt you very much"). The therapist's response can also be built on the basis of the sensory fabric of objective content. Since "oppression" is usually from the top downward, and a sensation of heaviness is caused by pressure, a psychotherapeutic response such as the following is also warranted: "You felt heavily burdened and pushed down." And one could also take a cue from the sensory fabric of the word, or from direct bodily manifestations (if one bears in mind that in this model, the inner pole is, so to speak, the heart of the image). Thus, in uttering the sentence "My mother oppressed me very much when I was a child," our patient placed psychological stress on the word *oppressed*: She held her breath on the "o" and only then finished the word with an effort, at the same time making a swallowing movement. At that moment her elbows were pressed to her sides, and her head was inclined downward so that if this movement had continued, her chin would have touched her chest. Regarding all these movements as inseparable inner components of an image made possible a psychotherapeutic response such as the following: "Every time you found it difficult to swallow your hurt, you felt yourself defenseless." Of course, all these things are only logical expansions of the process of constructing meaningful therapeutic responses based on one of the poles of our proposed model. Expansions of this sort are good for didactic purposes; in fact, we used them in a psychotherapy teaching workshop. Naturally, the work proceeds much more intuitively in living psychotherapeutic practice, but the point is that professional intuition is not a sudden find of unknown origins, but schooled thought that has absorbed various intellectual tools, assimilated them, and become so filled with them that what is usually an object for thought (in this case, the patient's mind and behavior) becomes a directly felt area of life.

The list of practical ways to use the proposed model of a psycho-semiotic tetrahedron could be continued. However, after giving the reader an initial familiarity with the model, I should like to put aside for a time the pragmatic questions of its use and the above-mentioned incompleteness of its description to examine what new things this

model has brought to the concept of consciousness developed in the psychological theory of activity, after which I shall say a few things about the reality behind this model, which it has itself helped to reveal.

Let us sum up here these innovations in the theory of consciousness developed within the framework of A.N. Leont'ev's theory of activity. An image of consciousness has been conceived as a structure with three formative components (meaning, personal sense, and sensory fabric) and five dimensions. Four of the latter—meaning, object, personal sense, and sign (word)—could, using Leont'ev's terminology, be pooled under the term *direction*, by which is meant that as representatives of the world of culture, the external world, the inner world of the person, and the world of language in a mental image, they are, in a sense, the image's magnetic poles. At any moment the lines of force of the inner dynamics of an image may be directed predominantly toward one of these poles, and the resulting dominance of one of these dynamic dimensions creates an image of a particular kind.

The fifth and last formative element of consciousness is the sensory fabric. The notion of a sensory fabric, introduced by A.N. Leont'ev, has undergone some modifications within our model. First, it has been found in an analysis of clinical material that not only the object content of an image but also its other poles—meaning, sense, and sign—have their own special sensory fabrics. Hence, sensory fabric has been assigned another structural place in the model of consciousness, representing not a formative element ranked in the series *meaning—personal sense—sensory fabric*, but rather a special inner “constituent” of the image, its living plasma. Further, a somewhat paradoxical property is discernible in a sensory fabric: it is something unified, but definitely not homogeneous; rather, it is quite differentiated, aggregating near the poles of an image, where it acquires strong characteristics specific to each pole. At some distance from these zones of aggregation one may presume that different sensory fabrics are subjected to interferences emanating from the different poles. Specific clinical and theoretical analysis of this zone of “interference” is a task in itself; for the present we can only affirm with confidence that this zone serves the function of synesthesia, if by that we mean not only encounters, superimpositions, and mutual reflections of different perceptual modalities but also interference among sensations emanating from the different poles of an image.

These are all major modifications in Leont'ev's original theoretical

constructs. But the principal conclusion to which my discussion of the model leads me is that just as meaning is a unit of the world of culture, a word is a unit of the world of language, and sense is a unit of a person's inner world, so is the sensory fabric a unit of the body, a representative of the human body in an image of consciousness.

An image is not an essence external to all these worlds, determined by them from without, but is a part of each of them, their integral, the field of their interference, a hologram in which the waves and energies of all these worlds flow, but in so doing do not merge into an amorphous mass, but enter into a unity, like individual voices in a choir.

The organ that actually performs the function of integration in an image is the sensory fabric. What is the consistency of a sensory fabric? It can assume the most varied forms and guises. For example, in solving a perceptual problem, say, discriminating two similar objects, when the pole of object content dominates in consciousness, the sensory fabric takes the form of sensation; in some existential, tense, life situation, when the pole of sense dominates in consciousness, it takes the form of emotion, etc. But however varied and phenomenologically dissimilar these forms may be from one another, they are all united by one thing: the sensory fabric is, by virtue of its mode of existence in consciousness, inner experience, direct, intracorporeal sensibility (see [14]). Corporeality here is a nonaccidental, essential characteristic. When our consciousness is concentrated on an external object or a cultural meaning, we may forget that the body exists; but if the structural dominant in consciousness is the sensory fabric of an image, and if consequently the dominant process in consciousness is a process of direct inner experience (even the inner experience of some abstract idea), our bodily existence at this moment becomes phenomenologically self-evident. We have sensations, we are moved, we feel empathy, etc., not with the mind, but with the body. Of course, I am not speaking of the body in its outwardly given statuary form, but the body as it is sensed from within—a moving, pulsating, variable element of inner sensations, impressions, and commotions. This elemental sensory formlessness of experiences within the body, to which we devote so little attention (often we remember it only during illness), is not merely the physiological noise of the functioning organism, so to speak. No, it is a dynamic organ, fulfilling, as I have said, an extremely complex, integrating function. The human body acquires truly cosmic significance: the world of the body is the space in whose living, elemental

spontaneity the interference and integration of the external world of objects, the world of language, the world of culture, and man's inner world take place. If we may agree with Spinoza that "the very construction of the human body artistically far excels anything that has been created by human art" [12. P. 459], then, despite the three centuries separating us, we might just find another statement of his to be useful as well [12. P. 458]:

"No one has yet determined what the body is capable of."

Note

1. The distinction between the orientation and reference (focus) of consciousness is borrowed from O.I. Genisaretskii (see [2]).

References

1. Zinchenko, V.P. [Worlds of consciousness and the structure of consciousness]. *Vop. Psikhol.*, 1991, No. 2, pp. 15—37. For a translation, see the *Journal of Russian and East European Psychology*, 1992, 30(5), 6-47.
2. Genisaretskii, O.I. [Methodological organization of systemic activity]. In B.V. Sazonov (Ed.), [*Development and adoption of automated systems in design (theory and methodology)*]. Moscow, 1975. Pp. 409-412.
3. [*Painting 1920-1930. Russian State Museum*]. Catalog Album. Moscow, 1989.
4. [Kazimir Malevich, 1875—1935]. [*Catalogue of the exposition at the Tret'iakov Art Gallery*]. Moscow, 1989.
5. Leont'ev, A.N. [*Activity. Consciousness. Personality*]. Moscow, 1975.
6. Leont'ev, D.A. [Personal sense and the transformation of a mental image]. *Vestn. Most Univ.*, Ser. 14, *Psikhologiya*, 1988, No. 2, pp. 3-14.
7. Logvinenko, A.D. [Inverted vision and a visual image]. *Vop. Psikhol.*, 1974, No. 5, pp. 19-28.
8. Logvinenko, A.D. [Perceptual activity in inversion of a retinal image]. In A.N. Leont'ev (Ed.), [*Perception and activity*]. Moscow, 1975. Pp. 209-67.
9. Osorina, M.V. [Use of a pictogram method in the study of thought]. [*Diagnostic methods in clinical psychology*]. Leningrad, 1977.
10. Petrenko, V.F. [*The psychosemantics of consciousness*]. Moscow, 1988.
11. Smirnov, S.D. [*The psychology of an image: The problem of the activeness of mental reflection*]. Moscow, 1985.
12. Spinoza, B. [Ethics]. [*Selected works*]. Moscow, 1957. Vol. 1, pp. 359-618.
13. Stolin, V.V. [*The self-awareness of the personality*]. Moscow, 1983.
14. Gendlin, E.T. *Experiencing and the creation of meaning. A philosophical and psychological approach to the subjective*. New York, 1962.