LANGUAGE AND ITS RELATION TO PERCEPTUAL AND CONCEPTUAL THOUGHT.

By E. L. HUTTON, M.B., B.S., D.P.M.,
Clinical Director, Burden Neurological Clinic, Bristol.

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SINCE psychiatry is that branch of medicine which deals with disorders of the psyche, it must inevitably include in its study the nature and activities of that which is thus disordered; it will therefore be granted that advances not only in scientific, but also in metaphysical, aesthetic and religious knowledge, must be of prime importance for the psychiatrist, since these are indubitably concerned with the activities of the psyche.

Certain modern developments in the science and philosophy of language seem to be particularly significant at the present time, and it is to some of these and their relation to modern psychological conceptions that the present chapter is devoted.

The extent of the author's indebtedness to Prof. Urban's book, *Language and Reality*, cannot be adequately acknowledged, and the book itself would well repay perusal by all who are interested in the study of the human mind.

Prof. Urban's main contention is that "mind or spirit is inseparable from language and linguistic form"; that "the limits of my language are the limits of my world" (1); and "that language is not merely the means by which truth (somehow already known without the instrument of speech) is more or less adequately expressed, but is rather the means by which the not yet known is discovered. Cognition and expression are one" (2).

It is not possible to summarize here the arguments by which Prof. Urban supports his thesis, and the criticism which he brings against those who hold contrary opinions; all that will be attempted is to consider modern developments in psychology in relation to this concept.

It is surprising how little attention has been devoted to language by psychologists, and this in spite of the fact that speech is one of the things that most clearly distinguishes man from "dumb animals." Except in slang usage the word "dumb" now means "unable to speak," but its close philological association with the German "*dumm*," meaning "stupid," suggests that our ancestors may have intuitively apprehended a relationship which we have since overlooked, perhaps because we have not fully realized that the essence of speech consists not in the mere act of speaking, but in the ability to employ sensuous engrams as mobile signs or symbols, indicating and representing something other than themselves. Helen Keller is an outstanding example of the way in which speech may be present, even when the only sense available for its activities is that of touch, so that although blind and deaf, she was neither dumb nor stupid, whereas many mental defectives, whose hearing, sight and vocal organs are unimpaired, are both.

The close relationship between language and mind has indeed been more recognized by neurologists, e.g. Pierre Marie and Henry Head, than by psychologists; for the gross disturbance of comprehension and behaviour in patients suffering from aphasia revealed the fundamental part played by speech in normal mental processes. Unfortunately the significance of this relationship has not been realized in psychology owing to the sensationalistic or mosaic and associationistic views which were so strongly held during the last century and are still extremely prevalent at the present time. The inadequacy of these hypotheses to explain mental phenomena has been demonstrated by Wertheimer and Köhler, who were thereby led to formulate the theories of Gestalt psychology. They revealed clearly that perception deals from the outset with *organized wholes*, and that these wholes are

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not identical with the sum of their parts, that far from the whole being apprehended as built up of discrete elements, the apprehension of the whole is the primary experience and that of the parts comes much later. From their work we realize that the nervous system of an animal is so constructed that it responds to some of the physical properties, *organized* in a particular way, of its environment; by virtue of this relationship between the animal and its *milieu* it is capable of detecting and selecting those components of the surrounding physical universe which are of significance to it, and the instinctive behaviour of animals shows how efficient this inherent perceptual mechanism can be. In the higher animals, however, and especially in man, although organization is still a fundamental feature of perception, the organization is not always immediately given, but may have to be constructed by the percipient himself; and in man, the principal factor in the construction of organized wholes of wider range and greater complexity, of increasing precision and subtle distinction, is language. Organized wholes are apprehended by a percipient because they are in some way significant for him, which is to say that they are intimately connected with meaning, either inherent or acquired. Wertheimer explicity recognized this when he wrote: "The processes of whole phenomena are not blind, arbitrary and devoid of meaning . . . meaningfulness obtains when the happening is determined not by blindly external factors, but by concrete inner stipulation. The mosaic or associationistic hypothesis is therefore on principle unable to supply *any* direct approach to the problem of meaning. Whether there is such a thing as meaningfulness or not is simply a question of fact" (3).

Urban shows that there are really two senses of meaning, the meaning of things and the meaning of words. In the first case "meaning" may be said to be "our *name* for cues to adaptive movement." It is more or less identifiable with motor reaction or acquired tendencies to such reaction. Urban quotes Bergson as follows: "In the animal world the meanings of things are largely instinctive, and the signs of these meanings adherent to the things signified" (4). As the result of this adhesion of the sign to the thing signified the animal is limited to the here and now, hence his dependence on immediately given stimuli and his ignorance of past and future, for though this perceptual meaning involves recognition it does not and cannot include revival of past experiences, nor can it arouse future anticipation, for these necessarily demand some degree of representation, and this is impossible unless the sign can be detached from the thing signified and can represent it in the absence of the latter.

With the introduction of language, however, signs become detachable from the things they signify, and owing to the nature of the meaning relationship the detached sign is able to *represent* that which it signifies, even when this is absent; man, therefore, unlike the animal, is no longer confined to the here and now, but by means of his language he can *represent*, i.e. bring before him, both that which is past and that which is future, that which is near and that which is far distant, and the degree to which he becomes independent of the here and now will depend upon the mobility of his signs. In order that a sign may become detached, however, it is essential that it should originally have been adherent, and it is highly probable that language is rooted in sounds having intrinsic self-authenticating expressiveness, e.g. "it is the intrinsic meaning of the sound *buzz* that turns this sound into the word *buzz*" (5). In this connection it is interesting to note that Piaget found that until the age of 5 or 6 children believe that "the name of a thing is a part of a thing. But this does not mean that it is inscribed on or materially represented in the thing. It is part of the essence of the thing. It is a characteristic of the thing, though not a psychic one, for the child does not regard the voice as immaterial, although it is invisible. During the second stage (7–8) the name becomes dissociated from the thing, but is not yet localized in the thinking subject. It is strictly speaking everywhere or rather wherever it has been spoken" (6). Between 9 and 10 names are first localized in the head, and by the age of 11 thought is regarded as immaterial. "During the first stage (5–6) children regard names as belonging to things and emanating from them. During the second stage (7–8) names were invented by the makers of things, God or the first man. In the case of the first man, the child generally supposes that the men who gave the names are those who made the things, the sun, the clouds, etc. During the third stage (9–10) the child regards names as due to men of no particular identity, while the name is

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no longer identified with the idea of creation" (6). The child at the most primitive stage of questioning "believes that in learning the names of things it is doing much more. It thinks that it is reaching to the essence of a thing and discovering a real explanation" (6).

This brings us to one of the fundamental claims made by Urban, namely, that "language itself is intuitive and part of the very perceptual process itself" (7). He writes: "What we call things are to an incalculable degree ideal constructions. Indeed things first become things to the degree in which they are objects of human activity and receive designations or names. The *namen-hunger* of the child, his passion for names, is of interest here. It is often described as a survival of the 'magic of names' of the primitive mind. What it really is, as indeed it is in primitive peoples, is the process of perceptualizing the world, the process by which sense data are transformed into things" (7). It will thus be readily understood how words are originally linked with and designate objects of sensuous perception; they are indeed used concretely, for the word and the sense data grow together in the mind to create the object which is thus designated. Later certain outstanding qualities may be abstracted from the total object, and the name originally given to the whole is now given to the quality thus abstracted; in this way language itself becomes more abstract.

In order to avoid misunderstanding it is perhaps necessary at this stage to define the meaning here given to the terms concrete and abstract. It must be recognized at the outset that these terms have no direct primary sensuous reference, there is no primary quality of objects to which we can point and say this is concrete and that is abstract, as we can say this is red, that is hard and this is hot. Concrete and abstract refer to our mode of apprehending and understanding the nature of things, it is our interpretation that varies between these modes of thought; however, we may apprehend reality we do not by one jot or tittle alter the essential nature of things. We do not by adopting a concrete or an abstract attitude make reality itself more concrete or more abstract. In accordance with the views expressed in this chapter, it is felt to be essential, in order to use the words concrete and abstract as significantly as possible, to trace them back to their origins; thus concrete is derived from *con* = together, and *crescere* = to grow, and literally designates things whose component parts "grow together," that is are found intrinsically and inseparably incorporated with one another, so that no one component can be eliminated or substituted without destroying the concrete whole of which it forms part. Concrete refers not to possible but to actual individual objects with all their properties, for example, the size, weight and appearance of a chair "grow together" as the chair is made, and are indissolubly welded together in that particular concrete whole. Abstract on the other hand, being derived from *abs* and *trahere*, literally designates things which are drawn out or taken out from something else. Thus we may *in our mind* abstract the shape of an egg from all its other qualities, such as colour, size and edibility, and we may transfer our knowledge of the shape so abstracted to other objects having no other qualities in common with the egg save this one, and speak of an oval pond or an oval mirror. Neither the egg, the pond or the mirror have become more abstract, but we, in addition to our knowledge of them as concrete wholes, have abstracted further knowledge of a quality common to them all, to which we have given the name oval; our thought has become more abstract.

The names of colours exemplify this development of abstract from concrete thought very well. Many of them are obvious, rose, violet, orange; in others the abstracting is only revealed by philology, e.g. green from O.E. *gréne*, which is cognate with grow, mauve from the Latin *malva*, mallow, the flower of that colour, and vermilion from O.F. *vermillon* (from *vermis*, worm), meaning the Kermes insect, i.e. the pregnant female of an insect, formerly taken for a berry, feeding on the Kermes oak, from the dried bodies of which a red dye stuff was extracted. This transference of names is of the very essence of language and "makes it possible to be always passing from what is known to what is yet to be known." In the first place it is essential that the relationship between the concrete whole and its abstracted part should be explicitly recognized; in order that the word green could originally be used meaningfully as a colour its association with growing must have been clearly grasped, though later when the word was in current usage as the name of a colour, its derivation could be entirely overlooked. Innumerable

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examples could be given: e.g. digit, jovial, cordial, subjugate, etc. The same applies to the metaphorical transfer of a word, the original designation of the word must be apprehended in order that the metaphorical meaning may be grasped. Richard Coeur-de-Lion is a meaningless phrase unless the primary reference to the lion is already known and understood, but if known the title abstracts and epitomizes those qualities which Richard has in common with the lion, and adds to our knowledge of Richard. The gradual movement of language effected by this transference of words is upwards, that is to say, it is from the concrete to the abstract, from the physical to the spiritual; in fact, it is only by means of this that the spiritual can become known, whence the statement that " mind or spirit is inseparable from language and linguistic form " (9) for language is the " vehicle by which the spirit comes to self-consciousness " (10).

It thus becomes understandable why behaviour based on abstract thought indicates a higher level of mental development than that which is based on a more concrete attitude. This has been recognized by many recent investigators, foremost amongst them Goldstein, Bolles, Vigotsky, Hanfmann and Kasanin.

Many tests have been designed for testing a person's ability for concrete or abstract behaviour, including the Vigotsky test, various sorting tests, Weigl's test and the Kohs' blocks. In all these the solution depends upon the abstraction of some quality or qualities from the concrete objects used in the tests. Goldstein defined the differences between abstract and concrete behaviour in the following terms: " In an abstract attitude we are not directed toward an individual object, but toward a category of which that object represents itself only as an accidental example and representative. In the concrete attitude the action is determined directly by momentary sense impressions. This concrete attitude is more realistic. We are directed rather toward the concrete thing in its particular uniqueness " (11). On the basis of this definition Goldstein and the other investigators in this sphere have found impairment of the abstract attitude in various pathological mental states, including organic cerebral lesions, dementia and schizophrenia. There is a striking unanimity concerning their findings amongst all those who are using these various tests. While not decrying the accuracy of the findings and the validity of the tests, one would however like to point out their limitations, and to criticize some of the conclusions drawn from them.

The ability to think categorically is undeniably due to abstraction, but it is not the only possible form of abstraction or of abstract thought; it is primarily a scientific mode of thought, and implies a scientific attitude to reality, which is conceived as consisting of things and their qualities which can be arranged in categories. There are, however, other modes of thought, namely, aesthetic, metaphysical and religious, each with their own particular mode of abstraction, which does not involve the use of categories. The poet makes use of abstraction when he writes:

> " Music that gentlier on the spirit lies
> Than tired eyelids upon tired eyes ";

but his intention is not to direct himself or his readers towards a category of which the experiences described represent themselves only as accidental examples and representatives, but to make use of a physical knowledge common to all tired humanity to create and to communicate understanding of something beyond mere sensuous perception, and he does it by *abstracting* from them that element which is common to the two experiences.

It is possibly true that anyone who is unable to adopt a scientific abstract attitude, i.e. is unable to classify, is also incapable of all forms of abstract thought, but this is an *a priori* assumption, and though not actually stated by those who have used the above mentioned tests, it seems to be implicit in the conclusions which they draw from their results. Because the schizophrenic, like the patient with dementia or with an organic cerebral lesion, is unable to solve these tests he is said to show a similar impairment of his abstract attitude or of his conceptual thinking (12).

When, however, one studies the paper by Hanfmann and Kasanin (13) on " Conceptual Thinking in Schizophrenia," one finds that there are differences between the schizophrenics and the other types of patients studied. When asked to group the blocks in the Vigotsky test the schizophrenic frequently showed what

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is described as physiognomic grouping. The authors describe this as follows: "In a physiognomic perception, which has often been described as typical of a primitive mentality, there is no difference between the objective qualities of the objects and the emotions they arouse. Objects appear not as large or small, with this and that colour or shape, but as powerful, weak, harmonious, threatening. Some described blocks as puny or well-behaved. One subject who described the blocks as (1) gross, crude, uncouth; (2) squat, sprawled out; (3) handsome, well proportioned, stately; (4) petite, cute, could not be made to describe these groups in terms of simple objective dimensions. Later he used the terms "dynamic" and "aesthetic" to characterize the impressions on which his grouping was made. Much more frequently the physiognomic impression was not merely stated as such, but led the subject to animate the blocks, ascribing to them character traits and other human properties, e.g. flat blocks as "sick people," "tired people,"; small tall blocks as workers, etc.; also, for example, a group of yellow blocks of different sizes "don't you think they look sick?" Subjects who ascribed human roles to blocks often tended to start a dramatic play which disrupted the task of grouping; e.g. a large block, a policeman, was once placed with a small thin blocks, with the explanation that "the policeman was whipping the workers."

Now it is one of the main contentions of Cassirer (14) that there are two different modes of apprehending reality, the mythological and the scientific. The same argument has been developed by C. Lloyd Morgan (15), who called them the scientific and the dramatic. The mythological consciousness strives to express man's intuitive apprehension of the dynamic uniformity underlying the apparent diversity of the objective world; while the scientific approach is concerned with the static multiplicity of objects and their qualities. Myth is essentially dramatic, the action and interaction of mysterious forces, and as it is derived from man's subjective awareness of the dynamic character of his own feelings and actions, it is also intensely animistic, and is the basis of our knowledge of personality. Science, on the other hand, deals only with static objects, and merely infers dynamic forces from observing differences in the appearance of these objects; it has no direct first-hand knowledge of energy processes. The former is subjective and expressionistic, the latter objective and impressionistic. These two ways, although radically different, are not antagonistic, but rather complementary and both are needed for a comprehensive knowledge of reality. Bergson (16) indeed maintained that reality is only a dynamic flux of becoming, duration, continuity, which we of necessity transform by means of our language into illusory static objects, because such objects are necessary for our manipulation; that we have direct intuition of the Heracleitian flux, but this cannot be directly expressed, and our language merely distorts reality for practical purposes. Would it not be truer to say that there are two aspects of reality, the dynamic and the static, and that scientific symbols represent the one, and dramatic and religious symbols the other?

The mythological animistic interpretation is very evident in the examples of schizophrenic sorting quoted by Hanfmann and Kasanin, where they tell how the schizophrenic subjects frequently animate the blocks, ascribing to them character traits and other human properties, and how those who ascribed human roles to the blocks often *tended to start a dramatic play* (italics mine) which disrupted the task of grouping. In a very recent paper, Goldstein (17), when discussing the behaviour of schizophrenics and patients with organic cortical lesions, asserts that "the level and kind of concreteness in schizophrenia is not identical with that in somatic cases . . . the world of the schizophrenic is much richer and more animated with personalized ideas than that of the somatic patient. That the personality change in the schizophrenic expresses itself on a different level of concreteness can be seen from another important symptom, i.e. from the aforementioned prevalence of the so-called physiognomic aspect of percepts." Johnson (18) also maintains that the schizophrenic is *extremely aware of people or of dramatic relationships towards people and that this seems to constitute one of the striking peculiarities of the disease* (italics mine). This is in marked contrast to his behaviour, where he appears asocial, aloof and reserved. Thus his hallucinations and delusions reveal the fact that the patient feels he is being watched, persecuted, influenced and controlled by other persons, and even objects tend to become personalities and to assume personal and dramatic qualities.

I would submit that the correct solution of the Vigotsky test demands the

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adoption of the scientific attitude, and that the schizophrenic patient fails because he adopts the mythological or dramatic approach; this is even recognized by one of the patients who used the term "dynamic and aesthetic" to characterize the impressions on which his grouping was made. The test therefore does not show a failure of conceptual thinking or a loss of the abstract attitude, but it does reveal an excessive preponderance of the mythological or dramatic consciousness, and an extreme reduction or absence of the scientific.

Storch (19) has discussed very fully the similarities between schizophrenic and primitive archaic or mythological thought, but he apparently considers that the mythological is merely an earlier and more primitive mode of consciousness, and that the schizophrenic patient merely shows a regression to an earlier level. Nevertheless, even Storch himself recognizes that, as shown by Otto (20), "the numinous feelings of fear aroused by the demons who live in magic, fairly tales and myths are the precursors of religious ideas." Furthermore he draws attention to certain similarities between schizophrenic and mystical experiences. Now, unless one argues that religion, mysticism and drama, are all forms of primitive archaic thought, it is obvious that the mythological and dramatic attitude to reality is itself capable of development, and that its development will consist, as in science, in the gradually increasing abstraction of its symbolic forms. In the beginning the dynamic experiences of the subject will be expressed in crudely sensuous symbols, but gradually more and more spiritual expressions will be abstracted from the physical matrix at the basis of consciousness. There are dynamic aspects of reality which can only be expressed and known by means of aesthetic and religious symbols and the distinction between the artist, the mystic and the schizophrenic, is that the former *truly* apprehend those dynamic aspects and their behaviour is ordered accordingly, while the schizophrenics' interpretation of his dynamic experiences is false, and his behaviour is correspondingly *disordered*. This statement of course assumes that reality itself is orderly.

The foregoing argument relates mainly to the role of language in conceptual thought, and especially to the dependence of the abstract attitude on the mobility of language and the transference of signs. The interdependence of language and the ability to adopt the abstract attitude has indeed been explicity recognized by Goldstein: "We know that language is more than a mere reflection of outside objects in the mind; that it is rather a means in itself for building up the world in a particular way—that is, in a categorical way" (21). "Language . . . represents a particular way of building up the world—namely, by means of abstractions" (22). Nevertheless it seems doubtful whether Goldstein has fully realized the wide implications of these statements. That language plays a considerable part in conceptual thought is generally admitted, but the statement that it is part of the perceptual process usually arouses incredulity or evokes a blank denial. Nevertheless some experiments of Bartlett lend strong support to the view. Designs of various kinds were exposed in a tachistoscope for $\frac{1}{15}$th to $\frac{1}{4}$th second and the subjects were then asked to reproduce, preferably by drawing, what they had seen, the drawings however were often supplemented by description, and if a subject had any difficulty in drawing he was simply asked to describe. Bartlett (23) found that even with very simple figures names were commonly used, and they were usually given as soon as the designs were exhibited. Whenever they were used the subject appeared more certain and satisfied; but in these simple cases the giving of a name rarely affected the accuracy of representation. With more complex designs "Naming occupied a position of greater importance. It now not only satisfied the observer, but *helped to shape his representation*" (italics mine). For example, one design was called by different observers a turf-cutter, a key, a pickaxe and an anchor, and in each case the representation was changed accordingly; the pickaxe was represented with pointed prongs, the turf-cutter with a rounded blade, and the anchor with an enlarged ring at the top. Only once was the point in the blade correctly reproduced by a subject, who called the design a "pre-historic battle-axe." With unfamiliar, odd, disconnected material, naming still played a predominant part, but in a different way, for the figure was attacked almost at once by analogy."

The Rorschach test is now very widely used as a personality test, and it has proved itself one of the most useful for giving a general comprehensive picture of the subject's character. The essence of the test is that the subject is asked to

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describe in words what he perceives in a relatively formless blot, i.e. the subject has to create meaningful forms out of the amorphous material visually presented to him; his activity is entirely unrestricted, he is merely asked to say what he sees, what the blot looks like, or suggests, or represents to him. One has only to administer the Rorschach test a few times to realize how highly individual are the percepts produced in different people by the same visual stimulus. The validity of the test lies in the fact that the subject's interpretation of the sense impressions emanating from the blot is a miniature replica of his interpretation of all visual stimuli, the percepts he creates from the blot naturally correspond with those which he creates from similar sense data in his everyday experience. It must not be forgotten, however, that the scoring of the test is based entirely on the subject's language; his actual perception is peculiar to him and cannot be communicated, his linguistic record is all that the investigator has. The part played by language in the actual perception is more clearly evident if one amplifies the original procedure by "testing for limits." After the patient has interpreted the blots one may take one or more of the blots and ask "Can you see ——", naming some specific object or event, e.g. a dog or two men carrying a basket. Quite frequently when a word or words is given like this the subject actually does perceive something which he had not perceived until that moment, thus showing he was unable himself to fuse his sense impressions with any name so as to create a meaningful percept, but when the name is supplied it actually moulds the sense-data into the corresponding percept. The investigator himself may often unintentionally have his limits tested, when a subject names an original percept, as soon as the investigator recognizes it he realizes that although he has looked at the cards time innumerable he has never "seen" this before; not only that he has not been able to incorporate it into an objective whole, but often that he has been unaware that certain particular details were even on the card, e.g. certain lines or areas of shading.

That the "Rorschach" can reveal a subject's personality to us is due to the fact that "We behold that which we are!" which was recognized long ago by Ruysbroeck, one of the great mediaeval mystics. It was also recognized by Jan Struther when she wrote:

> "Though God in seven days the world and all its ways created duly,
> Yet every man alive must, through his senses five, create it newly."

It is because every man creates his own perceptions that we may hope to assess his personality from what he sees in the blots of the Rorschach test.

It is singularly interesting that Rorschach (24), in assessing the value of the various factors concerned in forming the responses, came to the conclusion that the colour responses are indications of the extratensive and the movement responses of introversive tendencies, these latter being determined by kinaesthetic factors. This would seem to link up with the views expressed earlier in this chapter on the basic but complementary difference between the scientific and the dramatic modes of apprehension, for colour is commonly conceived as being a quality of the object seen, and is thus objective, while movement kinaesthetically determined is obviously largely subjective in character.

Rorschach publishes the following short table summarizing the differences between those in whom colour, and those in whom kinaesthesias predominate (25):

Kinaesthesias predominant.	Colour predominant.
More individualized intelligence.	Stereotyped intelligence.
Greater creative ability.	More reproductive ability.
More "inner" life.	More "outward" life.
Stable affective reactions.	Labile affective reactions.
Less adaptable to reality.	More adaptable to reality.
More intensive than extensive rapport.	More extensive than intensive rapport.
Measured, stable motility.	Restless, labile motility.
Awkwardness, clumsiness.	Skill and adroitness.

These findings are in accordance with the views expressed by Bergson and James that things are extricated for *practical* purposes from the flux of experience, and those subjects who react primarily to the dynamic kinaesthetic element in their experience are less practical and less adaptable than those who react to a quality,

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viz. colour, of external objects. Rorschach, however, stresses that these two types of reaction are complementary and not antagonistic, in fact it was in order to emphasize this that he adopted the term " extratension " instead of the more usual extraversion : " the psychological processes producing introversion and extraversion are not opposite, but different. They are as different as thinking and feeling, as motion and colour " (26). In a well-balanced personality, both movement and colour play an approximately equal part. With regard to the statements made earlier concerning schizophrenic patients, it is worth noting that Rorschach writes : " In schizophrenics the tendency to introversion is fixed so that they cannot achieve adaptation at all, or, at least, only by means of a compromise in the form of delusions " (27). This would agree with the conclusion here drawn from Hanfmann and Kasanin's results in the Vigotsky test, that in schizophrenia there is an excessive preponderance of the mythological or dramatic consciousness and an extreme reduction or absence of the scientific.

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