

Chapter 13

Experimental Study of the Unconscious

Revelation of Semantic Fields Underlying Words of Everyday Language¹

A. Introduction

One of the means for the direct experimental study of the unconscious is the revelation of semantic fields underlying words of our everyday language. Earlier (Nalimov, 1981*a*), I elaborated the conception of a probabilistic semantics based on the idea of probabilistically weighted fields that make the meaning of words, discrete linguistic carriers, explicit. However, I did not manage to discover these fields by common tests. As has now become clear, my failure was caused by the fact that I had not taken into account an almost obvious situation, i.e., that the comprehension of verbal meaning is determined by the interaction of two constituents: consciousness and the unconscious. In the former case we deal with logical structures, and in the latter, with images and symbols.

Thus, semantic fields underlying words prove to be the manifestation of the unconscious. To avoid possible terminological misunderstanding, I emphasize that the term *unconscious* in this book is used in a broad meaning.

B. Experimental Procedure

The experiment was aimed at revealing semantic fields underlying the following words: *freedom, slavery, dignity*. Its method was a directed

¹ Written in cooperation with J. A. Drogalina.

group meditation realized with the help of auto-training (AT).² AT is the simplest procedure known to me for expanding the scale of Doing S, leading to a slowing down of personal, psychological time. AT was conducted for 20 to 25 minutes; its text, accompanied by music and read by a professional hypnotist, was tape-recorded.

The aim of the AT stage was maximal relaxation. At the next step subjects in a state of relaxation were given the goal word, and the experimenter suggested that they should interact with it, meditate over it. The instruction was as follows: "Freedom . . . don't think, don't reason . . . experience it. I am entering it, I'm becoming it, I'm experiencing it."

At the last stage the subjects, still partially in a state of relaxation, recorded their impressions related to the experiencing of the goal word.

Each experiment included three sessions carried out on different days; at each session only one word of the triad was given: *freedom*, *slavery*, or *dignity*. We had four experimental series, each of which included the three words.

Subjects were fairly diverse: engineers, pilots, professional painters (they recorded their experience in paintings and drawings), and mentally ill people who retained a faculty for contacts.

The age range was also diverse; it had no upper bound. This, however, did not affect experimental results in any way, nor did the place where the experiments were conducted: Armenian mountains, the center of Moscow, a hospital for the mentally ill. The total number of subjects was 190; the number of texts-records, 172; and the number of drawings and paintings, 18.

C. Choice of the Key Words

The experimental results and, moreover, the likelihood of success are naturally determined first of all by the choice of words for meditation. We chose a text consisting of the verbal triad that imply the basic notions of the collective unconscious. The task of our experiment was to make their hidden content explicit.

The concept itself of the *triad* as a triunity acts as an ancient symbol with implicitly rich semantics (for details, see section B of Chapter 12). Recall that Dante's *Divine Comedy* is triune: *Paradise-Heaven*, *Purgatory-Earth*, *Inferno-Underworld*. These are not merely three separate parts, but unity in three facets that answer our original ideas of the unconscious concerning the ontological meaning of the trinity. Purgatory is

² The application of AT is commonly connected with the names of Schulz (Germany, France) and Jacobson (in English-speaking countries). A description of the contemporary use of AT in psychology, medicine, and education can be found in Boon, Davrou, and Macquet (1976).

here an intermediate link. It is essential that from the apocryphal sources³ (which, however, were reflected in the official iconography) it follows that Christ after his death (after leaving the Earth) had to descend into the Inferno before he could return to the Heavenly sphere through his resurrection. The *fullness* given by trinity should be completed. Descending into the infernal spheres is a theme constantly repeated in the myths of various cultures. Greeks had Ulysses traveling to the Cimmerian country and Orpheus descending to the Inferno. Guénon (1957), alluding to the study by Miguel (1919), speaks of the predecessors of the *Divine Comedy* in the works of Moslem culture: the architecture of Dante's Inferno turns out to be a copy of the Moslem Inferno.

Guénon analyzes in detail Dante's numerical symbolism, revealing the esoteric quality of his works, which goes back into the remote past.⁴ Recall the above-mentioned ideas of the gnostics on the triple human nature corresponding to the triple structure of Dante's world. Hence, it is clear that the theme of descending into the Inferno signifies the journey inside oneself. In other words, it means descending into one's phylogenetic past: overcoming it through transfiguration via the triune integrity of existence.

But now let us return to our key words. They reflect the same triad used by Dante, but in contemporary language comprehensible to us. Freedom is Heaven versus Slavery, the infernal essence. The intermediate state is Dignity. It signifies human behavior in Purgatory, where a person has to acquire, according to Paul Tillich, the Courage to Be, a phrase he used as the title of his book (Tillich, 1952). However, we must confess that we became aware of these links only at the stage of evaluation of the results from the viewpoint of their culturological comprehension. At the beginning, when we chose the key words, we proceeded from our unconscious, not being aware of our motives for the choice.

D. Experimental Results⁵

Flight is the property of Gods.

K. BAL'MONT

The specific feature of our experiment and its radical difference from all publications on the subject that we are familiar with consists in its be-

³ See, e.g. the second part of the apocryphal Gospel of Nicodemus (Scheidweiler, 1963).

⁴ Guénon tries to prove that Dante's esoterica is borrowed from the tradition of the Templars to whom he seems to have secretly belonged. Dante's attitude toward the suppression of the Order by Philip the Fair is expressed in Purgatory XX, 91-96.

⁵ The analysis of the first experimental series (experiment 1) was published as an article (Nalimov, Kuz-

ing of a systematic character. Grof (1975), who experimented with LSD, indicated the absence of invariants when altered states of consciousness are entered, and we can say our experimental results were highly similar; moreover, we can even speak of the possibility of constructing matrices of semantic fields that act as invariants of the collective unconscious and are revealed by means of a key word which seems to be the center of crystallization of the semantics experienced.

Words controlling meditation not only act as concepts reflecting the paradigm of the existing culture but also are symbols (as we already emphasized above) going back to the remote past. Therefore, the depth of penetration into the unconscious was determined not so much by the degree of relaxation as by the choice of a symbol that touched upon the basis of human spiritual existence and thus was heavily charged psychologically. Symbols belonging to the language of the unconscious are the keys to the unconscious. Relaxation is only a condition that provides the possibility for using the key.

The texts—records of experimental results can be divided into four categories:

1. Records containing new experience. By new experience we mean interaction with the reality beyond the boundaries of common activities, concepts, associations, or reasoning; new experience is accompanied by corresponding psychosomatic phenomena.
2. Associative experience proceeding from past experience (in contrast to new experience which represents an unprecedented state).
3. Texts—reasonings representing a chain of speculations conditioned by the key word.
4. Texts—clichés containing stereotyped associations and speculations.

Naturally, we were primarily interested in the texts belonging to the first category, which will be considered below in a generalized form. This concerns records obtained in experiments with sane people (experiments 1, 2, and 4). Texts obtained in experiments in a hospital for the mentally ill (experiments 3 and 5) will be considered separately.

Three experiments were carried out with the key word *freedom*; the total number of records was 72: 66.6% contained new experience; 12.5%, associations; 8.4%, reasoning; and 12.5%, cliché. The semantic matrix of *freedom* can be represented by the words: flight (soaring)—boundless space—joy—light.

In experiment 1 the dominant words were “space” and “light”; in experiment 2, “flight”; and in experiment 4, “flight” and “space.” The

sensation experienced as joy is a typical positive emotion sometimes expressed emphatically as *boundless joy*. The texts are abundant in epithets testifying to the reality of the experience.

To illustrate our description, we quote below several very typical texts:

I felt weightless, soaring in a vast boundless space. It had neither boundaries, nor color. The striking thing was that I was so light and could control my position in space. The entire space was filled with very far away worlds with fuzzy outlines close to spheric. I could reach any of these worlds in an instant, with light's speed or, perhaps, just in an instant. But when I got into this selected world, I did not feel anything. It disintegrated into lots of far away separate worlds. I did not feel colors or shapes. And I was not in the least disappointed not to be able to examine these worlds.

To the word "freedom": I saw wind blowing in space. I had a feeling of joy, flight, the sun, absence of any necessity. I also felt weightless.

Far below I see the beautiful, peaceful Earth, and I am flying above it in the waves of light.

There appeared something impetuous which whirled around in a vortex and dashed upwards from the Earth. Darkness remained behind. This vortex was accompanied by energetic music. Then everything calms down, and now only blue sparkling sky is spreading around. Complete freedom of actions. The music becomes more flowing and majestic. But suddenly my glance turns downwards. There, below, other people try to take off from the Earth and fly upward. Many succeed. The air, the blue sky is overcrowded. And again everything dashes upwards, in space. First only the black sky and far-away star can be seen. Then everything disappears and you see golden glitter which you try to reach. Suddenly you feel that you are free from this light as well and you begin somersaulting and whirling around in this medium.

Below there is a dark cellar. A man is ascending through the open doorway. His hair, face, and shoulders are lit by rays of light. But he returns into the darkness. There is someone else in there. They both are walking along the cobblestone road of an ancient town. The streets are empty. Nobody can be seen. Their steps become faster in a joyful motion. They take a running start and now both of them are flying. They are sailing in the air. They are side by side with free people. The music is light and happy, some people descend and sit down on the rays of the sun . . .

There were also texts which recorded the state of freedom as an out-of-body experience. The essential feature of these records is passing through a tunnel with the subsequent soaring in the air, momentary transference in boundless space, and identification with the sound going upwards:

I began to leave the Earth, to fly away. The Earth remained far below, and everything on its surface was turning small, miniature, and absolutely alien. My flight was odd—I was turning into the sound of an organ pipe. Then above me there appeared a dome of a temple and I went through the dome, being the organ sound . . .

These records have much in common with the contents of the book by Moody (1975) describing the experience of clinical death as reported by reanimated people. In this comparison again, death becomes the synonym for freedom: death signifies the passage into another, free-from-body state. In the records for the word “slavery,” this state is described as leaving darkness, entering light, and soaring in it:

When the word “slavery” was uttered, I had a vision of sharply condensing darkness with a spot of light in the middle. The spot is very bright, but I can’t make a movement towards it. Then I had an image of being imprisoned by a plant with greenish-red leaves. I seem to have been entangled by seaweed which was by and by entangling me still more. The bright light of the spot is gradually fading out. My movements are feeble and I can do nothing to liberate myself. But at a certain moment my strength returns, I manage to break the fetters with a sharp movement, and then I am swimming towards light.

Note that the records of our experiment describe images, impressions, and experiences not directly related to the experience of paradigmatic consciousness of our culture, the collective consciousness. This is another kind of experience reflected in the records of the majority of subjects, the experience of the collective unconscious. We are dealing here with the consciousness of the far-away past which is not explicit in the consciousness of our culture. We may select texts with a gnostic flavor that contain the notion of multitudes of worlds, or texts with a hermetic tendency that reminds us of ancient initiations.

For the word *slavery*, three experiments were conducted. The total number of records was 44: 68.2% contained new experience; 6.8%, associations; 9.1%, reasoning; and 15.9%, cliché.

The semantic matrix of *slavery* can be represented by the words: darkness—heaviness (depression)—light (as liberation).

Darkness is a general image, including dark cellars, gloomy vaults, black caves, everything black, dark, suppressing, and paralyzing. Negative emotions prevail, namely, feelings of depression, heaviness, desperation, and oppression.

Light acts as a saving force that liberates the participant from this state. The urge toward Light and interaction with it again bring about the sensation of flight, either impetuous or smooth, accompanied by detailed description of changing landscapes and techniques of the flight.

Below we quote the most typical records of meditation over the word *slavery*:

Blackness of a cave, oppressive vaults with a tendency to close over you; a very faint gleam from the entrance, and everything is slowly falling down in an abyss.

In front, near the faint gleam of light, the ceiling of the cave threatens to collapse.

Huge gray cubic stones covered with scabs; I am also covered by the same scabs all over; I watched them appear on my body, especially on my legs, some of them were festering.

Then I felt them appear on my face; black and dark-green lizards were scurrying between my legs.

Far away I saw black birds with necks like those of griffins but without white feathers around them.

I thought they were coming to peck at my scabs. I felt repulsion and got out of the state of meditation.

This text is borrowed from the records of the second experiment, whose participants emphasized negative emotional states aggravated by the hostility of the environment (sharp stones of another planet, faceless figures, etc.).

Thus, *slavery* is existence in the darkness, submission to darkness, suppression of feelings, and depression.

From the three experiments on the word *dignity*, the total number of records was 39: 66.6% contained new experience; 12.8%, associations; 10.3%, reasoning; and 10.3%, cliché.

The semantic matrix of *dignity* can be represented by the words: light—joy—darkness (exit from darkness) where “light” is an active force defeating darkness.

Interaction with various manifestations of light brings about positive emotions and, primarily, the feeling of joy (again, as was the case with *freedom*, it is sometimes expressed emphatically as *unbearable joy*), and of peace.

Light fights against darkness and is opposed to it as a positive force, the experiencing of which causes positive emotional states. In experiment 1 darkness acts as a background on which light is dominant, as well as positive emotions produced by it. Experiment 2 adds to the pattern an upward vertical motion linked by the transformations of the symbols: cross, triangle, stars. In experiment 3 the semantic matrix is not distinctly expressed; nevertheless, its main components are words related to the two previous experiments: man—joy—flight (space)—light. The sequence of the constituents is determined by their meaningful charge in the records.

These are the most typical texts on the word *dignity*:

Above I see a sharply curved steep arched bridge over an abyss formed by a shining four-petaled shape . . .

Below flowers sparkling in space.

A flood of light directed from above into a dark gap of a stone vault.

In the fiery space (of heatless fire) there sparkle cross-shaped stars, lots of them . . .

From below light is ascending in a broad wave through the space; it is transformed into two rays (as in a tuning indicator); light overfloods the space, trying to push out something dark which is resisting it . . .

The whole fiery space is traversed by elongated edges of a sparkling cross-shaped star, and, as if growing from its live, pulsating core, a flower grows, looking like a heart ablaze, as if sent by the star.

And the feeling of unbearable joy . . .

A battlefield after a fight in the far-away past. Everything is dug up, maimed, and wounded. I am leaving the battlefield. It is dark, twilight. I am wandering in a gloomy lifeless country. It looks like after a drought. The ground is cracked. I stop at a large wooden cross, half-demolished and corroded with age. I am standing in front of It. And It becomes alive, regains new power and strength. It starts to shine with quiet light. The light goes upwards and downwards. To the right and to the left of the cross I see two figures in white gleaming clothes. They are turned to me. They pass a message very important for me. I feel power within myself. There appears the gleam of the sun rising somewhere behind the mountains. The cross disappears and I see a road in front of me, winding up into the mountains with snow tops. My clothes start glittering in the first rays of the rising sun.

It should be emphasized that texts-records are of a mythological character and include symbolic images and symbols which represent signs of the archetype, going back into ancient times. The symbolism is especially vivid in paintings of our artist subjects⁶ (see Color Plates 1-3). These symbols include first of all a cross, a triangle, a square, and a circle (which in the texts is most often linked to the words the sun, a sphere, a ball), as well as symbolically charged images: fire, water, light, a temple, a priest, hands, a bird, a bee, a rainbow, a road, a key, a staircase, etc.

Above (see section B, Chapter 12) we already said that the symbolism

* In the descriptions accompanying the color plates, we give our interpretation of the paintings. These are naturally only some of the possible interpretations: each reader can find his own interpretation of the paintings. The meaning of mandala-like paintings is always broader than any of their possible interpretations. We give our interpretation only in the hope that it will provoke the readers.

of the cross, which plays such an important role in Christian consciousness, historically goes back to Egypt, where the cross with the upper part representing a loop is a symbol of life and a key to the purport of life. It is a sign of initiation and an amulet worn at the belt. Most probably this symbol, as we already indicated earlier, goes back to a time more ancient than the Egyptian: it is organically embedded in our consciousness, which is manifested even by the fact that it appears in our field of vision as a result of mechanical pressure on the eyeball; this phenomenon is called a "phosphene."

In several experimental records and paintings we see the symbol of a cross both fixed and undergoing different transformations, e.g., the horizontal part of the cross is transformed into a circle in a horizontal projection or into an eight, also in a horizontal projection. Eights occur as well as elements of an eight-edged cross. This symbolism is also very interesting and meaningful. Recall that in gnostic and Pythagorean teachings it had a deeply mystical meaning denoting the Great Ogdoad—the fullness of divine potencies. In the Christian culture it was retained in the architecture of temples (for details see above, section B, Chapter 12).

Elsewhere we also dwell in detail on the symbolic polysemy of a triangle, a circle, and a square.

A triangle repeated four times and ascending to the sky is a pyramid. This image also occurs in our records, alternating with a glittering and iridescent prism.

These symbols come close to other images found in the records, also symbolically charged, e.g., the image of hands, which frequently occurs in descriptions. The polysemy of *hands* is obvious: they signify catching, possession, property, and also curing—touching sore spots with hands. It is also a hearth with its warmth and kindness; it is a prayer; and the hands of a person crossing his eyebrows form a cross. Here hands and the cross merge, which resembles the transformation of the linear (horizontal) part of the cross into a circle; another image represents a snake biting its tail (again a horizontal line transformed into a circle). Another example is a key in the lock. One of the interpretations of this image is erotic. But other interpretations are also possible: it signifies entrance of one essence into another, the dichotomy of the world disappearing in merging, the life-giving force of the world; again, a key resembles the cross of Egyptians, or, to be more precise, a cross in the shape of a key unlocking the meaning of the world. The symbol is polysemantic because its semantics are given in the space of a greater dimension. Each of its interpretations is a projection onto the subspace of a lesser dimension. However, despite the seeming variety of their manifestations, symbols are signs expressing one and the same thing: human participation in the semantic cosmos (in the extra-temporal form of cosmic consciousness as manifested in symbols).

Symbols, in contrast to words, do not receive their meaning through the probabilistically weighted fuzziness of the semantic field, through its reduction conditioned by the filtering character of the context (Nalimov, 1981a). Symbols are semantically full and are revealed not through logical structures, but through meditation that removes the opposition of the cognizer and the cognized, through entering the essence of the object and complete merging with it. Symbols do not have a conceptual status but an ontological one. Symbols are the keys unlocking what is potentially contained in human consciousness. We would like to quote here Tillich (1966):

Religious symbols say something to us about the way in which men have understood themselves in their very nature.

However, for us, representatives of Western (logically structured) culture, any record represented by symbols seems foreign (as do mystic states of consciousness). We perceive as comprehensible only that which is expressed by concepts—alienated structures separated from the direct ontology of the world.

And now a few words about the experiments in a hospital for mental diseases with a group of schizophrenic patients (experiment 3) who retained the faculty for contacts (meaningful communication). All the patients who participated in our experiment were intellectuals.

The characteristic feature of all these records (excluding one, whose author, as we learned later, was a “borderline” case) is the absence of metaphors, images, symbols; they are a-mythological. They represent a chain of stereotyped speculations operating with paradigmatic concepts of our culture and, moreover, with ready-made cliché. They are inert from the viewpoint of creativity. They produce the impression that the entrance into creatively loaded spheres of the unconscious is closed for their authors. These patients act as automata with a set program, though they possess certain individual features. Here are several examples:

When I heard the word “freedom,” I imagined the Island of Freedom—Cuba, as well as songs connected with this word. Then I remembered the song: “Oh, how broad is our native country . . . where a man can so freely breathe.” I also imagined myself riding a motorcycle and singing. At last I imagined that I am discharged from the hospital. I am at home playing with my children and in the evening I am going to the theatre with my spouse.

1. Boys writing on a wall with a piece of charcoal: “Peace to the World” and “Freedom.”
2. The windows of our hospital are barred.

¹ A very popular official song praising the free life in the USSR. Its melody has been taken as the call sign for Soviet radio broadcasts abroad.

I had only one concept in connection with the word "freedom": "Freedom is the realized necessity." No other associations emerged worth remembering.

Compare these with a record by the patient diagnosed as a "borderline case":

Soaring in the boundless sky. The feeling of peace, joy, blueness, limitless horizon.

This text differs from those cited above (as well as from the rest belonging to this group); at the same time, it has much in common with the texts of mentally sane subjects; this allowed us to express our doubts as to the degree of illness of this patient. These doubts were supported by the psychiatrist treating him, who informed us that the patient had been diagnosed as a "borderline case." He is a man of principles, and this feature of his makes his behavior non-normative, aggravated by the positive feedback,⁸ which interferes with his realization in society.

We would also like to quote another, quite typical, stereotyped text ("as far as I see")—a response to the word *slavery*:

This word is, naturally, very familiar and belonging to the past. As far as I see, slavery is a word reflecting the extreme degree of a person's dependence on another person or society as a whole. This was an immediate association. It also occurred to me that slavery is an extreme form of exploiting people . . .

We would like to emphasize once more that the authors of the texts in experiment 3 are not able to cross the boundaries of conceptual structures within which they have been trained. They remain within the boundaries of rational consciousness and are deprived of the possibility of gaining new experience. The entrance into a state of meditation is denied to them.

It would be premature to claim that we can suggest a new diagnostic attribute, but we would like to draw the reader's attention to the fact that, in our experiments with sane people, at every session about 10% of the subjects were unable to enter into the unconscious. Their records look very similar to those obtained in experiment 3, as the reader can see for himself. Below are quoted two such texts pertaining to the words *freedom* and *dignity*.

Freedom: impossibility of freedom when a person oppresses another, exploitation of one person by another. True freedom is possible only in a classless communist society. Then it is associated with flight, a free flight of a bird; free creativity for the common good;

⁸ In the cybernetic sense a positive feedback, in contrast to a negative one, strengthens the abnormality of behavior rather than corrects it.

self-sacrifice and the feeling it is mutual. The beautiful future. The role of the future generation, upbringing of children on a new level, both psychological and scientific.

Dignity: an ability, having freedom of actions and thoughts, to behave with dignity among people, one's friends. To treat people with dignity, without humiliating them, and respecting the dignity of others.

Freedom and dignity must be one, and worthy behavior must be a natural need.

One must preserve dignity in slavery, fight for one's rights, and all deeds and actions must be dignified.

In the fight for freedom, all actions should be dignified, worthy of the attitude of people around you and of their respect.

Note that in some records of this type the key word is repeated many times, becoming a kind of magic incantation, its meaning remaining unrevealed. Such texts are characterized by the lack of synonyms, inclusion of imperative modalities ("should be," "must be"), and many words beginning with the same letter (primitiveness of associations).

What we are dealing with here is the magic consciousness that attaches extremely great importance to rituals, which for people of contemporary culture is, perhaps, a weak form of schizophrenia.

In the hospital for mental diseases, we also carried out an experiment with neurotic patients. These are the so-called "borderline" patients, some of whom have weakly manifested symptoms of schizophrenia. We are not going to analyze in detail their records—they are short and inexpressive. One can't help feeling in them depression and constraint. Consider only one of them:

I quickly felt warmth, relaxation in my arms, but when I felt it in my legs, I got afraid: I got the feeling of weightlessness which frightens me. A bit later I calmed down but the thought that had frightened me did not completely disappear.

I saw a grove, but Freedom—no, I did not feel it.

According to the psychiatrist treating her, this patient has an obvious syndrome of depersonalization and loss of contact with reality. The feeling of weightlessness was one of her chief complaints.

When in a collective meditation normal subjects had a sensation of weightlessness or flight, and even felt out of body, this was accompanied by emotional enthusiasm and the feeling of joy; in the above case similar sensations were a source of depression and fright. We believe this striking difference in evaluations of similar states can be explained as follows: for normal subjects their new experience is a short and inspiring journey into a new and inwardly agreeable state of consciousness but one that is inconvenient for everyday life; for the neurotic patient this state that is

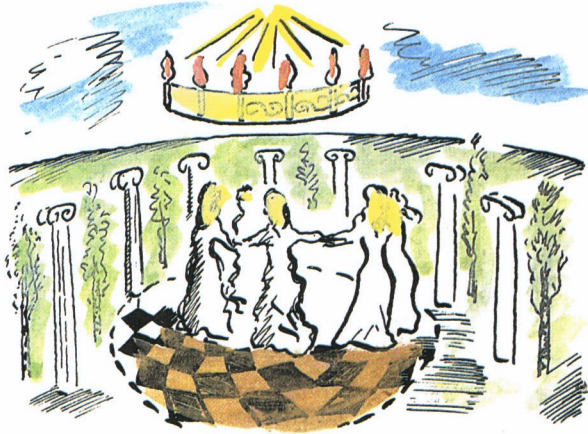
Plate 1. Artist V. S. Gribkov

Freedom. Among the pillars without any walls, under a chandelier without a ceiling, on a round ground painted with black and terra-cotta rhombs, in the countryside a circle of women in white clothes. Conic capitals of the pillars are repeated by the symbols of infinity in the chandelier; the circle of the pillars unlocked into the reverse perspective is repeated by the circle of women; the circle of the chandelier, by the circle of the floor; the flame of the candles, by the figures of priestesses. The whole composition depicts the mystery of the feminine Attic Temple merging in Nature, the feminine essence of the World.

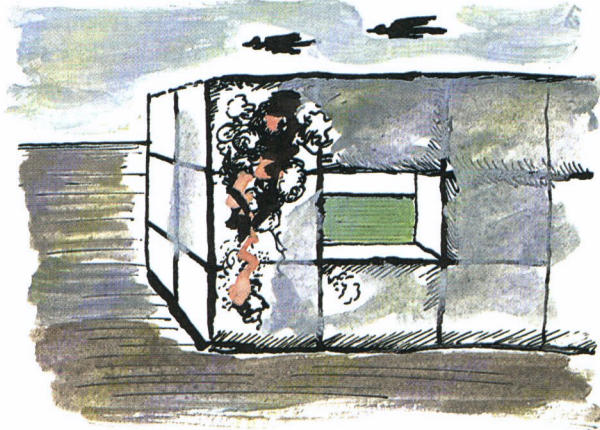
Slavery. A big gray boulder of a cubic shape covered with scabs (it was thus seen by the artist) in the empty gray space. Black griffins flying to “peck at the scabs” and to cleanse the boulder with which, according to the verbal record, the artist identified himself. The act of cleansing is that of suffering, but also of liberation. Perhaps, that is why in the center of the boulder, in its heart, we see another space, another perspective (reverse), another color—the green one, the color of hopes, another mood in the opening.

Dignity. Three hierarchically arranged spaces of light colors; on the foreground dark and light symbols of simple geometric shapes. In the light harmony of the hues they look somewhat disharmonious. The symbols are clearly discrete, though they do not break the composition of the light spaces.

Freedom



Slavery



Dignity

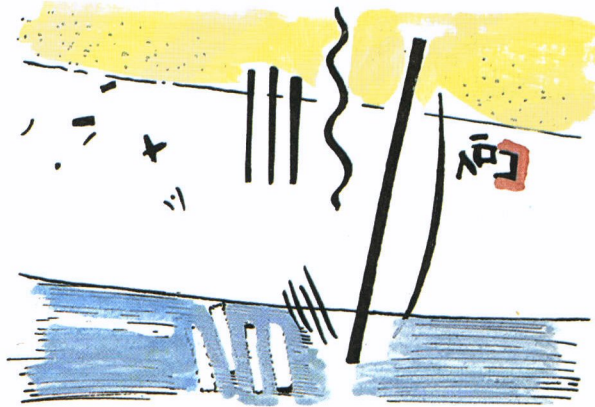


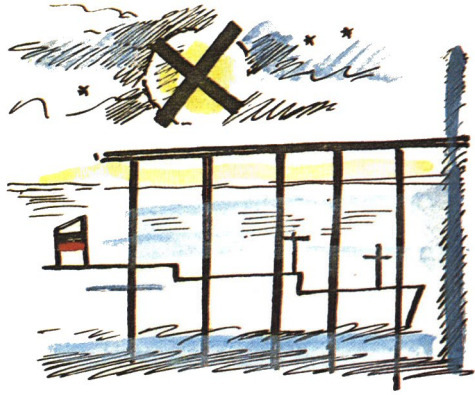
Plate 2. Artist A. N. Dyachkov

Freedom. Through the thin grille (perhaps, the balcony railings) I see fields, a river, a man-of-war with masts resembling Catholic crosses. Over this grilled landscape there is a round yellow sun crossed by a black diagonal cross, dark sky with stars crossed by black eight-pointed crosses. The symbols of crossing the sun and the stars, incomprehensible at first sight, are actually the same railing, its projection onto the images of light and life. The railing is a symbol of the obstacle between the World and man who exists in order to interact with this world. Therefore, *freedom* is a state without any railings, interaction without interference. The semantics of “freedom” is given here through the apophantic transcendence.

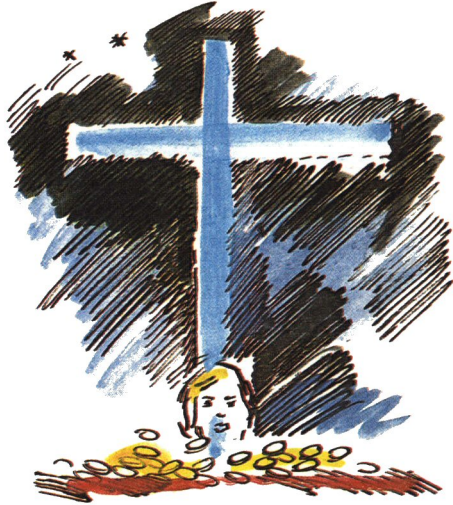
Slavery. A blue cross is spread in the dark space. Near its base a human face distorted by emotions over a heap of yellow objects resembling coins.

Dignity. The picture fixes the moment observed by the artist when a pearly cloud is torn. Inside the cloud there appeared symbols of regular geometric shapes—crosses, circles, triangles. A diagonal ray of light dissects the cloud.

Freedom



Slavery



Dignity



Plate 3. Artist B. P. Safronov

Freedom. Dark cosmos and white light compose a dichotomous pair; near its base on the foreground there is burning (or even growing) a bush of fire. The fire is represented not as an element but as something live, growing naturally and participating in the process of life.

The live fire destroying the dichotomy—the division and splitting of the integrity—becomes a symbol of freedom. It destroys the splitting and therefore restores the integrity.

This is a plot against the age:
Weight, count, time, and fraction
This is a torn curtain.

(M. Tsvetayeva "The Trees")

The merging of the creative and destructive functions in one act is a state of dialectical fullness, preserving the properties of both essences. In the history of Western culture, we observe division as a dichotomous opposition, splitting which set fire to the auto-da-fé of the Inquisition to burn heretics—to kill, instead of burning dichotomy and thus restoring.

Slavery. On the dark background with the outline vaguely resembling a human torso, a black dense round spot smashes the light splashing it. A stream of light is directed to the light from above, forming a composition resembling an exclamation mark which, in the context of the given composition and colors is perceived as a symbol of danger.

Dignity. A soaring winged cross with a distinct center marked by a bright white-golden circle inside of which can be seen a triangle, also white-golden, with an edge downwards. The space around the cross is shining with iridescent pearly hues with emerald and crimson flashes, illuminating white spirals.

Freedom



Slavery



Dignity

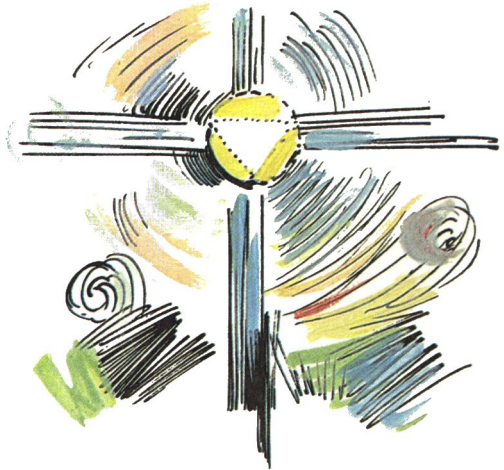


Plate 4. (top) The drawing made by the imbecile patient at the session of musical psychotherapy ("Sirens" by Debussy). (bottom) The drawing made by the same patient to the accompaniment of ritual Japanese music of the twelfth century.



PLATE 4

Plate 5. Artist: V. Gribkov

The Break-up of the Universe. Theme: *The Nature of Time.* The painting shows the frame of the universe unlocked by the feminine hand, the hand of the world's mother. In the palm of her hand there is a diamond shining like a star. The ray from the star goes to the sun; below the red Earth in a black vortex; the sun and the Earth are surrounded by the yellow space. Time is again revealed through the myth of the creation of the world in its ancient version. Here are the comments of the artist:

The palm with the rays emitted by a diamond?—it lies on my forehead. The palm supports a white wedge of light coming from the sun.

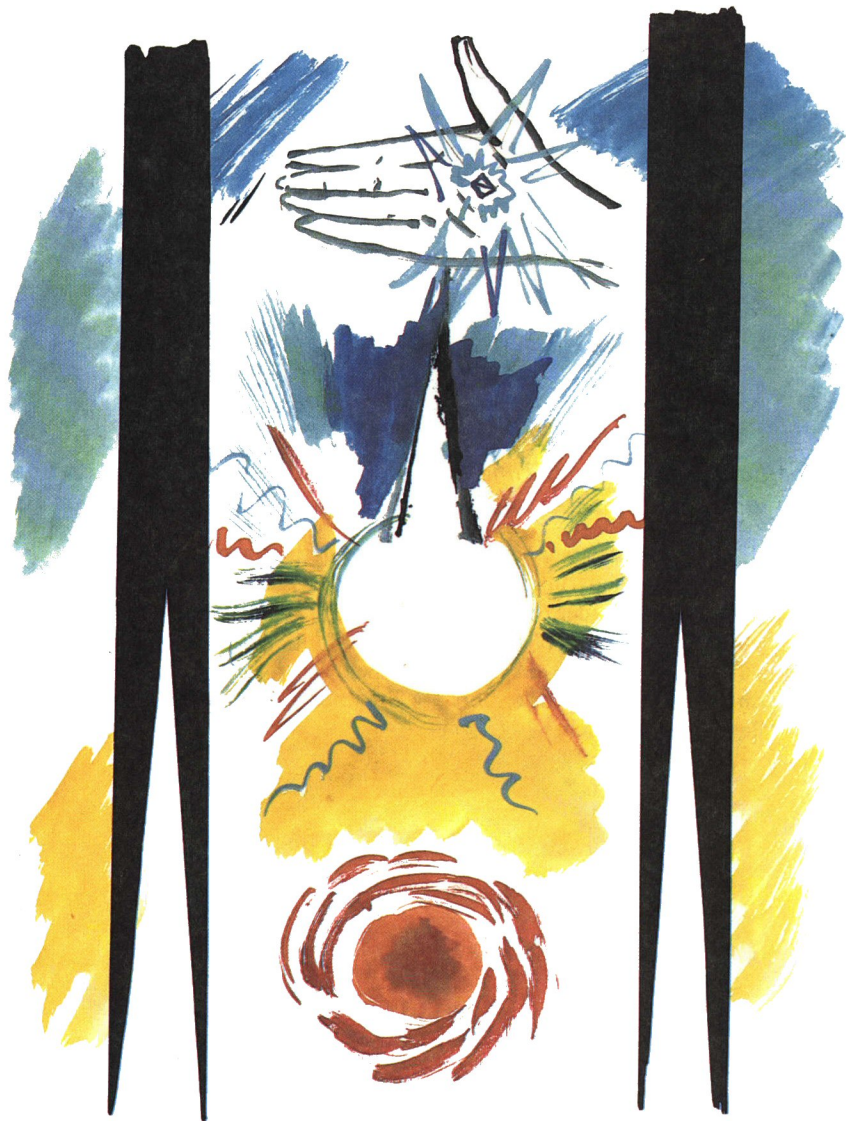


PLATE 5

Plate 6. Artist: A. Dyachkov

The Labyrinth. Theme: *Time as merging of the past, present, and future* (the first session). Artist's comments:

Listening to the text about the past I saw in the gigantic yellow desert an immense labyrinth resembling that of Knossos, a labyrinth going out of sight under the rays of a huge sun. Then I saw the plan of the labyrinth; it resembled an Oriental mandala. At the word "mandala" on the background of the ornament emerged a black symbol with a yellow glow in the center. The ornament of the labyrinth-mandala was reddish-ochre.

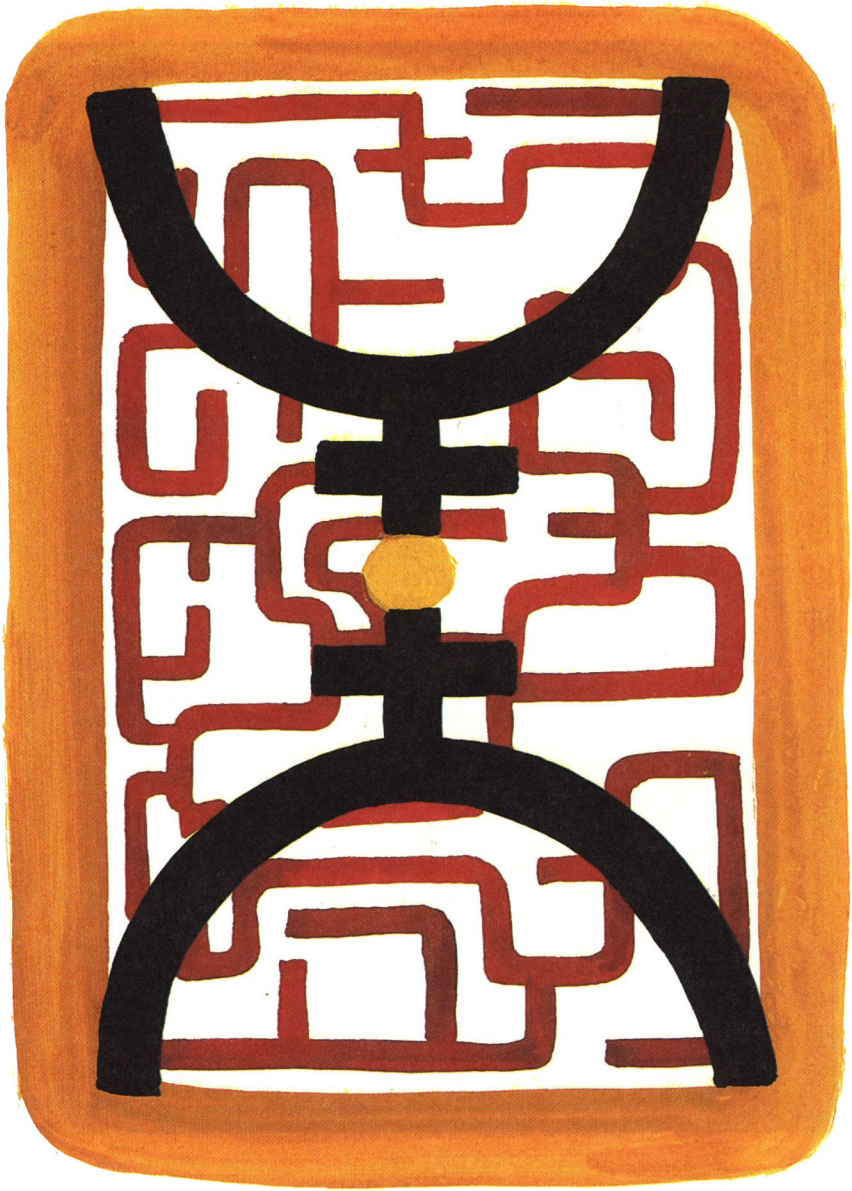


PLATE 6

Plate 7. Artist: N. Obukhov

The Crown. Theme: *Time as merging of the past, present, and future* (the second session; it was suggested that the participants name the color of the past, present, and future). Artist's text:

At first, when the dot emerged, it was light and the circle dark; the dot increased shining and became light orange-yellow, but it gradually changed color, and this was also true of the circle, which changed its color from black through the shining bright to orange-yellow. Then a dark circle appeared pulsating from the center. The past; I am little. Dark space with the emerging shining cross which was small at first, then increased to a definite size, but did not fill all the space.

In the dark space of the present a body appeared emitting light in the direction of its motion. Then there also appeared space, somewhat shifted to the side and divided into dark and white.

Eternity had a more pleasant shape and was silvery-yellow against a dark space.

"Ego" had a shape of two different apertures, or circles, or balls. One ball was dark against the light space, the other was golden-light against the dark space.



PLATE 7

Plate 8. Artist: B. Safronov

Sequential Images. Theme: *Time-Name.* Text: the apocryphal Gospel of Philip. Artist's comments:

A shining black-violet butterfly, with the silvery-white aura and golden stars on its wings. In the center a glowing road (bluish-silvery) going away from me upwards.

There emerged an eye (dimly), and the right ear started to vibrate. A flower with four petals.

The text of the Gospel of Philip is recited: through the radiant space I begin to discern a fluorescent sphere and below a cross of bones against the dark background. The cross is projected onto the sun, everything is in motion . . . At the sound of the word "name" a shining vibrating eye emerges from the empty space in the middle . . . A burning cross shaped like a vertical line with a diagonal cross-beam, flame and fire on its edges . . . Incomprehensible symbols appear: the space is several times overturned and turned inside out; there are wings either of a butterfly or of an angel somewhere, and I feel these wings behind my back. A lotus flower; it turns into the sun pouring light on me; everything dissolves in light.



PLATE 8

alien to our culture and that makes existence within it impossible is constant and oppressing. She is a sick person lost in the depths of her consciousness. We think a metaphor could be of help here: imagine that you are walking in the mountains, through an unknown thicket; you admire the landscape, but the moment you begin to see yourself as lost, lost hopelessly and forever, your attitude will change immediately: what previously enraptured you now only depresses you.

Summing up the results obtained in the experiments of directed group meditation, we could say that the text triad *freedom—slavery—dignity* is not only an encoded record of certain concepts within our culture but also the name of a myth which has concrete existential reality: this myth becomes a concrete experience, obtained under definite conditions and proper stimulation. The majority of the subjects proved capable of transcendence—crossing the boundaries of conventional structures of the culture: the words of the triad become not concepts but concrete states, a real existential experience. Human beings, despite their submergence in the stereotypes of conceptual structures, proved to be *ready* for this state. We consider this of the utmost significance. These states are inherent to human nature, but as a rule they remain closed under the paradigmatic deposition. However, the entrance there is not barred. A person (especially in modern culture) may get there under the influence of many circumstances. In addition to resulting from meditation, these states can arise spontaneously as a result of metabolic disorders, disorders of sensory perception, intensive emotional excitement, or in sport at the moment of peak experience (Murphy and White, 1978). They may also be brought about by forced (compulsory) relaxation. All of this was discussed in detail in Chapter 8. They can be induced by acute psychosis, hypnotic trance, anesthesia, and convulsive fits, as well as by psychedelic drugs such as LSD. These states also accompany the death experience, as has been reported by reanimated people (Moody, 1975; Noyes, 1974).

Altered states of consciousness often take a form defined as mystic, transcendent-cosmic, or religious, and no wonder, since they are characterized by experience alien to rational consciousness: this new experience consists in interaction with spheres entitled Ultimate Reality. According to Paul Tillich, religious perception is embedded in human consciousness, and this is true if we consider religious experience as a proof of such states when a person is not separated from the environment but merges with it—when he is not alienated from it by conceptions and reflections of his ideas but perceives it without intellectual “noise,” directly.

It is the experience of such states of merging and communion that people called God. Ultimate Reality is immanent in human consciousness. Fichte called this immanence “the feeling of truth in man,” and Jung believed consciousness to be “religious by its nature.” Experimental rec-

ords testify to this statement: our subjects belong to the category of people who have never been taught a perception of reality which could be called mystic experience, but under specific conditions they discover it by themselves.

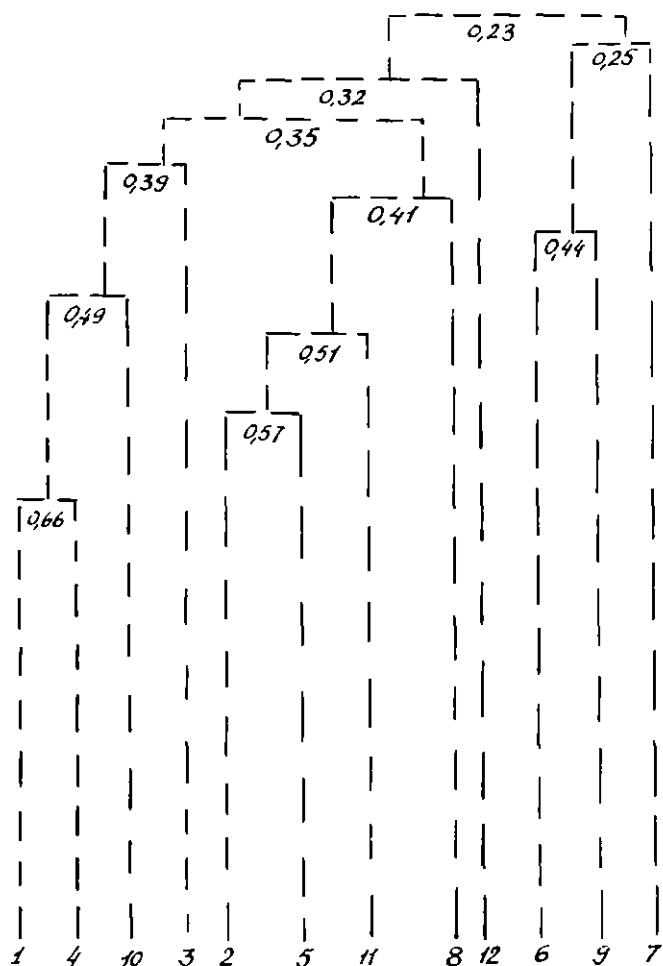
Here lies the peculiarity of our experiment. Its results are distorted neither by special selection of subjects nor by their preliminary preparation in an esoteric system.

We are dealing with consciousness in its spontaneous manifestation. To emphasize this idea, we would like to draw the reader's attention to the fact that meditation has been practiced for ages, and there undoubtedly has been accumulated impressive experience, but all these records are distorted ("biased"), either by special selection (joining monasteries, brotherhoods, and orders) or by special esoteric training. Therefore, these data were not general, but had a nature of initiation, which made them exclusive and often unachievable.

The semantic⁹ analysis is supported by semiotic analysis, the results of which are given in Figure 13.1; the latter analysis was accomplished by a procedure of multidimensional mathematical statistics (cluster analysis) on the basis of the total frequency of vocabulary of experimental records, about 10,000 words. The words *freedom* and *slavery* each had a

⁹ *Semantics* is the science about meaning, whereas *semiotics* is the science of the symbolic aspect of the text.

FIG. 13.1. Dendrogram showing clusters of words according to their frequency of occurrence in the records of the four experiments. The vocabulary of the records (containing 641 words) was compiled of words occurring more than once. The objects (variables) of the classification were represented by 12 experimental sessions (the triad of words in the four experiments), and attributes by the frequency of occurrence of the above-mentioned words. The distances plotted horizontally are arbitrary; vertically they are $1 - \rho$, where ρ is the correlation coefficient. On the dendrogram the first cluster is made by the variables "freedom 1-I" and "freedom 4-II." These variables proved to be statistically correlated, their correlation coefficient being .66. This cluster (after the variables were pooled together) was joined by the variable "freedom 10-IV"; the correlation coefficient here equals .49. This cluster of the second hierarchical level is joined by the variable "dignity 3-I" which frames it; thus a cluster of the third hierarchical level is formed. Analogously, the second branch of the dendrid is formed: the first cluster is made by the variables "slavery 2-I" and "slavery 5-II" ($\rho = .57$), they are joined by "slavery 11-IV" ($\rho = .51$) and all this is framed by the variable "slavery 8-III" ($\rho = .41$). The third branch of the dendrite begins with the union of the two variables "dignity 6-II" and "dignity 9-III" ($\rho = .44$), they are joined by the variable "freedom 7-III" ($\rho = .25$), and then the third branch joins the two former branches ($\rho = .23$), forming a cluster of the fifth level. Note that for our number of observations, assuming we deal with a normal distribution, for the 1% level of significance even the correlation coefficient $\rho = .15$ would have been significant.



<i>experiment</i>	I	II	III	IV
FREEDOM /СВОБОДА/	1	4	7	10
SLAVERY /РАБСТВО/	2	5	8	11
DIGNITY /ДОСТОИНСТВО/	3	6	9	12

clear-cut cluster. The word *dignity* had no cluster of its own. It acts as a link between the two other clusters. And this is quite natural: above, in section C of this chapter, discussing semantics of our *triad* in an historical, cultural aspect, we noted that the word *dignity* occupied the intermediary, dividing position between the words *freedom* and *slavery*, similarly to *purgatory* in Dante's *Divine Comedy*.

Words from the records of experiment 3 occupy peripheral positions in the clusters (words of experiment 3 had not been included in the analysis, since this experiment was carried out later).

In contrast to the tradition of scientific research, the authors of this book were not only experimenters, but also acted as subjects, taking part in all meditation sessions. This circumstance is important, on the one hand, because we as authors received the direct experience of what we were studying. On the other hand, *this allowed us to establish relations of certain symbols occurring in records to the current state of our own consciousness: with anxiety which had remained as a burden in the unconscious. Of interest in this respect is the record, quoted below, as a meditation response to the word freedom:*

I felt relaxation immediately—after the first few words of the AT text. I felt I was standing on the sandy beach at the edge of quiet, light, bluish water. It looked like the shore of the lake Issyk-kul [a large, extremely beautiful mountain lake situated in North Tien-Shan].

Suddenly ball-shaped clots of dark-violet fog scudded swirling above the ground. These were small clouds of irregular ball shape with broken edges. They started whirling around me, then flew away and were replaced by others. It was alarming, like in the mountains before a storm.

At the sound of the word “freedom” a light green ray fell to the ground from above. And it has become clear the way is open: I may go.

I felt myself above, in a cave-like hall. It was a fairy-tale cave—it was not limited spatially: I saw above the starlit night sky, and below the storm of violet wreathing balls. There were no limits from the sides either—it resembled a cosmic belt, a layer of the Universe. But it looked like a cave: gigantic stalactites resembled candles. They were shining from inside with soft light. I felt joy, light, and freedom. The feeling of myself disappeared, though I was there.

Then the vision disappeared as suddenly as it had appeared.

The feeling of relief remained. But the dark violet balls are not forgotten—they fade away, but do not disappear altogether.

Later I strained my memory to recall where I had earlier seen this heavenly cave. Perhaps on some painting—but which one?”

This meditation record is of interest in two aspects. The ball-shaped

clots of violet fog are the reflection of the anxiety which, by an effort of will, was pushed deep into the unconscious. In a meditation this anxiety came to the surface but now in a symbolic form, and it did not leave the field of vision of the participant even when he was in a state of freedom. This meditation resembled a dream, in which we go through our anxieties clad in a symbolic form, though we are not always aware of them. In this sense meditation is *akin to a dream*. It is a piece of self-analysis carried out by means of a conscious and directed entrance into a state of dreaming.

At the same time meditation is something more than a common dream. In the above meditation the subject had an unusual, i.e. not typical of his imagination, image of a cosmic belt. This new image could have been induced by the book by Guénon, *L'ésoterisme de Dante*, which the subject had finished reading on the eve of the meditation session. Moreover, about a fortnight after the meditation it became obvious for the participant that the *triad* of words selected for the collective meditation was synonymous to Dante's *triad*. This idea, to our mind, proved to be the new image of a cosmic belt which had appeared during the meditation session. Thus, the observation of meditation images helps one to carry out a kind of self-analysis: it enables one to watch the process of one's own creative work in the dynamics of its manifestation at the unconscious level.

E. Certain Considerations on the Validity of our Experimental Results

We feel it necessary to emphasize once more the experimental task and the criteria for estimating the states achieved. The ideology of our experiment proceeded from two approaches. On the one hand, we relied on the concepts of the mathematical theory of experiment; on the other hand, on the idea of the continuous nature of our consciousness.

The necessity of emphasizing each of these approaches stems from the numerous rebukes from psychologists because we did not carry out a control experiment. We feel these rebukes to be based on a misunderstanding. The idea itself of a control experiment is rather old fashioned. Modern mathematical theory of experiment does not make use of this technique in its traditional form. The control is made directly on the basis of *the data of the same experiment* in which all the independent variables included in the model are varied.

The experiment starts with a certain model: $\eta = \varphi(\mathbf{x}, \Theta)$. For this model an optimal experimental design is constructed. From the experimental re-

sults, parameter estimates $\hat{\theta}_1, \hat{\theta}_2, \dots, \hat{\theta}_k$ are obtained, as well as the variance for these estimates, which allow us to test the hypothesis that these estimates are statistically significant. Then the model's adequacy is evaluated in a similar way. The reduction in variance which represents the model's accuracy—its closeness to the experimental data—is again estimated on the basis of the same principal experiment. No additional control experiment is carried out. However, the total number N of observations in the experiment must always exceed the number K of parameters estimated. There is naturally another method: the entire set of possible observations is divided into two subsets N_1 and N_2 . One of them ($N_1 = K$) will serve to obtain parameter estimates and the other will be used as a control. But it can be easily shown mathematically that such a method will be significantly less efficient (see Nalimov and Golikova, 1981).

In a psychological experiment whose results are, as a rule, unquantifiable, the above procedure cannot be reproduced completely, but it can be kept in mind as a reference point. This is exactly what we did. Our initial premise (model) was that the records must break up into clusters (groups of semantically close texts), and among them we hoped to spot a cluster reflecting the verbal semantics imprinted in our unconscious or, in other words, the semantics undistorted by the impact of the contemporary culture that forms our present-day consciousness. This expectation came true (for details see section D of this chapter).

However, we feel the necessity of additional explanations.

From our probabilistic model of language (Nalimov, 1981*a*), it follows that the manifested part of the word field is determined by the cultural dominants fixed in dictionaries and encyclopedias. The semantics out of use in the given culture is found in the tail part of the distribution function of probabilities given over the semantic field; i.e., it is suppressed and exists with a low weight.

Our task was to reveal the fragments of the semantic field from the tail part of the distribution function, i.e., those which are suppressed in our culture and pushed into the unconscious from the present-day consciousness.

The experimental task predetermined the choice of the experimental procedure. Common tests did not yield records which would be in any interesting way different from an article of an explanatory dictionary, i.e., from the manifested part of the distribution function. It was necessary to get free from the paradigmatically given pattern, the familiar form of logical structuring.

Therefore, we decided on using AT relaxation, achieved by slowing down the personal, psychological time, and emotionally charged words—symbols inherent in human consciousness. All this taken together al-

lowed us to cross the boundaries of the existing paradigm and thus broaden our interaction with the semantic field.

Experimental results are reflected in written records and paintings, whose major part contained images and symbols typical of mythology.

Can these results be trusted? We are inclined to answer this question positively. We carried out a series of experiments and obtained about 300 records. Each experiment is a random sample from a general population.

If the semantic field of the word *freedom* is regarded as a single general population, random samples should be lexically and semantically comparable.

On the dendrogram shown in Figure 13.1, the reader can see the distribution of our experimental records among clusters. As we already mentioned above, the records for the word *freedom* fell in one cluster, and those for the word *slavery* fell into another. These two are joined by the records for the word *dignity*.

Hence, it follows that we are dealing with semantics that is stable and, therefore, *non-random* in terms of mathematical statistics. Note that this conclusion is made on the basis of the entire material we have at our disposal, without a special control experiment which certain psychologists are prone to consider crucial.

It is also relevant to note that in the records the *myth* itself stood out as a criterion. This is a psychological, purely human criterion since it contains images and symbols. The abundance of epithets in the records testifies to the fact that the interaction with these images, their experiencing, did take place.

Special attention should be paid to the experience of flight: it is undoubtedly organically embedded in our consciousness. This is proved by: (1) the great number of people flying in their dreams, (2) the obsessive feeling of flight in many patients in hospitals for mental diseases, and (3) the abundance of flying creatures in myths, these creatures being hierarchically higher than people: e.g., in Christianity such winged creatures capable of flying were angels, archangels, seraphim, and cherubs.

The experience of the state of flight seems to be a sign of penetration into the depths of consciousness hidden from us in a waking state.

It is relevant to recall here the therapeutic Cathartic dances, imitating flight by leaps which seem not to touch the ground (Eliade, 1976). Perhaps here lies the remote origin of contemporary ballet.

The state of relaxation can also be somatically controlled, since it is accompanied by the sensation of warmth, tingling in the finger tips, pulsation in arms and legs, a feeling of peace and inner balance, if the key word has positive semantics. Such a state can continue for several days.

Also essential for the state of relaxation are changes in spatial-tem-

poral interactions, which are often recorded in the texts as a free and instantaneous transference in the boundless space (up to "here" and "now," which signifies the momentary transference into any spatial point).

All this coincides with the criteria selected for the altered states of consciousness mentioned in section A of Chapter 11.

Therefore, the content itself of the records is a control for us. Note that the group of subjects from the Institute of Psychology (experiment 4) all yielded results which, without exception, represented highly similar, semantically myth-like texts; this seems to be accounted for by the fact that the subjects had earlier undergone auto-training (AT) and the state of relaxation was familiar for them.

We ascribe a special significance to the emergence of myths in our texts, not only because myth-like texts recurred from one experiment to another, but also because they constituted the major part of the records. Symbols and images are the language of the unconscious (this was discussed in detail in Chapters 11 and 12). Myth is an immanent component of the unconscious, its manifestation. The fact that, though our subjects were not experts in the history of cultures and symbols, the records they wrote were full of images and symbols proves that in our experiments we managed to get into direct contact with the unconscious.

In our present-day consciousness, myth is pushed down into its underground. The culture of our days has lost contact with myth (Jung, 1962). It gave place to logical structures constructed over a system of concepts. Interaction of the two levels of our consciousness, mythological and logical (the latter being reflected in explanatory dictionaries), will be considered below, in section H of this chapter. The very possibility of a meaningful consideration of this interaction also testifies to the validity of the semantics reflected in the records.

There emerges one more question: In what way should we evaluate subjects whose records remained on the level of associations or standard cliché? Could they be brought into a state of relaxation by means of stronger techniques than the one we used? We do not know how to answer this question. It could be that a stronger technique would increase the number of people getting into the first cluster. For schizophrenic patients such a technique should be a strong therapeutic procedure.

We feel that our experience shows that AT combined with adequate, emotionally charged key words is a good basis for dividing people into clusters. Perhaps in everyday life people also act in accordance with their clustering with respect to their readiness to resort to their unconscious. However, it is clear that further research in this field is desirable.

In concluding this section we would like to say that in a psychological research project it is not common manifestations of psychic phenomena,

averaged and statistically evaluated, which are important, but rather unusual, rarely occurring phenomena which as a rule remain concealed from us under the cover of the contemporary cultural paradigm.

F. Comparison of Our Experiment with the Results Obtained by Grof

Here we would like to emphasize the fact that our results have much in common with those described in the book by Grof (1975), mentioned above. His method of research consisted of applying LSD, which is a much more powerful instrument than AT and also is convenient because its doses can be gradually increased to provide the entrance into the unconscious at a deeper and deeper level. His book was based on experiments carried out in clinics for 17 years with a therapeutic purpose. Psychologically interesting results appeared at the final stage of the therapy. Our experiments are to a certain extent comparable with Grof's results only because in our case the weak degree of relaxation achieved by AT was strengthened by the interaction with the key words-symbols.

It should first of all be noted that Grof directly observed the expansion of dimensions of the psychological spaces which are responsible for the comprehension of sensual experience:

Not infrequently, LSD subjects discover dimensions in music that they were unable to perceive before. In the sessions, it appears to be possible to listen to music with one's whole being and with a completely new approach. Frequently, music seems to resonate in different parts of the body and to trigger powerful emotions. One of the most common statements one reads in subjects' reports about LSD sessions refers to the feeling that on the session day they *really* heard music for the first time in their life. (p. 40)

The author speaks of *synaesthesia* when an impulse coming through one sensory area evokes responses of the other senses: e.g., a person can "see music" or "taste colors." We would like to remind the reader that the Russian composer Alexander Scriabin saw the color of music in his usual state of consciousness. A broad interest in color-music which has recently arisen testifies to the fact that human consciousness is ready for synaesthetic perception, but it has not yet opened up.

The most important thing is that Grof has obtained experimental proof of the fact that the unconscious is holistic in its transpersonality. According to Grof, this presents a mystery for contemporary science. Discussing the nature of psychotraumatic factors, Grof remarks:

Psychoanalysts have usually thought in this connection about con-

stitutional and hereditary factors of an unknown nature. LSD research seems to indicate that this specific sensitivity can have important determinants in deeper levels of the unconscious, in functional dynamic matrices that are inborn and transpersonal in nature. Some of these factors, when brought to consciousness in LSD psychotherapy, have the form of ancestral, racial, or phylogenetic memories, archetypal structures, or even past-incarnation experiences. (p. 72)

This is supported by many verified examples. One such was a patient who had never been interested in Egypt who suddenly recollects his past Egyptian incarnation as an embalmer and is able to describe in detail all the relevant procedures. Other patients could describe the functions of various Egyptian deities, the symbolism related to them, and the esoteric significance of the pyramids and the sphinx. Information of this kind can easily be verified by consulting archaeologists and anthropologists. Even more amazing are the cases of phylogenetic memory: patients identify themselves with animals, birds, or various species of fish or insects and report details pertaining to behavior or perception which often seem to transcend the scope and limits of human fantasy and imagination but which, according to the experts in these fields of biology, are quite accurate. Much less frequent were the instances of experiencing the consciousness of a plant or a germinating seed. Again, these identifications were accompanied by amazing details:

Subjects have also reported that they witnessed botanical processes on a molecular level; they were aware of the biochemical synthesis underlying the production of auxins, vegetable pigments, oils and sugars, aromatic substances, and various alkaloids. (p. 182)

We would like to quote here the complete outline of a very interesting description of a past incarnation:

The session started with a feeling of "pure tension" that was building up to higher and higher levels. When the tension was transcended, Michael had an experience of overwhelming cosmic ecstasy; the universe seemed to be illuminated by radiant light emanating from an unidentifiable supernatural source. The entire world was filled with serenity, love, and peace; the atmosphere was that of "absolute victory, final liberation, and freedom in the soul." The scene then changed into an endless bluish-green ocean, the primordial cradle of all life. Michael felt that he had returned to the source; he was floating gently in this nourishing and soothing fluid, and his body and soul seemed to be dissolving and melting into it. The experience had a distinct Indian undertone; he asked the therapist whether this state of unity of the individual self with the universe was described in Indian religious scriptures. He saw numerous visions of Hindu worship, mourning ceremonies on the Ganges River, and Indian yogis

practicing in the monumental setting of the Himalayas. Without having had any previous knowledge of Hatha Yoga, Michael intuitively assumed several of the classical body postures (asanas) because they seemed best suited to his present state of mind.

This ecstatic condition was suddenly interrupted and the sense of harmony deeply disturbed. The water in the ocean became amniotic fluid, and Michael experienced himself as a fetus in the womb. Some adverse influences were endangering his existence; he had a strange, unpleasant taste in his mouth, was aware of poison streaming through his body, felt profoundly tense and anxious, and various groups of muscles in his body were trembling and twitching. These symptoms were accompanied by many terrifying visions of demons and other evil appearances; they resembled those on religious paintings and sculptures of various cultures. After this episode of distress passed, Michael re-experienced his own embryological development, from the fusion of the sperm and egg through millions of cell divisions and processes of differentiation to a whole individual. This was accompanied by an enormous release of energy and radiant light. The sequences of embryonic development were intermingled with phylogenetic flashbacks showing the transformation of animal species during the historical evolution of life.

Toward the end of the session, Michael returned to the feelings of fusion and melting in the ocean alternating with identification with the entire universe. On this general background, he had numerous visions of ancient Egypt, with pyramids, royal tombs, majestic granite sculptures, and various deities and mythological figures. These ecstatic visions continued until late at night; the last vision in the session was a triumphant cruise of an Egyptian princess with her elaborate retinue on the Nile River.

The following day, Michael was in the calmest, most joyful, and most balanced emotional condition he had experienced in his entire life. After this session, his psychotic symptoms never reappeared. Several years later, he got married and left Czechoslovakia. He has been able to take full responsibility for himself and his family and to cope with all the hardships associated with the life of an emigrant. (p. 235-236)

If up to the recent past the technique of recollecting past incarnations entered the secret, esoteric part of some religious teachings, now, after the discovery of LSD, it has become an object of clinical studies. This is noteworthy in itself: science begins to acquaint itself with the facts known in certain religious experience from time immemorial. Another thing is also of importance: the teaching of reincarnation which was known not only in the Far East but also in early gnostic Christianity, in the teachings of the Orphics and of Pythagoras, was formed on the basis of real experience. At the same time we are far from thinking that this ex-

perience immediately generates the naive conception of *karma* as a rigid law of cause and effect. Trying to be cautious, we assume that the reincarnation identifications are a sufficiently significant basis for elaborating the idea of a transpersonal and transtemporal (extra-historical) nature of the unconscious.

The book by Grof contains the facts that allow us to formulate the following conception of the transtemporal nature of the unconscious: ontologically, the unconscious in its integrity comprises everything which, in its historical manifestation, seems to us to occur at various points of the same scale. Grof's patients reported semantic revelations of the unconscious which, to our mind, could also have occurred in the past, sometimes in the remote past. We know of instances of creativity in the past that could be produced by highly similar insights. Here are several illustrations (Grof, 1975):

Patients often visualize fields dominated by abstract geometric designs or architectural patterns that underlie all the dynamic color changes. These elements are often described as interiors of gigantic temples, naves of incredibly beautiful Gothic cathedrals, or decorations in Moorish palaces ("arabesques"). Sometimes these visions are compared with paintings of abstract artists such as Mondrian and Kandinsky; a very characteristic perceptual change is geometrization of human faces and bodies as on cubist paintings. Some individuals report they achieved the state that helped to gain insight into the world of Seurat and Van Gogh.

Oneness with life and with all creation. In rare instances, an LSD subject can have the feeling that his consciousness has expanded to encompass the totality of life on this planet, including all humankind and the entirety of flora and fauna, from unicellular organisms to highly differentiated species. . . . The experiential extensions of consciousness in LSD sessions are not limited to the world of biology; they can include macroscopic and microscopic phenomena of inorganic nature. (p. 183-184)

We believe that it is these and similar manifestations of semantics that gave rise to all the instances of a holistic vision of the world, including here Whitehead, Smuts, and St. Francis of Assisi as well as the gnostic Christians, especially Manichaeans, who had asserted the omnipresence of Christ—under the roadside stone, in the road dust, and in the air. Incidentally, some of the texts recorded during our experiments, e.g., those which describe freedom as a passage through innumerable worlds, are of an obviously gnostic nature. The unconscious seems to preserve the semantics which long ago gave birth to a gnostic interpretation of Christianity.

Planetary consciousness. From this point of view, the earth appears to be a complicated cosmic organism with the different aspects of geological, biological, cultural, and technological evolution on this planet seen as manifestations of an attempt to reach a higher level of integration and self-realization. (p. 185)

Coming across such manifestations of the semantics of the unconscious, one cannot but recall the monuments of Russian cosmogonic thought. Perhaps the book by the Russian geochemist V. I. Vernadsky (1977), *Scientific Idea as a Planetary Phenomenon*, quite unusual today, was a response to meditation.

People with a solid background in physics and mathematics sometimes, under the effect of LSD, leave the boundaries of rational comprehension of the complicated modern physical and cosmogonic theories and highly abstract mathematical structures. In an altered state of consciousness, these latter become subjectively tangible. But perhaps this is what happened in the past to the authors of these structures at the moments of insight. Abstract structures are a form of transferring knowledge accessible for all the people adequately prepared for this. But the comprehension of what is presented in an abstract form may be double—on one occasion formal, purely external, and at another time non-formal, opening up the vistas of further creative evolution.

Grof attaches a special significance to the first trauma a person encounters, the trauma of birth. Of interest is the parallel between birth and death:

We entered this world helpless, naked, and without personal possessions, and so we will leave it. (p. 118)

Indeed, inwardly we are ready to agree that we had already experienced death when we came to this alien world from another reality. Therefore, the fact that LSD enables us to recall the process of birth and the preceding intrauterine states acquires a special importance. According to Grof, patients prove to be ready for recollections of the intrauterine life at the end of the therapeutic course, after the traumas of the conscious life are resolved. The memory matrix developed in the process of recollection of the intrauterine life and biological birth turns out to be extremely rich: it comprises what had been overtly expressed in the entire manifold of mythological, religious, and even philosophical conceptions. For example, the traditional representation of the Christian hell or of the underworld of the Ancient Greeks turns out to be a reinterpretation of the memory of that phase of delivery when the uterine contractions encroach on the fetus, but the cervix is closed—another world. The world of another reality is felt to be unachievable as by a sinner in hell. For sophisti-

cated individuals, this experience usually results in a fresh understanding of existentialism. We cannot dwell here on the description of how the matrix of memory is revealed when a person recalls his or her birth. Note only that the study of a state of "non-existence" has also become possible, so to speak, from the other end, i.e., in reanimation (Moody, 1975), which again was provided by the progress of technology. Strange as it may seem, it is the progress of technology that has enabled us to study the unconscious not esoterically. We would like once more to emphasize the fact that everything said above has much in common with the Oriental idea of the illusory nature of the dichotomous opposition of life and death.

Extremely interesting are the manifestations of the semantics of the unconscious which can be compared to mythology, occultism, mysticism of religious teaching, and science fiction. Among them are the following: meetings with astral bodies; revelation of new communication channels with the universe; the faculty of speaking unfamiliar foreign languages (compare with the Christian Pentecost when the apostles "began to speak in other tongues" and the phenomenon of glossolalia); detailed description of seeing Gods and demons and their relation to corresponding cultures; stories minutely corresponding to the myths of Mesopotamia, India, Egypt, Greece, Central America, and other countries; startlingly detailed accounts of the sequence of experiences and purely theoretical basis of Kundalini Yoga; discovery of other strange and alienated worlds, existence of other dimensions in the worlds co-existent with our world, the feeling of the Universal Consciousness and metacosmic Void which turn out to be the same.

And, finally, of great interest is the vision of universal symbols and the revelation of their esoteric meaning. Among them are complicated geometrical compositions that closely resemble Oriental mandalas. However,

The most frequent symbols observed in the sessions were the cross, the six-pointed star of David, the Indo-iranian swastika, the ancient Egyptian ankh (Nile cross or crux ansata), the lotus flower, the Taoist yin-yang, the Hindu sacred phallus (Shiva lingam), the diamond and other jewels, the Buddhist wheel of death and rebirth, and the circle (frequently appearing as the archetypal gigantic snake Ouroboros devouring its tail). (p. 201)

We see with amazement and admiration that Grof managed during a very short period, only 17 years, to lift the veil over the creative laboratory of culture of the whole of mankind. In ancient times the mystery was guarded by the requirements of esoterism; nowadays it is protected by the rigid logical structure of Western consciousness. For some reason

or other, the time has come to show people the sources of their creativity which link them to the Universe. Everything began with LSD,¹⁰ a compound synthesized by chance. But was it really by chance?

The corollary significance of this discovery remains hard to evaluate. We believe it to be a turning point in the history of Western culture, but it will require many years to comprehend and master what is discovered.

We are very glad that the results of our much more modest experiments have much in common with what was obtained by Grof (we had carried out our experiments and discussed their results before we became acquainted with Grof's work). It is important that our results were obtained by means of much simpler and more natural procedures. Also, it is especially significant that our experiment had a specific semantic goal. If Grof managed to discover in semantically non-directed experiments what had earlier been revealed in the evolution of culture, a directed experiment will, it seems, open up the possibility of true creativity. But is that really so? In any case, we see quite plainly that the dynamism of Western culture, from the moment it became scientific, was determined by the fact that we had discovered how to ask meaningful questions burdened with a multitude of possible answers. Can this tradition be continued if we consciously and directly address the unconscious?

In an attempt to comprehend the results obtained by Grof, we can make an important step toward the construction of a model of the unconscious: ontologically, the unconscious has an extra-temporal nature. We see that the unconscious is always ready to manifest the semantics which had already been manifested some time long ago. Nothing disappears in the irrevocable past. Strange as it may seem, we return here to ancient gnostic conceptions, according to which God as a fundamental principle existed outside of time. It is noteworthy that the problem of time is a stumbling block in the conceptions of the origin of the Universe after the explosion. According to some scientists, there had been no time before the explosion; according to others, time, though it had existed, had been of a different nature.

The ability to consciously enter the unconscious by means of slowing down personal, psychological time is also a manifestation of a special status of the unconscious in this respect.

Now a few words on the reliability of Grof's results. His book, in contrast to ours, does not contain experimental data. All verbal texts are given as retold by Grof; the original material is represented only by the patients' drawings. This absence of the documentary texts arouses sharp

¹⁰ In the USSR experiments with LSD are carried out only on the cell level—all the rest are prohibited. Again, we are about 20 years behind.

distrust in psychologists, but we believe these attacks to be unjust. Grof seems to have chosen retelling in a desire to present his material in a concise and clear form. According to Grof, he had at his disposal vast amounts of material, often obtained from non-intellectual patients. If this is actually so, word-for-word records, often touching on rather delicate points, would look awkward and rude.

The reliability of Grof's results is supported by their similarity to our experimental results. The possibility of a random or erroneous coincidence of some very important results and texts obtained by different researchers and in different countries who worked, besides, with essentially different subjects and used essentially different techniques has a very low probability.

Grof's results are also comparable with the experience of analyzing one's internal world as described by Jung (1965). The dreams he describes often go back into the distant past of European culture and are thus of a reincarnation nature. By inducing a chemical effect, Grof managed to extract from the patients' unconscious what Jung was able to feel within himself as spontaneous and unprovoked experiences.

G. Comparison of Our Results with the Experience of Musical Therapy

Both from our experimental results and from those obtained by Grof, there follows the necessity of recognizing the validity of the concept of the collective unconscious introduced by Jung. However, now Jung's ideas also need to be made more abstract and profound.

We find much more attractive the concepts of extra-personal or trans-personal psychological spaces. Within this system of concepts, personality may be given by the selective manifestation of these spaces. The probability distribution function given on this psychological or semantic space may serve as a measure of selectivity. We spoke of this in detail in Chapter 1.

Within this system of concepts, the unconscious is represented by the part of psychological space which is in a suppressed, weakly manifested state. Both our experiments and those of Grof were aimed at revealing this part of psychological space which is suppressed for our present-day consciousness. The possibility of revealing the suppressed part of consciousness can be especially vividly illustrated by the experiment with mentally ill people who, as a consequence of the gravity of their disease, have been isolated from real life from early childhood. It turns out that images which could not be borrowed from life can be induced to appear in their consciousness. Thus, an unbiased experiment can be carried out.



FIG. 13.2. "Flowers"—a typical drawing by the imbecile girl.

What we have in mind is the experiments carried out by the psychotherapist-musician J. G. Shoshina in Tbilisi hospital for the mentally ill. Of special interest in her research are the experiments with a group of three children fifteen years of age who had lived in the hospital all their life. Their diagnoses were schizophrenia, intellectual debility, and imbecility. The case of imbecility was of medium severity, i.e., almost total weak mindedness, a meager vocabulary (about fifteen words), the absence of concepts, etc. This imbecile subject (a girl) could only draw cross-like flowers that never formed a composition (see Figure 13.2), one drawing being an exact copy of another one. It seemed quite impossible to teach her to draw anything else, even after twenty-five trials.

The experimenter carried out a session of musical therapy. The piece of music was "Sirens" by Debussy. The listening was preceded by the suggestion that the patients draw while the music was playing. Subjects were seated at different tables.

All three subjects drew the sea (one of these pictures can be seen in Color Plate 4). The drawings were strikingly different. The girl with intellectual debility drew seaweeds and fishes in the sea. On the drawing of the imbecile patient (Color Plate 4), one can see the sun over the sea and fir trees reflected in the water (they are turned upside down). The sea is painted blue with a green shade. The patient has never seen the sea: she has been living in the hospital since she was 18 months old. She entitled her drawing "Big Water": the experimenter managed to elicit the answer from her after prolonged questioning. Two weeks later, the girl was asked to draw the sea. Her further drawings resembled the first one but were less emotional and expressive, without any color shades.

The experiments with the imbecile patient were continued. Each time her drawings made while listening to music were sharply different in their subject, technique, and the paints used from her usual stereotype colors. Color Plate 4 shows her picture drawn while she was listening to ritual Japanese music of the twelfth century. This picture is again strikingly complicated in its composition: the gigantic sun in the sky, a rock with a tree on it, and water below. The rock and the water are green. After long,

tiresome questioning she managed to explain that the water under the rock was green because the rock was green.

Does not all this testify to the fact that music—its rhythm changing the personal time—reveals the submerged part of the patient's consciousness? Her vision is filled with images which could not be borrowed from her real life since she has spent it in a hospital. The only possible explanation seems to be that the individual consciousness, even that of a gravely and hopelessly sick girl, is still to a certain degree connected to the collective consciousness, to its experience, and this latter can be unveiled at least a little.

H. Comparison of the Semantic Fields of Our Experiment with the Semantics of the Explanatory Dictionary¹¹

Simultaneously with the experiment of collective meditation, the description of the word "svoboda" ("freedom") in the Russian explanatory dictionary (Ozhegov, 1972) was analyzed.

The procedure was as follows. First, all the words contained in the explanatory article for the word "svoboda" were written out (except the auxiliaries and link words). This resulted in a list of twenty words. The procedure was repeated for each of these twenty words, and so on. We decided to end the procedure the moment we came across a word not listed in the dictionary.

After the completion of this procedure, we had a list of 1,084 words belonging to the semantic field of the word "freedom." Comparison of this list with a set of words obtained in the psychological experiment (916 words) showed that their area of intersection was 338 words.

Then we started to consider the distribution function of frequencies for the set of words obtained in the psychological experiment as a sample estimate of the probabilistic weight of the semantics of the word "freedom" inherent to our unconscious and the distribution function of fre-

¹¹ This section is based on analysis carried out by L. R. Moshinskaya.

FIG. 13.3. Bayesian reading of the experimental records to the word "freedom." On the abscissa are plotted the words of the record according to decreasing frequency of occurrence. On the ordinate are plotted: (1) frequencies of occurrence of the words in the records (crosses); (2) normalized values obtained after multiplying these frequencies by the frequencies of the words in the text of a dictionary (Ozhegov, 1972) explaining the meaning of the word "freedom" (dots). The Ozhegov dictionary is considered as a filter given by our culture. The figure contains only the three first pages of the graph (A, B, and C).

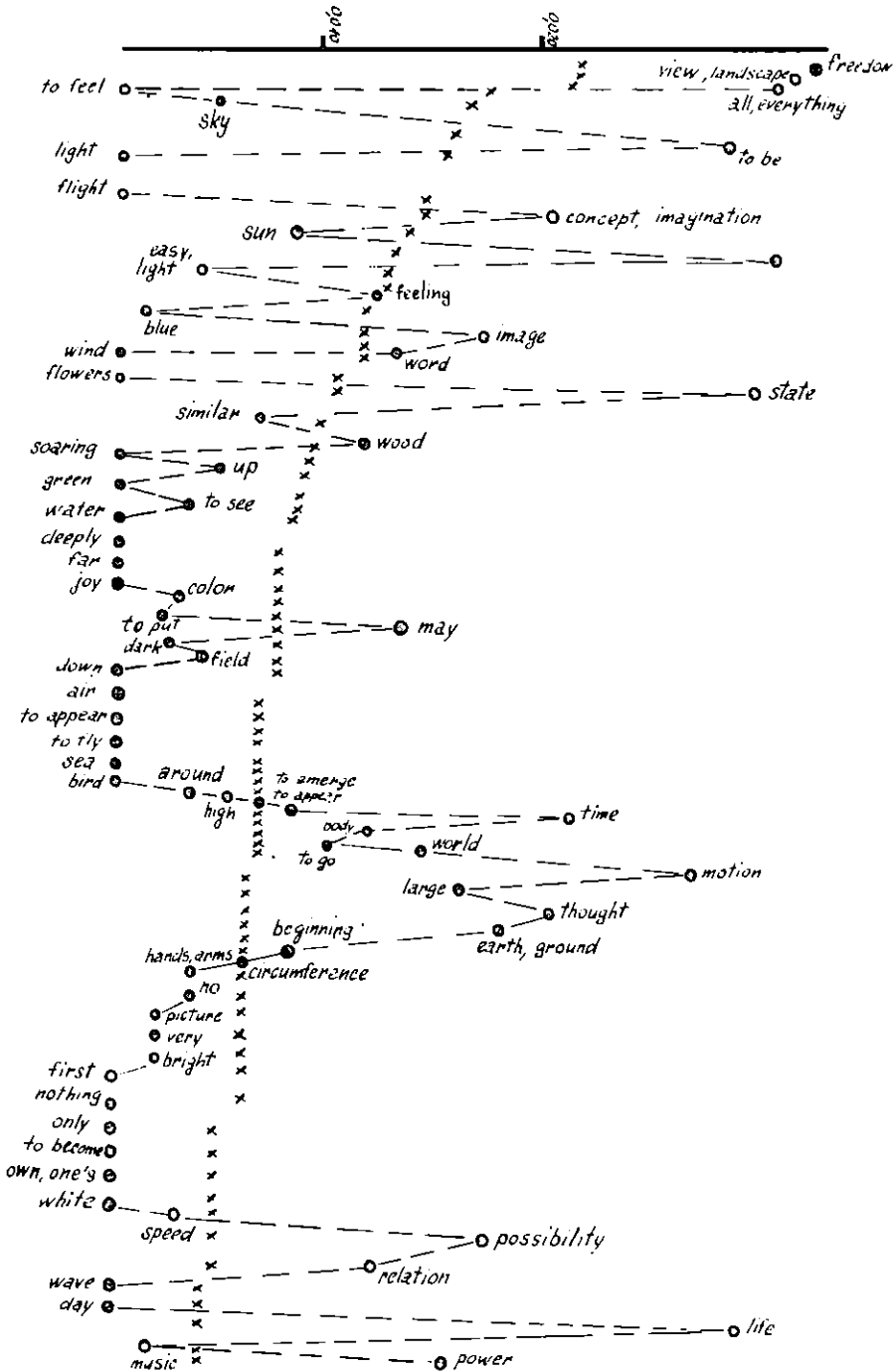


FIG. 13.3A

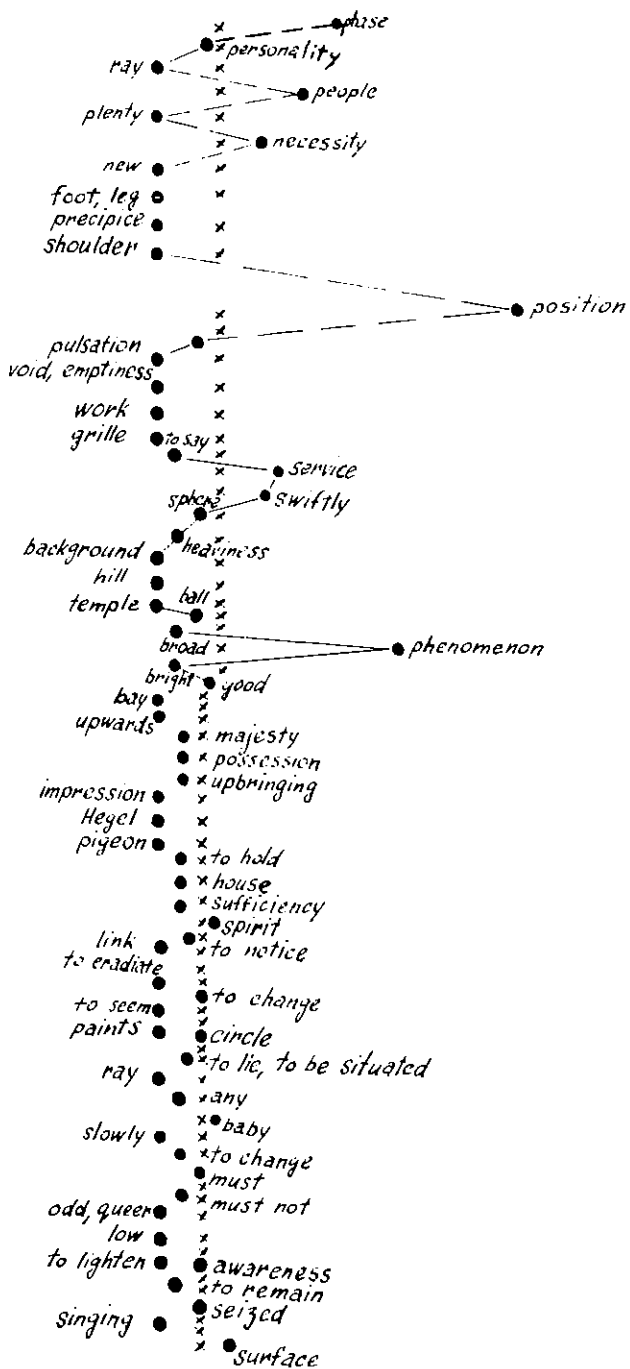


FIG. 13.3C

quencies for the words from Ozhegov's dictionary as a filter set by the paradigm of our culture. Applying the Bayesian theorem,¹² we obtained the frequency distribution function (Figure 13.3) showing how our culture reduces the semantics of the unconscious determined by our entire past—ethnogenesis and anthropogenesis. The sharply seesaw-shaped curve that resulted is an illustration of how the filter of the contemporary culture dissects the semantic continuum of the unconscious, turning it into a set of separate marks delineating the areas of the semantic field acceptable for contemporary culture.

We are witnesses of the process of making the field verbally discrete. For example, in the initial set whose points were arranged according to the frequency of occurrence of words, we clearly see a semantically meaningful chain: to feel—light—sky—quietly—flight. On the new diagram it is given by only two words: "to be" and "light," the latter word having a low weight. Another verbal chain, wind—flowers—state—wood—soaring—green—water—deeply—far—joy, also semantically meaningful, is given by only three or four words, among which only the word "state" has a large weight.

In the environment for the word "freedom" taken from the dictionary, all words connected with the immediate experience of the state induced by this word disappear, as well as such epithets as "blue" or "green" and the words "the sea," "bird," "road," etc., by means of which mythologems are constructed.

The dominant role is now played by the words which in our culture have become concepts: "to be," "space," "state," "time," "motion," "thought," "possibility," "life," "deed." Thus, the word "freedom" also becomes a concept, though for our unconscious this word denotes a specific psychosomatic state experienced individually.

It seems relevant here to say a few words about a traditional experiment of free association carried out with children in the sixth through ninth grades of school (children of 13 to 16 years old) in which our triad of words was taken as a stimulus. The noteworthy result is a small intersection between the associative responses with the set of words obtained in our principal psychological experiment. Moreover, semantically, many responses, when compared with the words from our records, seem to be the result of a noise constituent. Such words for the word "freedom" were as follows: cabbage—Chile—a bore—Corvalan. For the word "dignity": tank—TV set—bag—vegetable. For the word "slavery": Chile—bottle—cider—pencilbox.

Perhaps, it would be interesting to make a Bayesian analysis of the semantics of the unconscious for the filters generated by other cultures,

¹² To be able to deal in both cases with functions constructed on the same set, we introduced into each of the two sets the missing words, ascribing to them frequencies two orders lower than the lowest one among the observed frequencies.

despite the formality of such an analysis stemming from the difficulty of constructing the initial ordered semantic set on the basis of limited sample data.

I. Concluding Remarks

The well-known American psychologist Tart, reporting on his studies of altered states of consciousness at the symposium "Spiritual and Transpersonal Aspects of Altered States of Consciousness" in Toronto in 1978, addressed the audience with the following concluding words (Tart, 1979):

Many people interested in transpersonal psychology would reject the orthodox scientific position as simply ignorant and arrogant, but we cannot ignore the enormous power and authority of orthodox science in our times. When I started these comments I said that I wanted to be provocative, and I hope I have been so: how do you, transpersonal psychologists, feel about being considered students of illusions by the more prestigious in the establishment? And what can be done about it? (p. 73)

We are ready to meet this challenge and answer it. From the material quoted above, it follows that only records of mentally ill people (schizophrenics) and texts of a comparatively small group of people with a sharp dominance of rigid logical reasoning lack a mythological or illusory interpretation of the meaning of words-symbols. Therefore, an illusion is an important constituent (aspect) of the creative consciousness. But what do we call an illusion?

If computer programs for an artificial intelligence are given an arbitrary semantic background, this will never give rise to creative activity by a computer. Consequently, an illusion is semantically meaningful. We call this semantics illusory only because we are ignorant of the mechanism of interaction of the unconscious myth-like images with the manifestations of consciousness.

From the meaning of the concept itself of the unconscious, it seems to follow that from the viewpoint of the logically structured consciousness it should look like an illusory consciousness. The refusal to consider the illusory constituent of our consciousness is equal to the assertion that it is *computer-like*.

But if we are going to treat the *unconscious* in its transpersonal manifestation in earnest, the variety of the accumulated data makes us acknowledge the insufficiency of this helpless, apophantical-sounding term. We consider it possible to assert that what we are witnessing now could be called the *semantic universe*, or *semantic cosmos*, coexistent with our *temporal cosmos* and, moreover, manifested within it.