

## THE PROBLEM OF MEANING AS A COGNITIVE PROBLEM\*

### Introduction

The so-called "problem of the meaning" almost always arises from the ascertainment of the existence of great difficulties that oppose a clear and stable identification and description of the relationships between language (or other expressive activities), thought and reality. The conceptual breadth of these variables is such that the points of view from which the scholar of these problems - whether philosopher or scientist - can choose are numerous: this is one of the reasons why not infrequently the mutual connections between the different aspects prove elusive and enigmatic, making it easy to understand that, whichever point of view is chosen, it is never self-sufficient and is always incomplete if it is not connected to others as a piece of a mosaic and if it does not take into account their results.

In the context of this wide epistemological problematic, the present paper tries to develop an approach that, in order to clarify and deepen some aspects traditionally included in the area of gnoseology, uses conceptual tools proper to psychology, characterizing in a particular way the point of view of this science. As will become clearer in the course of these pages, what justifies the autonomous existence of a psychological point of view is the fundamental interest in the individual who expresses or grasps meaning, and in particular in the dynamics of his mental activities, considered as processes for the unfolding of which the succession of "something" (whose nature will have to be clarified) in the course of time is essential. It is evident, therefore, that the present work does not deal with the problem of meaning *within psychological theories*, because we do not think it is possible to deal only with the language through which the psychologist speaks about mental activities, without being interested in these activities tout court.

The stages through which the essay will be articulated are, more precisely, the following four, corresponding to the four parts in which it is divided:

- 1) a preliminary identification of the aspects related to the nature of the problem that can be considered central from different points of view and that can reveal affinities with ours. In this way the problem, from the original context of communication situations, will be focused on the *understanding of something* in the course of the relations between the individual and the environment or in the course of a spontaneous activity of ideation; secondly, a clarification of the limits within which psychology can deal with it, analyzing the conceptual tools that this discipline has had so far and currently has at its disposal;
- 2) the proposal of some hypotheses that define the nature of such *something*; among the assumptions on which such a model can be founded the most relevant for us are:
  - a) the clarification of "understanding" as a fact of cognition and the identification in it of cognitive and metacognitive units of analysis;
  - b) a dynamic conception of meaning as a "process of *signification*" that is, as a succession in time of *events* (dynamic aspect) and *states* (structural aspect), a distinction parallel to that between cognitive and metacognitive units;
  - c) the justification of the cognitive nature of this process, through the overcoming of the dichotomous alternative between *experience* and *knowledge*. It is not a matter of reducing the former to the latter, but of establishing a continuity between them, as between aspects of the same process, through the introduction of the hypothesis that signification is at the same time *differentiation*, with a continuous passage from "undifferentiated" to "differentiated";
- 3) we will be able, then, to analyze some nomological aspects of signification, in accordance with the limits and assumptions of the previous parts, considering the interrelationships between *events* in differentiation and the problem of metacognitive unification in *states*, with the comparison between a probabilistic model and one that can be linked to Gestalt psychology, in order to establish why the *something* that is encountered is in a certain way and not different;

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\* English translation of the Italian original *Il problema del significato come problema cognitivo*, in "Studi sul problema del significato", ed. by Evandro Agazzi, Firenze, Le Monnier, 1979, 200-249.

- 4) in addition, an analysis of the relationship between the process of signification and that of communication on the basis of which it is possible to found, at least in part, the intersubjectivity. In particular, we will try to investigate the way of constitution and the functions of the parameters of unification of *different* events in the flow of *equal* (parameters of type "constructive") and *equal* events in the flow of *different* (parameters of type "abstractive"), assigning to the first a priority in the process.

## I. THEORETICAL PREMISES

The preliminary clarifications that constitute the subject of this first part concern two fundamental questions: 1) what can make the problem of meaning unique in some disciplines in which it is posed; 2) how the "psychological point of view" can be characterized and what are the limits and the possible degree of extension of hypotheses and models that appeal to psychology. In the first paragraph we will briefly consider the first issue, leaving the second for the next one.

### 1. Problem position

Is "the" problem of meaning really a unique problem? Since we talk about "meaning" in different senses and in different disciplines, such as linguistics, logic, psychology, it is natural to ask this question. To answer it, we still need to ask whether what makes it "unique" is the existence of "invariant" aspects that can be grasped by analyzing the context in which the existence of a "problem" is felt within those disciplines. On the other hand, since every question arises and has a sense only relatively to a certain point of view, each discipline "transfigures" the problem in making it its own and therefore we could come to affirm that in reality, even under the same label, it deals with different things. Even without arriving at such an extremely relativistic position, we must recognize that we are not faced with a single problem, as the usual presentation would suggest, but rather with a complex of problems originating from different points of view but strongly interconnected. It is not useful, however, to "reduce" these points of view to only one (which one?) and not even possible to merge or simply add them up, but it is essential to make a comparison that allows us to identify the aspects, delimited by the various points of view, mutually corresponding in the various cases in which our problem actually arises.

One might agree that probably the only circumstance really common to most of the cases in which we speak of "problem of meaning" is that they are situations of *expression* or *communication* of something mostly by means of something else. It is clear that the most important support for this function is verbal language, the communication tool par excellence, and in fact traditionally the discipline most directly called upon has been *linguistics*.

The father of modern linguistics, De Saussure, has spread the idea that the meaning is the other side of the signifier (sign, symbol, etc., that is, the "something else" that acts as a vehicle for the transmission of meaning) and that one cannot exist without the other. But the mystery consists precisely in how through this it is possible to grasp that. The linguist at this point has before him an alternative: either he tries to explain this "grasping" by to mental activities, thus trespassing into, or he must study the rules that govern the relationships between the signifiers, or the changes that these rules undergo as a function of the meanings, but never dealing with how the meanings are "grasped" but rather with their effect on the system of relationships between the signs. In the latter case, mental activities are implicitly presupposed, even if not directly studied, in order to justify the regularity of linguistic organization, and the risk of psychologism is very strong (this is what, for example, has been reproached to Chomsky).

Even Ogden and Richards' classic tripartition between *language*, *objects* (or "denoted" or "referents") and *thought* makes explicit reference on the one hand to referents, that is, to the objects or facts of reality to which the signs refer, and on the other hand, with the last term of the trichotomy, to specifically mental activities. Language, in this way, has almost a function of mediation between physical objects and facts and mental events, and linguistics, if it wants to account for this mediation, is forced to limit itself to generic expressions such as "relation" "referring" "being for" and the like.

The investigation of the relations between language and thought, once the purview of the philosopher and linguist, has, therefore, been virtually removed from the competence of these scholars since it became one of the objects of psycholinguistics<sup>1</sup> and cognitive psychology<sup>2</sup>.

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<sup>1</sup> The study of the relationship between thought and language has made considerable progress with the development of some interdisciplinary research, generically included under the name of psycholinguistics, in which linguistics, psychology (which owes much to the Russian school, whose best known exponents are L.S.Vygotsky and A.Luria), neuropsychology (which starts from the study of the effects of traumatic brain injury in certain areas of the cortex of patients suffering from language disorders) have been engaged. An overview of this broad area of research can be found in Ajuriaguerra (1963) and Titone (1963). On the relationship between linguistics and psychology, see Parisi (1972).

<sup>2</sup> We will discuss this research address extensively in the next section.

Linguists to whom it does not escape that the language system cannot be considered something autarchic, functioning completely autonomously, following rules that are completely independent of the subject using the language and the object of discourse, are beginning to be convinced that this terrain can only be explored through interdisciplinary research.

Logic has similar problems as linguistics, finding itself investigating the structure of linguistic *corpuses* with special needs for rigor<sup>3</sup>.

Nor is it possible to eliminate the problem of meaning if we limit ourselves to the construction of entirely formal "logical calculations" to be "interpreted" later. Suffice it to consider, for example, that even before one can speak of any "interpretation" the meaning (or function) of a sign must be recognized as specific to that sign and different from that of others, and that - on the other hand - the very "rules" of calculus, in order to be applicable, must be regarded as expressions provided with a meaning<sup>4</sup>. Clearly, here too, a process of understanding is always assumed, the nature of which can be clarified by psychology.

When logic is applied to the empirical sciences, moreover, there is no doubt that its rigor cannot be merely formal, but must appeal to meaning as the "something" being talked about. Some logicians (such as Carnap and his school) held that a signifier corresponds to a meaning only if it can be verified empirically, thus identifying the meaning of empirical languages with verification and asserting that unverifiable propositions are meaningless: in this way they believed they were eliminating "metaphysical" propositions. However, before one can say whether there is any individual who enjoys the properties ascribed to him or her by the proposition one wants to verify, one must "know" having "understood" what these properties are: what is prioritized, therefore, is not the process of verification, but that of *understanding*.

We have, thus, identified an aspect that seems to us to accompany the problem of meaning almost constantly: in practice, this problem is posed by anyone, whether posing from the standpoint of a science or from the standpoint of philosophy or epistemology, dealing with the relations between men, who asks why or in what way they understand or understand each other. A fundamental matrix of the problem is found, thus, in the establishment of an intersubjective understanding in the course of *communication*, an understanding characterized by the fact that someone *understands "something"* (signified) mostly through "something else" (signifier).

Under the term "problem of meaning" then, issues of a different nature can be embraced, both in the disciplines mentioned above and - as we shall see - in psychology: in this essay we will put forward some proposals for analyzing the processes through which understanding takes place, proposals that lie, from a psychological viewpoint, at the intersection of numerous areas of research.

## 2. The theory of meaning in psychology

Psychology is not free from the ambiguities that in other disciplines accompany the problem of meaning, and indeed one gets the impression that here the concept extends beyond the *communication* situation in which we had located it. For example, it has been said by a psychologist that "when we perceive, remember, think or desire, we signify" (Pickford, 1950). In common parlance, then, that of "naive psychology," our problem may correspond more or less to the affective value attached to something. We will not, of course, attempt to offer a systematic classification of all possible "meanings of meaning" that can be said to be in any way "psychological," much less those that are part of "common sense" alone. We have mentioned these "affective" aspects because they are the ones that seem to be the "psychological" aspects par excellence, if not the only ones, of the problem of meaning. We certainly cannot adhere to such a reductive position on the problem, but we wish to warn that the aspects contained therein, however distant in appearance from those we have tried to identify in the preceding paragraph, enter into the framework of the facts we shall have to account for.

In this section we will examine some theoretical positions that psychology has taken in regard to the problems we have outlined, in order to highlight what conceptual tools it possesses to deal with them. Given the diversity of the issues that have been placed under the precise label of "problem of meaning," we will limit ourselves to giving a simple nod to the most important connotations, taking care above all to consider, rather than the specific theories, the broader contexts in which they are to be placed so that we can make a comparison on the actual problem that concerns us.

*Meaning* as a psychological variable can relate to psychic facts that arise in an individual independently of what happens in the environment (we can generically call this case "ideation") or, more frequently, it can be located in

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<sup>3</sup> Even in the case that one considers logic to be a metalanguage, one must start from a common language that is already significant, that is, whose meaning is already known in some way (and this "way" is what we are interested in here).

<sup>4</sup> On this point, see Agazzi (1964), 343 sgg.

different aspects of the overall relationship between the individual and the environment.

These aspects may include: a) the study of variables related to states of the physical environment or physiological states of the organism; b) the study of mental activities that occur in correspondence with such variables (e.g., the coming to consciousness of "something" when sense organs are excited, i.e., "perception"). The problem of *meaning* usually arises in special cases of the individual-environment relationship, i.e., when an individual comes into contact with the expressive activities of other individuals (behaviors, linguistic signs, etc.), but in many cases the concept is broadened to include psychological situations that affect only the individual.<sup>5</sup>

Recognizable in this schematization (which, like all schematizations, makes no claim to exhaustiveness) is a dichotomous situation that has deep controversies behind it. Psychology, in fact, after having struggled not a little to win for itself, independently in the face of physiological or sociological reductionism, as its distinctive object the study of subjective mental activities, both cognitive (logical, intellectual, etc.) and affective (emotional, motivational, etc.)<sup>6</sup>, still finds itself divided between an indirect study of such activities, accomplished through behavior, and a direct, introspective or "phenomenological" study.<sup>7</sup>

It should be noted that in many cases the study of behavior does not constitute a means for the study of mental activities, but rather an object in its own right: this is the theoretical position of behaviorism.

The methodological postulates of that school, to tell the truth, have undergone an evolution since the days of early Watsonian-style behaviorism, in that a less extreme position is found gradually in so-called neo-behaviorism and in much of the eclectic-type studies that have taken its place today<sup>8</sup>. As is well known, to the direct or introspective study of mental activities behaviorists have preferred that of the relationships between observable variables, that is, between physical environmental facts which, because of their characteristic of being able to be related to states (mental or otherwise) of the individual, are termed "stimuli"<sup>9</sup> and physiological facts, observable in changes in the nervous, muscular or glandular<sup>10</sup> activity of the individual organism, termed "responses." The evolution alluded to above has manifested itself, in a way that is not always obvious but often implicit, in a greater awareness of the fact that the study of behavior ultimately cannot be regarded as an end in itself but as a means of arriving at an explanation of what "lies behind" it: after all, the occurrence of a response following a stimulus is an interesting fact only if something can be said about what has happened in the meantime.

For these reasons, the attempts to explain the understanding of the meaning of linguistic signs by considering them as conditioned stimuli capable of substituting themselves, according to the associative model of classical conditioning, for the objects to which they refer (unconditioned stimuli) in provoking the same response, have been replaced by more complex theories, termed "mediationist" which, in order to cope with the fragility of the first position,<sup>11</sup> have specified that verbal stimuli are capable of provoking only a "fractional" and internal part of the overall and overt response. This introduced intermediate variables, the "internal mediating responses" that is, responses, of the same nature as observable responses,<sup>12</sup> which on the mental side would act as intermediaries between stimuli and responses. In practice, all neo-behavioristic systems accepted the introduction of intervening variables.

For obvious reasons, we are forced here to give a simplified picture of behaviorism, limiting ourselves to the theories most directly concerned with the problem discussed here, namely those of Osgood and Tolman. The first is an example of a traditionally defined "S-R" theory, being centered on the association between stimuli and responses, while the other, Tolman's, is an example of a theory defined as "S-S" in that it starts from the hypothesis that stimuli constitute patterns among themselves through which the individual "knows" and achieves certain purposes<sup>13</sup>

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<sup>5</sup> This last extensive connotation of the term "meaning" seems to us legitimate from the point of view of our discipline and is the one we will accept by supplementing it with the cases we have defined as "ideation".

<sup>6</sup> In our opinion, a characterization of the psychological point of view in many cases must be supplemented with a more careful consideration of temporal dynamics or processes (see II,2).

<sup>7</sup> For a characterization of introspective study see Musatti (1964), ch. VI.

<sup>8</sup> Some in this regard speak of neo-behaviorism or ceno-behaviorism (see Wann, 1964).

<sup>9</sup> The concept of "stimulus" itself is not so straightforward. Generally, it is considered a specific form of physiological energy capable of exciting receptors, or in a broader sense "one of the possible states of the environment (Broadbent, 1971) that has the capacity or potential to arouse or correspond with mental activity (cause-effect or simple correlation). However, it is clear that one cannot isolate a stimulus independently of any mental activity and therefore such a concept is often hastily imbued with physicalist reductionism (cf. Lawrence, 1963 and Metzger, 1941, pp. 365 ff).

<sup>10</sup> Behaviorists today generally refrain from considering these physiological variables in the strict sense (which they term "molecular" variables) as the object of their study, believing that behavior taken as a whole (as a "molar" variable) is another matter. In practice, however, the difference is not substantial.

<sup>11</sup> It was not difficult to object that one does not respond to words in the same way as to objects: for example, it is not at all true that the word "tiger" is answered by running away.

<sup>12</sup> On the theoretical difficulty of this aspect see Fodor (1965). A classic systematic exposition of the behaviorist theory of symbolic activities is that of Mowrer, 1960; see also Osgood, 1953.

<sup>13</sup> Strictly speaking, S-R theories should not include those that accept the postulates of Pavlovian conditioning, according to which

Osgood's theory considers meaning as the mediating response (or series of mediating responses) that a subject gives to a conditioned stimulus (sign), a response that is part of the overt response that followed the unconditioned stimulus before the association between the two stimuli. On these assumptions, Osgood elaborated the *semantic differential*, a method that would allow the identification of the "proprium" that characterizes the meaning of each word by its location within a "semantic space"<sup>14</sup> (Osgood, 1957).

This model, whose heuristic usefulness is in other ways unquestionable, does not seem to deal validly with the problem we have outlined in the preceding pages: its basic assumption is that meaning comprehension is explicable by investigating what responses are associated with the words that serve as stimuli, but at bottom it is as if it replaces them with a seat of paraphrases or circumlocutions (the series of adjectives) similar to those that a dictionary might provide, without being able to account for what motivates one choice or response rather than the other<sup>15</sup>. The fundamental limitation of this theory is, therefore, the fact that it explains the understanding of meaning according to a mechanical scheme, as a kind of response connected directly or indirectly to previous stimuli: for such stimuli no elaboration is imagined, but their only fate seems to be the association<sup>16</sup>.

Tolman's theory is to be considered separately because it partially escapes some of the difficulties of behaviorism. Unlike Osgood's, in fact, it is not concerned with the fate of individual stimuli and their connection with responses, but hypothesizes that each stimulation is integrated with others so as to constitute "cognitions": learning, according to this author, consists in the individual's "recognition" that certain objects or events in the environment are Gestalt-like signs that foretell or provide the expectation (hence he called them *sign-Gestalt expectations*) of another object or event that constitutes the "purpose" toward which the individual tends.

The *meaning* for Tolman is precisely this object-purpose. This conception can, for example, explain Pavlovian conditioning by considering the conditioned stimulus a "sign" for the individual of the imminent arrival of the unconditioned one. It is clear, therefore, that here we are dealing with an extension of the concept of meaning beyond the situation of communication, since, while for Osgood signs are conditioned stimuli, for Tolman, vice versa, all conditioned stimuli can be considered signs. This theory, moreover, is close to some conceptions of *Gestalt* psychology and Lewin's "field psychology" and it emphasized more than S-R theories the "cognitive" aspects of meaning, rejecting the "law of effect". However, it remained behaviorist in structure, considering cognitions, as well as other variables at play (*catexis, expectations, demands, etc.*), to be intermediate variables between stimuli and responses, deducible from the study of observable behavior, but to the latter ultimately not convincingly anchored, and without, on the other hand, delving into them from the introspective point of view as *Gestalt* psychology did.

That of *Gestalt* is a doctrine born and developed at the beginning of this century, between the 1920s and 1930s around the so-called "Berlin School" in which M. Wertheimer, W. Köhler and K. Koffka, who are considered its "founders" operated.<sup>17</sup> *Gestalt* is best known for its studies on the problems of *perception*, but the fact that this field of inquiry really owes almost everything to this school should not obscure the fact that there are many contributions

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reinforcement is given by the association between conditioned and unconditioned stimuli, and learning occurs by replacement of iS by cS. A typical S-R system, on the other hand, is Skinner's, which accepts the postulate of learning by trial and error, where, according to Thorndike's "law of effect," reinforcement is given by the association of a response with the stimulus that produced it when its effect constitutes a "satisfactory state for the organism" (otherwise responses are considered "erroneous" because they are extinguished). It should be noted that the position of behaviorism favors, thus, the consideration of mental facts as something random in principle, whose probability increases as a function of "reinforcements" determined by the frequency of certain associations. This aspect will be kept in mind when, later, we deal with information theory and the concept of probability in the study of meaning (III.1).

Another S-R system is Hull's, which is also based on the "law of effect", but which introduces intermediate variables of different kinds relating to states of "need" (drive), habit tendencies or "potential exciters," etc. As can be seen, behaviorism cannot do without motivational-type concepts, postulated in Hull's system as in Skinner's. However, very often they are ambiguous and in any case function as mere external factors of increasing the probability of reinforcement, without specifically saying anything about them.

<sup>14</sup> Each word that expresses a concept whose "meaning" is to be studied is compared by a subject with a series of scales with seven values that at the two extremes contain pairs of adjectives of opposite meanings, so that it is associated, for each pair, to a greater extent with one of the two adjectives and to a proportionally inverse extent with the other. In this way a semantic "profile" of the word is constructed. By collecting a certain quantity of such "profiles" and subjecting them to statistical analysis Osgood inferred the existence of three semantic "dimensions" (evaluation, power, activity) in which each concept would have a definite place.

<sup>15</sup> The concept of "hammer", for example, may be placeable in the dimensions of activity, or strength, or the like, but it eludes what "hammeriness" is, precisely the "being hammer", a content that is not fully exhaustible by all attributes and that is assessable only by a nonquantitative method (cf. F.H. Allport, 1955, p. 570).

<sup>16</sup> It is precisely the weakness of the concept of "association" itself that is the main difficulty with these theories. In fact, by stating that a stimulus (S) is "associated" with a response (R), do we mean to say that observation attests that the S is "followed" by the R with some probability, or that the S is "caused" by the R? It is certainly not the same thing, evidently. In any case, it does not explain why this happens, and precisely in the manner in which it happens, why only one type of R is associated with a certain S and not another, etc.

<sup>17</sup> Among the major exponents of the Gestaltist School (disciples and systematists) are K. Lewin and W. Metzger, to whom we will refer in the course of the study. The former is a "sui generis" gestaltist who broadened Gestalt perspectives to dynamic and social psychology, while the latter is a disciple of Wertheimer and Köhler.

- even experimental ones - it has made in other areas.<sup>18</sup>

*Meaning*, from a Gestaltist point of view, generally has the broadest sense, corresponding to thought, idea, content, phenomenal experience, in a word to the "reality" that a subject perceives upon the arrival to the sense organs of environmental stimulations. It encompasses, therefore, the specific case in which such stimulations are "semantic" in the restricted sense, that is, they are signs that support communication. It is the same extended sense that we have already recognized to be proper to Tolman's theory and accepted as legitimate from a psychological point of view<sup>19</sup>.

Gestaltist theory of knowledge has the merit of having pointed out that the being present of certain contents rather than others is not a random occurrence and of having identified certain regularities<sup>20</sup> in this process. Another positive aspect of the Gestaltist conception is its emphasis on the essentiality of the dimension of presence to "consciousness" in order for one to be able to speak of perception. It is, this, one of the aspects that oppose this theory to sensist and associationist theories (with which, moreover, it has largely polemicized). The Gestalt approach has, in our view, only the limitation of not having recognized the importance of the concept of *attention*, now revalued, and of having shown skepticism toward the *microgenetic* (or *actualgenesis*) conception of cognitive processes (cf. Metzger, 1941, pp. 128 and 400 ff.)<sup>21</sup>.

With gestaltist theory we have come closer to a conception that, by privileging the individual in the individual-environment relationship, considers meaning as that which is "encountered" introspectively, a reality that can only exist in the dimension of "consciousness."

The term "consciousness" is, of course, not used in its moral philosophical connotation, but in the sense of presence or *awareness* of something upon introspection. It can be dispensed with as a term, but the concept basically remains even when we resort to neurophysiological correlates such as activation or to cybernetic models such as channeling, as current cognitive or cognitivist psychology has tried to do.

The term "cognitive psychology" does not denote a school proper, organized at a specific time and place, but rather a research trend that, beginning in the 1950s and especially during the 1960s, arose from the need to construct models appropriate to the processes involving observable variables (stimuli and responses) without remaining anchored in the postulates of behaviorism (conditioning, law of effect, etc.), but also without limiting itself to pure introspection. What these studies also have in common is an interest in the way "information" from the environment is selected, sorted and stored: the unifying language is detected, precisely, by information theory and other auxiliary theories (of decision making, game theory).

A central problem for cognitive psychology is how *relevant* information is selected, "filtered out," from irrelevant information, and one model that has been very influential is Broadbent's (1958) filter theory. The interest of such a model is evident if one thinks that the "relevant" information can be considered as the *meaningful* information, that is, information chosen in such a way that it fits appropriately into a knowledge process that follows a certain plan. The solution that Broadbent proposed in 1958 was basically to consider the field of consciousness (the concept was banned because it was too "introspective") as a "channel" similar to those used for telecommunications, endowed, like these, with a "limited capacity" that is, capable of passing only a certain amount of information. When this amount exceeds the capacity of the channel, it closes as a "filter" that selects only certain information while excluding others, depending on certain characteristics of the stimuli<sup>22</sup> and the needs of the organism. The possibility is envisaged that some information is provisionally "deposited" in short-term memory and that only some then reaches long-term memory. This model was later by Broadbent (1971) himself modified and made more complex with the introduction of other schemes that flank that of the filter: for example, the selection or reduction of input can be accomplished, in addition to "filtering" (which consists here in the detection of the presence or absence in the information of certain key-features), also through "categorization" where combinations of stimulus features take on particular importance.

Broadbent's research, in one respect, is an exception in the field of cognitive psychology, as it is still tied to the behaviorist approach and thus avoiding introspective terms such as "consciousness." Broadbent merely referred, rather than to meaningfulness, to the probability of stimuli, to the subject's state of *activation* (a neuropsychological

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<sup>18</sup> For example, the neurophysiological studies, in the context of which Kohler's and Lewin's "field theory" was developed, the neuropsychological studies on aphasias, those on animal psychology (which pioneered ethology), and those on methodological, epistemological and philosophical problems are worth mentioning.

<sup>19</sup> Does meaning, then, correspond to any reality "perceived" by an individual? We might agree with such a statement if in it the concept of "perception" were not used too broadly, including spontaneous mental activities of "ideation" and metacognitive aspects. An overly broad use of the term "perception" has been criticized by Kanizsa (1961), referring to F. H. Allport (1955). We agree with these limitations and will therefore use the term only to denote the psychic reality that arises in an individual in the course of his direct interaction with the environment. We lean, instead, as mentioned above, toward an extensive use of the term "meaning" as Allport does.

<sup>20</sup> The regularities of perceptual processes are too well known for it to be necessary here to recall concepts such as "form" "structure", "totality" (the essential concepts of *Gestalt*). We will, however, have occasion to refer to some aspects of such concepts in the course of the study.

<sup>21</sup> However, the hypothesis, which is argued here, of *differentiation* (see II.3), does not consist of a shift from the global to the particular but only from the less complex to the more complex: it is close, therefore, to Lewin's hypotheses on the progressive articulation of functions.

<sup>22</sup> The cognitivists' concept of "stimulus" corresponds in practice to the broader concept adopted by behaviorists (see note 9).

concept) and to something like habit. Ways of eliminating introspective references are, for example, to use the theory of *signal detection*<sup>23</sup> or to assume that a determining factor in selection is the *probability* of different states of the environment or, again, to refer the processes described to the *nervous system*, using, as we have seen, neuropsychological knowledge about the processes of the reticular system (activation or *arousal*).

Despite these swings toward behaviorism, it can nevertheless be said that cognitive psychology has formally opened up the possibility of introspective references by also recovering the concept of "consciousness," as long as this recovery is understood in a particular sense. As Mandler (1975) observes, this recovery has taken place in "strangely circumspect terms": consciousness has been understood as synonymous with a "limited capacity system" into which information from other systems (short- or long-term memory, perceptual system, etc.) enters in turn. However, it remains in the shadows what role it plays the participation or "experience" of the subject understood as a person or individual and not only as a center of information processing .

A second aspect, which constitutes a characteristic bottom line of cognitivist research, is the greater emphasis that this direction has given, compared to the past, to the hierarchical organization of perceptual and expressive activities. A famous example is the concept of the "plans" (Miller, Galanter, Pribram, 1960) underlying behavior, which constitute a kind of "deep structure" similar to that described by Chomsky about linguistic activities. Recent years have also seen the emergence of much research concerning "semantic categorization," that is, the role that "meaningfulness" plays in the organization and use of categories and concepts. As can be seen, in both of these new areas of research, the problem of meaning is central and is no longer considered to be only a language-related problem.

The interest of these models developed by the cognitivist orientation, which can be applied to our conception of meaning as understanding or cognition, is evident. Their drawback, however, is in the fact that it continues to elude us what the "something" is that characterizes knowledge, they avoid talking about "reality" or "mental content," (and the like) to talk about "nervous system states," or "selective responses," "choices," "decisions," "strategies," etc., but there always remain blind spots when we have to explain why certain situations in the environment are *meaningful* in the sense specified above. Concluding a study devoted to "selective attention," Egeth (1967) writes that in some cases it is not clear what distinguishes situations in which subjects can easily "filter" information from those in which they cannot. It is likely that these situations can be better understood if placed in a methodological dimension in which there is room for mental activities. It does not seem to us, therefore, that the models proposed by cognitive psychology are incompatible with an acceptance of introspective protocols, and such a methodological choice should not lead to too deep revisions.

The problem of the relations between *meaning* and *consciousness* has another important implication, connected with the well-known psychoanalytic conception that the meaning of mental activities is to be found in the *unconscious*. This assertion can be understood in the sense that one mental activity, although it actually takes place and influences others, is found outside of consciousness, or that it is outside of consciousness the factors that determine a mental activity with certain characteristics rather than others.

Psychoanalytic models on knowledge processes, i.e., those concerning the exclusion or inclusion of something in consciousness, are closely connected to the overall "corpus" of psychoanalytic theory, and therefore cannot do without certain fundamental assumptions, such as, apart from the theory of the unconscious itself, those of *psychic energy*, *psychic apparatus*, etc.

If these assumptions are accepted, the immediate experience cannot be trusted because it reveals only the manifest meaning, but not the latent, deep meaning, which has its own intentionalities: therefore, an *interpretation* of the immediate is indispensable. However, this interpretation, from our point of view, does not override the immediate, but is only a new immediate of a different kind, which relates to the previous one, that is, it is a fact that we shall call metacognitive (see II . 1). And, as we see it, it is preferable to concern ourselves first with what is actually included in an individual's field of consciousness at a certain moment rather than with what, according to certain assumptions, could or should have been there.

But, one may object, if one wishes to establish why a certain meaning, even an immediate one, is present rather than another, one cannot disregard the action of unconscious motivations. In principle, one must certainly admit the possibility of calling in "motivational" factors to explain the orientation that the course of thought takes, but it is evident that the action of such factors, when held to be unconscious, cannot be described except by recourse to analogies with conscious processes. The unconscious is inconceivable, as a theoretical construct, without consciousness.

The psychoanalytic formulation of the unconscious should be discussed at length and in detail, as only elsewhere it will be possible to do, but it will suffice here to recall that in the unconscious dimension psychoanalysts place in practice two types of content : a) that which has been removed from consciousness through *repression*; b) *drives*, of a strongly

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<sup>23</sup> The starting assumption, borrowed from communication theory, is that signal and noise, which are always mixed, occur randomly, and can thus constitute two distinct Gauss curves (one for signal mixed with noise and one for noise alone). The *decision* is to assign the stimulus, considered as a statistical sample, to one of these two "populations." Thus, the four well-known cases of the logical procedure of statistical inference (error of I or II type, or correct rejection or correct attribution; see Beretta, 1968 ; Bresson, 1965; Broadbent, 1971) can occur.

biological nature, among which are found "primary" aspects, that is, which never reach consciousness, although they continue to act. It is these latter aspects that create the greatest difficulties, because they continue to be defined as mental activities but are constructs that cannot be anchored in either introspection or behavior. An unconscious mental activity, on the other hand, in order to be definable precisely as a "mental activity" and not a biological process, must have been conscious at some time, even for a fraction of a second and at a level of non-high vigilance (or, using our terminology, § II.3, in an *undifferentiated* form ), and then, even immediately, removed.

The unconscious, in this way, can continue to be considered what is actively removed from consciousness, that is to say, excluded from the field of attention, or which remains undifferentiated. When, on a meaningful level, you can identify the removed idea or the reason for the removal, you can also find that these exclusions from consciousness are not random (just as the inclusion of other content is not random) and we can speak of a real logic of the unconscious reconstructible metacognitively<sup>24</sup>.

The challenges we have just seen offer heterogeneous contributions to our problem, but it is clear from their comparison that the fundamental difficulty is to define precisely the «something» that occurs in an individual when in its relations with the environment - and therefore with other individuals - it knows or understands a meaning. The three main solutions that can be extracted from the conceptions that we have exposed are:

- a) this is a modification of observable behavioral activity;
- b) it is a neurophysiological modification;
- c) it is a modification of what is «encountered » introspectively.

In our opinion, in reality these three alternatives are only the expression of different ways of looking at the same thing from different angles. The choice of one does not exclude the others or the conclusions that can be drawn from the others. From a methodological point of view, however, these three approaches constitute three different objects, for which there are different criteria that allow us to accept certain statements as true or not (Agazzi, 1976; Girotti, 1976). Consequently, while it is legitimate and desirable to identify point-to-point correspondences between one and the other, the reduction of the others to a single approach must be avoided.<sup>25</sup>

Of the stages envisaged at the beginning of the work, at this point, we are ready to define the first (what is to be meant by the "something" that is understood as meaning) with the highlighting of the three patterns outlined above. A choice must now be made. Within certain limits there is also the possibility of not choosing and limiting ourselves to abstract models that can be retranslated into behavioral, neurophysiological or introspective language. Indeed, we will use at the outset such a "neutral model " (with the concepts of events and states), but it would be of no use unless it were then translated into a more specific language, and so we will specify it by referring to introspective variables. The introspective method we will use is of a type similar to that of *Gestalt* and phenomenological psychology, that is, non-elementary and avoiding separating process from content.

Our "something," then, depends on mental activity, being that which is encountered, directly and more or less consciously, by an individual at any moment of his or her existence. It remains to work out a model that would specify the contours of such mental activity and clarify its relationship to the understanding of meaning: this is what we shall attempt to do in Part II.

## II THE PROCESS OF "SIGNIFICATION"

### 1. Understanding and cognition

In the course of the preceding pages we have seen the problem of *meaning* emerge in psychology, as in linguistics and logic, in the fact of the establishment of *understanding* when two or more individuals communicate *something* to each other (and, only in psychology, when an individual understands "for himself" *something* in the course of ideation). The paths at this point diverge and each discipline adopts a different point of view. As will be recalled, from our point of view we have come to regard such understanding as the *encounter of something* in the course of a mental activity. The time has now come to clarify the nature of such something, that is, of the mental activity that underlies it, and to further specify the concept of understanding.

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<sup>24</sup> Matte Blanco (1974) proposed an interesting corpus of hypotheses on this logic (which, as is well known, is characterized by the inapplicability of the concepts of space and time) in terms of the principle of *symmetry*, according to which at the unconscious level the inverse of a relation is considered identical to the relation, and of the principle of *generalization*, according to which every element of a class can be included in an ever wider class. As we get closer to consciousness (what we call "differentiation"), then there is a fragmentation of classes into smaller and larger classes by creating asymmetric relationships.

<sup>25</sup> This reduction occurs, for example, in the case of those who argue that mental activity is entirely transferable to neurophysiological activity, considering that the neurophysiology protocols are preferable to introspective ones because they are more concrete, forgetting that any science can exist only if it constructs hypotheses and develops abstract objects and relations from the immediate and concrete protocol. As we have already pointed out, part of our work (IV) will investigate whether in the light of psychological considerations new hypotheses can be built on the intersubjectivity of introspective protocols, accepted on the same level as any other type of protocol.



And first we have to ask: is there *meaning* whenever we *understand something* tout court, or must such understanding take place in virtue of "something else"? In other words, is the signified-signifying dichotomy essential for our purposes? Our view is that posing the problem in these terms may be confusing. Indeed, unlike linguistics, in psychology it is relevant to realize the continuing and dangerous possibility of confusion between signifying facts for an individual at the moment he or she experiences or understands<sup>26</sup> "something" and signifying facts for those who study the overall process of signification from the outside or for the same individual at a different time.

If we place ourselves, as is desirable from a psychological point of view, on the side of the subject who grasps meaning and study his mental activities and not our own<sup>27</sup>, we realize that the idea of an object or event external to us does not arise first and then we attach meaning to it, but only the meaning emerges directly. For example, we do not normally get first the idea of "red light" and then the idea of "no passing" but directly the latter, just as we do not usually perceive, when reading, individual words or syllables but immediately their meaning. *Gestalt* psychology has highlighted this phenomenon very well. The idea that the "something" we encounter or understand or - as we will shortly say - about which we have "cognition" is provided to us through the support of "something else" comes after, *reflecting on meaning* and the process of signification, that is, placing itself at a level that we can call "metasignification" or *metacognitive*, the same level at which the discourse of the linguist or psychologist studying the problem is placed.

Second, it is necessary to clarify another misunderstanding. One can speak of comprehension as simply the identification of "something" in general, or one can ascribe to such identification a connotation of value, considering comprehension the *correct* identification among other irrelevant ones (this is precisely the sense in common language of the expression "having comprehended" or "having understood"). So, again, one can speak of understanding in the translated sense of "explanation," that is, *correct* identification of *causes* or *reasons*.

Now, from our point of view, it is of absolutely no importance whether the "something" that presents itself to the subject's consciousness or is encountered by the subject is "right" or "wrong," that is, whether it conforms to certain presuppositions or not. We do not claim, of course, that such an encounter has *no presuppositions*, but only that for our purposes it is possible to adopt the artifice of neglecting them. Certainly, in fact, there are presuppositions *implicit* in every act of consciousness, because every encounter involves at least an implicit judgment about the existence or reality of what is encountered (regardless of whether or not to other subjects this may be considered an appearance). Knowledge is aimed at its objects, with the presupposed intention of grasping the true, the real.

These presuppositions, however, which can only be made explicit in metacognition, are irrelevant from our point of view, since we are only interested in the brute fact that this or that "quid" is encountered, leaving by implication that we always presuppose that we are not mistaken. To differentiate this particular conception of knowledge in which we disregard the "intentional" presuppositions that the subject establishes with the known "quid", we will adopt the terms *cognition* and *cognitive*, which are already in fact used in psychology with that connotation.

In our investigation, it seems to us preferable to limit ourselves to the "quid" encountered, disregarding any assumption that implies a judgment about it, because in many cases the attribution of meaning is ambiguously subordinated to comparison with some model or parameter to which it should approach or to which it should conform as closely as possible. For example, it may be assumed that for one to possess the meaning of a verbal expression one must understand something that corresponds as closely as possible to what the person who formulated it thought (a parameter that can be established by asking him if he agrees with our interpretation). Or, in psychoanalysis, as we have seen, a verbal behavior or expression can be assumed to have a "true" meaning, the unconscious or latent one, different from the conscious thought or 'intention of the person acting or speaking and also different from that attributed to them by an observer (unless the observer is a psychoanalyst who interprets them correctly, where, however, the correctness of the interpretation cannot do without the patient's subsequent consent).

It should be clear that we do not deny the importance of these aspects of the problem, but it is our opinion that in order to get out of the *impasse* of the determination of ambiguous situations and vicious circles, it is advisable to limit the investigation at first to a simpler situation (relative to the others) and to deal first, as we said, with the meaningful contents that arise or are encountered in direct introspection by the subject, independently of any metacognitive model that suggests how they should or could occur. The constitution of patterns or parameters is an aspect that is strongly connected with the phenomenology of meaning, but since we can only deal with one thing at a time (and even this is something that must give one pause for thought!), we will deal with it in more detail later<sup>28</sup>

Our use of the concept of "knowledge" or *cognition*, therefore, is more restricted than the most common usage,

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<sup>26</sup> For this distinction see II.3

<sup>27</sup> Although then, of course, this study will not only apply to ours as well, but may even be grounded introspectively in our own. When, later, we speak of *events* to define such mental activities, therefore, we will have to take it for granted that they are in fact events for those who study the process metacognitively, not for those who experience it by "centering" their attention on content and not on process.

<sup>28</sup> We will do this when we deal with the criteria for differentiation, which can then themselves become differentiated content (there also being something that, if we loved puns, we could delineate "differentiation of the same criteria").

being simply equivalent to the expression "presence (intentional, implied) to consciousness" or *encounter*<sup>29</sup> of "something" of a "content" of a "reality" etc. Certainly it remains to justify the use of cognitive language for facts usually placed in a phenomenological context, and we will try to provide such justification later (II.3). For the moment we would like to avoid this misleading and leading to the assumption that facts customarily considered non-cognitive but significant are excluded from our consideration. A usual distinction, in fact, as we know (cf. I.2), contrasts "cognitive" and "affective" processes in psychology: in the course of these pages, however, we will try to show the non-essentiality of this distinction in certain contexts, because they seem to us to be two different aspects or manifestations of a single psychic reality. We will refer to this hypothesis as "monistic."<sup>30</sup>

## 2. The process of signification

We have so far described meaning as presenting itself or "meeting something" to a subject's consciousness. This formulation is evidently affected by our metacognitive position, that is, the impossibility of describing a content of thought without splitting into a mind that thinks something and a mind that thinks the other mind, a situation that has been the torment of philosophers for centuries. In this way of posing the problem we get the distinct feeling that thought "presents itself" as something foreign to ourselves (this is what, carried to the extreme, in schizophrenic patients leads to dissociation) and we may come to wonder whether the authors of our thought are really us.

In fact, at any moment of our lives, we have the static impression of *being* in a situation, of *encountering something*, without being aware of the continuous choices we somehow make by opting for one "encounter" rather than the other. Psychoanalysts grasp precisely this fact when they interpret all behavior as a sequence of facts of which one is only minimally aware, and behaviorists, in this regard, speak of "habits" for mental processes as well precisely because this presents some analogy with automated behavioral activities (think of driving a car), that is, with situations in which one is aware of performing a given activity altogether, without being aware of the sequence of intermediate steps, without perceiving its dynamic character, of continuous choice.

In our view, the most advantageous way to conceive of mental activities is to place them in a temporal dimension. Time is perhaps a psychic fiction, an abstraction constructed from the presence, as content, of a series of presences in succession, but it cannot be denied that it is the only constant reference parameter of our "internal" reality, just as space is for the external one (cf. Musatti, 1964, pp. 124 and 151). In this way we can overcome the antinomies originated by the decomposition of thought into *content* (cognitive) and *presence* (metacognitive), that is, between immediate and mediated aspects of cognition.

Mental life can be drawn, then, as a succession in time of stages *different* from one another, a continuous flow of the presence or *encounter* of ever-changing *contents*, among which can be found the contents that speak of the previous presence and of the still previous one, as in a series of endless Chinese boxes.<sup>31</sup> This continuous succession over time of modifications of the "quid" that is present to consciousness constitutes a *process*, which can be called "meaning-making" or, more simply, *signification*.<sup>32</sup> The process of meaning-making is a process of the construction of meaning.

The use of the concept of "process" in psychology can become an abuse, that is, a very convenient but empty formal label to mark very different facts without actually saying anything about them. In our case, however, such use is meant to testify to the adherence to a dynamic conception of cognitive facts, contrary to the tendency, peculiar to the linguistic point of view or to the philosophy of language, to hypostatize concepts such as "sign," "symbol," and the like, to make them static entities (not to mention the ancient tendency of gnoseology to speak in terms of "faculties").

It seems to us that a "psychological" point of view cannot limit itself to fielding entities or "mental activities" on which to play in the abstract, but must take into account, in its inevitable abstractions, the particularities inherent in our status as living and thinking beings, whose life is not conceivable outside a temporal dimension, being protagonists of continuous modifications and continuous choices. For these reasons, a closer examination and - if necessary - a redefinition of the concept of "process," so peculiar to the biological sciences in general, seem to us

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<sup>29</sup> This phenomenological term was taken up by Metzger, 1941. Note how one cannot describe the "something," that is, the central aspect that characterizes experience, without resorting to spatial or physical metaphors such as "content," "object," etc. On this spatialization of mental activity, in addition to the aforementioned Metzger, see Musatti (1964).

<sup>30</sup> This is, of course, a monism related to the realm of the mental, and has nothing to do, therefore, with monism opposed to mind-body dualism.

<sup>31</sup> The model, to which we have already referred, by Matte Bianco (1974) suggestively conceptualizes the question of the *limits* of thought and self-transcendenza in terms of logic and set theory.

<sup>32</sup> The distinction between *meaning* and *signification* corresponds to that which can be posed between thought as *thought content* and as the *process of thinking*. These two aspects are only the two sides of the same coin, for there is no process of thinking that is not thinking about "something" and conversely there is no "something" in the mind that is not produced by a process.

the most appropriate starting points even for a conceptual analysis of cognitive problems.

If we agree on this characterization in terms of the temporal "process" of *signification*, the next step is how to characterize in appropriate conceptual terms this process, that is, how to define the variables involved in it. What is it that is modified in this temporal dynamic? Is it necessary to establish relationships between phenomenal changes in the succession of what is encountered and certain neurophysiological changes? And, again, in the relationship between the individual and the 'environment, is it necessary to establish relationships between what is "encountered" and what occurs on the "outside"?

The question, already touched upon, of the relations between psychic and physical reality emerges here again. Of course, we cannot directly address such a complex issue here, which, debated for centuries in philosophy, now also concerns the human sciences. For our purposes, whatever the solution of the dilemma, we need only the minimal acceptance of the existence of a correspondence of some kind between the two areas. Therefore, as long as we discard the two reductionist extremes, we will not discuss whether it is an interaction or correlation or isomorphism, etc.

To talk about this correspondence, we can initially employ formal concepts that can be used in both contexts. We can say, for example, that the changes we are dealing with involve *states*, physiological or psychical depending on which science is called into question, that is, what the criteria for the constitution of our object are (see 1.2). A *state* can be defined as the current mode of mutual connection of variable elements: it is the structural aspect of a process. It is an entirely formal concept, because it can refer to variables of any nature: a state could be the arrangement or speed of the molecules of a stone or gas at a certain time, as well as the combination of mental, or behavioral variables, etc.

When we move from one *state* to another, there is a mutual change of variable elements: such a change of state can be called a fact, an occurrence, an *event*. To refer to mental activity, we will prefer the term *event*, denoting by it anything that "happens within" us, or is encountered, as attested by introspection.

### 3. "Experience" and "knowledge": the differentiation hypothesis

We have already had occasion to observe that there is a typical tendency to consider "psychological meaning" to be a fact concerning only affective or emotional states. A similar tendency in philosophy has been expressed by a more or less clear-cut separation of the activity of *knowledge* (or *cognition*), which makes use of precise and definite conceptual categories, from a psychic state characterized by a kind of ineffability, inaccessible to the tools of logical thought, which has been defined in different terms but is adequately rendered by the terms "experience" or "lived" and the like.<sup>33</sup>

If these two forms of psychic life were completely separable, we would have to distinguish between two aspects of mental events or states: on the one hand, the set of variables that form *the lived* (events or states of experience) and on the other hand, the set of variables that give rise to *cognitive* activities (events and states of knowledge).

In fact, at a first intuitive analysis, it seems acceptable that everything that is known is also experienced, but not the reverse. It seems that there are strong tendencies to consider some mental events only felt, experienced, encountered, but not known. If we accepted such a distinction, we would have to break psychic reality into two parts, what is directly *encountered* on the one hand, and what is only *represented*<sup>34</sup> on the other (a duality found, with different nuances, in multiple contexts: experienced and known, immediate and mediated, affect and intelligence, feeling and reason, ... and so on), renouncing the hypothesis we defined above of *monism*.

The perplexity that the distinction between "immediate" and "mediated" induces, is related to the obvious fact that in the temporal flow of events, in the sense in which they have been characterized here, everything is *immediate*, even that which pertains to previous events as their own "objects" or "content" (and for this reason it should be replaced with the distinction between aspects, of equal immediacy, "cognitive" and "metacognitive"). If one continues to distinguish between experience and cognition, in our view, one risks losing the main advantage that can induce one to turn to the introspective method (a method that is not at all convenient and difficult in so many ways), namely, the advantage of having at one's disposal a continuous presentation of something to consciousness, which, through verbalization and appropriate confrontation, as we shall see, can form one of the bases of intersubjective agreement.<sup>35</sup>

The *encounter* of something, then, is always a *presence* to consciousness. The only distinction that can be made is in the *level* of consciousness (corresponding also to the neuropsychological distinction, taken up by cognitive

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<sup>33</sup> In behaviorist circles, the term "experience" is used in quite a different sense, being considered a discriminative *response* (Stevens, 1935).

<sup>34</sup> Metzger (1941, pp. 33-34) considers the "encountered" autonomous from the "represented." He states, "One may know that one is faced with an intensely lit dark gray sheet of paper, but under certain conditions this will not be able to prevent one from being faced with a dimly lit white sheet of paper." We agree, as long as we recognize that that "being in front of" is already knowing to a certain extent.

<sup>35</sup> Psychoanalysis, too, to arrive at the interpretation of the manifest adopts a similar point of view, with the method of *free associations*, letting the events of consciousness "flow" as they occur and then intervening on them metacognitively.

psychology, between levels of vigilance or *activation*; cf. Benedetti, 1969; Berlyne, 1960). The hypothesis we propose is, therefore, the following: in every mental event an aspect of *experience* (in the aforementioned sense of introspective *encounter* of meaning) can always be identified, to which corresponds an aspect of *knowledge* (or cognition) varying between a minimum and a maximum value. In other words, given for granted that every psychic fact has the dimension of experience, different degrees of cognition may correspond to it, from the confused and minimal which we shall call *undifferentiated* to the lucid and precise which we shall call *differentiated*. What differentiation entails is the establishment of diversity among events in their becoming states, which gives rise to increased complexity and structuring. The concept of "differentiation" is borrowed from biology, where it indicates, in a process, the increase of the constituent elements, the diversification of the specific functions of each of them and their relations with others.

The two extremes, from undifferentiation to differentiation, mark the limits of the process of *signification*, which we can now regard as a temporal sequence of events, each of which possesses specific and distinctive qualities with respect to the others, being "that" and not another.

A more precise definition of the contours of this process will probably have to be left to experimental research to be specially developed. For the time being, we can present it as a working hypothesis constructed for the purpose of pointing out that meaning *cannot arise from nothing*. It is not the same thing, despite appearances, to consider the highest level of undifferentiation as the "absence" of meaning or as an indistinct and unarticulated "presence," since the second way of posing the question succeeds in providing a conceptual dimension of positive polarity.

This can also highlight another issue: is differentiation a development and articulation of something that *is already there* at the undifferentiated level, or is it a *construction*? Do the continuous choices that are made concern more differentiation alternatives of an undifferentiated original, or do they also concern the emergence of the undifferentiated itself? We will attempt an answer to these questions later (III.2).

The first to use the term *differentiation* was K. Lewin (1935), to indicate the increase in the number of regions in the person when topological spaces specialize their functions and become independent. The concept was taken up by Werner (1957) who highlighted its derivation from embryology, where it is used in the sense of not only quantitative but especially qualitative development (increase in structural complexity and variety of functions). Werner was also credited with first applying this concept to the study of the development of the thought process ("microgenesis"). Other authors later took up the concept of differentiation, including in the context of systems theory, viewing it as an increase in complexity of a system's structure with specialization of subsystem functions (Witkin, 1962; Bertalanffy, 1968).

The differentiation hypothesis of meaning also finds support in the theory that L.S. Vygotsky (1934) developed of *meaning*. This scholar, posing the problem of establishing a link between individual thought and its linguistic expression, identified this link precisely in "meaning." When we speak, he states in essence, we do not refer to a single thing, but usually express a concept, that is, the result of a generalization. It is, this, "the most specific and authentic act of thinking" (Vygotsky, 1934, pp. 23 and 149-150). For Vygotsky, then, thinking consists of processes of generalization and he explicitly states that the latter is equivalent to meaning. Reciprocally, a word that has no meaning is empty sound: thus meaning is a constituent part of language as well. It is, therefore, "a phenomenon of thought only insofar as thought is embedded in the word. Conversely, it is a phenomenon of language only insofar as language is connected with thought and is illuminated by it. It is a phenomenon of semantized thought or conceptualized language; it is unity of word and thought" (*ibid.*, p. 150). In this way, according to Vygotsky, thought and language are two aspects of the same process and the structuring of one is closely related to that of the other.

If one accepts these assumptions, at a very early stage of the thinking process one is not fully aware of what one means first and foremost to oneself, that is, one does not have the presence of something precise, logical, categorical, which is structured according to the complex syntactic patterns typical of language. Vygotsky equally considers this level "linguistic," speaking of inner language, and believes that it is by nature similar to outer language, that is, made up of words<sup>36</sup> from the outer language the inner one differs only in the level of complexity, in that it contains linguistic forms that Vygotsky calls "predicative" in nature, that is, the essential elements that make an idea "that" and not another, which will have to be developed in a coherent and logical form so that such an idea does not remain "elusive" and is not overwhelmed by others but, instead, can be understood and fixed "for itself" even before it is, eventually, communicated.

Hypotheses similar to this have been adopted more recently by cognitivist authors such as Halle and Stevens

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<sup>36</sup> These words can be considered mental representations and even precise, imperceptible physiological contractions of the laryngeal muscles. A ingenious experimental study (Hardyck and Petrinovic, 1970) would show that the acquisition of comprehension, as an index of semantic acquisition, is in direct correlation with the existence of subvocal speech, detected by electromyographic recording. We do not engage here, however, in a controversy whose resolution is not essential to our model.

(1962), according to whom the perception of a message implies the operation of internal comparison patterns equal to those that the receiver would have used to produce the message himself, and such as Sperling (1967), who speaks of *rehearsal*, an internal repetition that facilitates memorization.

### III. NOMOLOGICAL ASPECTS OF SIGNIFICATION

#### 1. Relations between events and the problem of unification

In the previous part, we considered meaning to be a process consisting of the continuous transition from one introspective state to another, that is, a series of events of a pre-linguistic and more or less differentiated nature. This, however, seems to contrast with the introspective experience itself, to which we alluded earlier, of the "oneness" of meaning, of the feeling of "being" at all times in a single meaningful psychic situation. The transition from one state to another, evidently, is never immediately present to consciousness, is never directly *encountered*, but only when one reflects on some events that have already passed, and in their flow a group is isolated (the extent of which is just as arbitrary as that of psychic time) that takes on the characters of the complex, of the whole (or, if one prefers, of Gestalt). Thus, reflecting on what has presented itself as meaningful (i.e., at a metacognitive level) we isolate structures in the process.

The fact that meaning is always *unique*, i.e., that only one thing can be thought of at a time, leads one to hypothesize a tendency to experience immediately (in a logical, not temporal sense) and already metacognitively the flow of dynamic encounter processes as *events*. Then, at a second degree of metacognition, when their specific content is no longer grasped but their diversity from previous and subsequent ones is caught, the structuring and crystallization into *states*, with articulation and placement in time, would take place. It is difficult, however, to specify the priority of the dynamic or the structural aspect because, depending on the side from which we consider it, one and the same encounter may always be an event that can be inserted into a new state to form a more complex structure, or, conversely, it may be a state that is related to another encounter and thus, automatically, from the relation transformed into an event.

It is clear, however, that the transformation of an event into a state has a stabilizing effect because of the permanence of content in a precise form, and thus because of the presence of meaning (whereas, on the other hand, any transformation into an event of already crystallized structures calls into question the perceived meaning).

This process of constructing events into states, that is, of placing them in a logical and coherent form, stable in time, supposes an articulation and structuring of several variable elements, that is, it supposes *differentiation*. And, as we have seen, differentiation supposes a choice of certain contents rather than others, a grouping, a unification of some elements rather than others, and this is what accounts for the fact that the articulated "something" is "that and not another."<sup>37</sup>

This highlights the importance of establishing the nomological aspects related to the relationships between events, and in particular of answering the question: which events can be connected to each other in the differentiation of meaning?

Classical linguistic theory, by stating that 'signs' combine with each other at various levels (phonological, morphological, syntactic), posed the problem of the level at which to locate the 'minimum units of meaning' (an example of a solution is the concept of 'moneme' by Martinet). The theory of *information* reached a similar problem. Due to its engineering nature (originally having to manipulate physical facts such as electrical signals, impulses, etc.), it had the need to transmit as many 'meanings' as possible with the fewest physical facts. For such transmission, a unification of individual elements (physical facts) different from the usual linguistic one was necessary, and therefore the problem of the relationships between the physical facts used for this purpose arose. In this way, we moved to the concept of 'information'.

It is interesting to examine the concept of 'information' more closely because it has also been used to talk about cognitive facts, by transferring the model of the unification of signals (physical facts) to the unification of different variables (linguistic signs, stimuli, mental events in general).

As is known, given a series of facts in succession, there is more *information* the less a certain fact (or group of facts) was predictable with respect to the previous ones. That is, there is a situation of 'uncertainty' in which the new fact is inserted, which is all the more informative the more alternatives it reduces or the fewer possibilities of choice it leaves. 'Information', therefore, is not equivalent to 'meaning', because what provides the information does not derive from the properties of the fact, from the qualities that make it 'that' and not another, but only from its probability of appearing in relation to others. Certain facts follow others not because of their particular qualities but because in the total situation their occurrence has a higher probability than the occurrence of others (Weaver, 1949).

Information theory, therefore, views the unification of facts into structures (and, when applied to our

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<sup>37</sup> It is no coincidence, perhaps, that the word 'sense' in everyday language is both synonymous with 'meaning' and also indicates a 'direction'.

psychological model, of *events* into *states*) as initially due to chance. Each element or variable is considered formally indifferent to the others and can potentially combine with any of them.

In the context of information theory, Garner (1962) distinguishes between two concepts of 'meaning', depending on whether or not it presents 'measurable' aspects, that is, between *meaning* and *signification*. The former is defined as 'the totality of relations between events'<sup>38</sup>, that is, a 'structure': it is a formal aspect, which does not depend on individual events and is measurable; *signification*, on the other hand, is defined as the series of equivalence relations or associations that an event can have (such as the series of synonyms that a dictionary can provide), and as such cannot be measured. While *meaning* is, when considering events in a *complex*, the *degree* of connection between the events themselves (measurable because what is more structured leaves fewer possibilities of choice), Garner rightly says that meaning as signification cannot be measured, since only the degree of ambiguity of an event would be measured (in the case of words, for example, the one that leads to more associations because it is more ambiguous would be more significant!). Illusory, therefore, is the attempt of Osgood (see 1.2) who provided, with the 'semantic differential', only a measure of the quantity of associations that a term as a stimulus is able to produce.

To know more about what interests us, that is, why precisely a certain connection between events and not another is 'sensible', it is necessary to consider the relations between events not in the complex but from the point of view of the single event, of its capacity to unite with others (a level that Garner defines as 'signification'). The degree of overall structuring, then, takes its meaning from the fact that certain events can unite and others cannot, and thus we arrive at the conclusion that events cannot be considered indifferent to each other.

It cannot be excluded, of course, that what determines the appearance of a particular event and not another also lies in the 'context', that is, in the complex of events that occur together with the one considered, which in a temporal dimension can be considered everything that precedes the appearance of the event itself. However, the probability that a certain event will occur also depends but *not only* on what is already known (i.e., on the previous state).

The probabilistic relationship between the already present context and the new element has been studied by reconstructing the various 'orders of approximation' to a language, with the '*guessing game*' of Shannon, used by American psycholinguists such as Carrol, Miller, and others. When this model was to be transferred to the perceptual field, it became more evident that without Gestalt theories these problems are insoluble.

A well-known article published in 1954 in the 'Psychological Review' (Attneave, 1954) intended to demonstrate that even in a perceptual field one can speak of 'redundancy', through the experimental reconstruction of this field with the guessing game. This redundancy would be detectable with a *scanning*, or exploration of the picture point by point, associated with the formulation of hypotheses about the color or lightness of individual points. The points where the hypothesis is wrong are those where 'information is concentrated' (because the variation of a certain characteristic in these points was not foreseen). But it happens that the errors are fewer than those that could be predicted if the choice were purely random: it is therefore said that this perceptual field has a certain 'redundancy' (which could correspond to the 'structure' of Garner).

What is interesting is that this concentration of information occurs along edges, contours, etc., in such a way that the field is structured according to laws of continuity, pregnance, regularity, etc.... just as the Gestalt has maintained. Moreover, even if a characteristic were distributed randomly (i.e. if each point had a 0.50 probability of being white and a 0.50 probability of being black independently of the others), a *texture* would be perceived with a certain redundancy, despite the probabilistic character with which the field was constructed. In fact, despite the random element, a *regularity* is perceived, which in the last case is due to a statistical regularity (constant probability).

## 2. The determination of the undifferentiated event

Therefore, at this point, we can state that what makes unification meaningful is a regularity, a homogeneity, which depends, of course, on the knowledge 'of the rest' (of the context) but which equally depends on the peculiar properties of each new event, 'compared' in some way with those of the context.

If events are 'capable' of uniting in one way and not in another due to their 'intrinsic properties', we can deduce that at the level we have defined as 'indifferentiation' there is already something and that differentiation is only a precision and articulation, a 'discovery' rather than a creation *ex nihilo* or an 'invention'. But the problem is only shifted. How, then, does the 'invention' of the event occur at the level of indifference? Why is it already 'thus and not otherwise' at this level?

There are two important deterministic conceptions of mental activity in psychology: for behaviorists, thought is a response set in motion by environmental stimuli; for 'dynamic' psychologists (such as psychoanalysts), it arises

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<sup>38</sup> Here, 'event' does not have our specific connotation but can encompass it, as it can refer to everything that happens.

as a result of the energetic action of internal motivations<sup>39</sup> very close - as we have seen - to the biological level. In the first case, the mental event would arise in conjunction with 'state changes' that occur in the physical environment, transmitted through the sensory organs; in the second case, the event would be the manifestation of 'state changes' in the energetic dynamics of drives, or, if one accepts assumptions of correspondence between mind and body, in the functioning of the nervous system or the endocrine system, etc.

However, it seems to us that there is a third possibility: we can hypothesize that mental events arise with peculiar properties in relation to a continuous spontaneous mental activity, on whose determination nothing can be said and which must be taken for granted, the course of which is *oriented* by external stimuli or by what is called 'motivation', but is not *determined* by such factors.

The importance of 'external' and 'internal' stimuli is beyond question: the well-known experiments on 'sensory deprivation' (Bexton, Heron, Scott, 1954; cf. Berlyne, 1960) have demonstrated the need for continuous sensory stimulation and, on the other hand, the experience of 'rumination', that is, the continuous repetition of a cycle of thoughts, is characteristic of situations, such as falling in love, etc., with a strong motivational component. However, the decisive influence of such factors in the orientation of the course of thought should not lead one to believe that they actually determine it, as is evident in cases of sensory deprivation where hallucinatory states and mental disintegration occur but not the absence of thought. Since, on the other hand, the variable 'motivation' cannot be controlled by suppressing it, one can continue to believe that it is the 'true' determining factor: at this point it is only a matter of personal faith. To us, the one we have proposed seems to be the only solution that allows us to recover the dimension of 'will' in mental facts and that allows us to consider man as the 'author' of his own thought.

#### IV. INTERSUBJECTIVITY

##### 1. Differentiation and conceptual construction: relationships between the 'equal' and the 'different'

As we have seen, all theories of meaning, from linguistic theory to information theory, must eventually confront the problem of the relationships between the overall event and its components. The conclusions we have reached about the unification of structures into events that occurs during differentiation should now be clear: events are not *indifferent* to each other, meaning is not something external that unites elements that 'in themselves' could be connected in any way.

If events, therefore, are connected to each other by virtue of their peculiar characteristics, how are these characteristics 'compared' for a unification to be 'meaningful'? The simplest answer is that events unite when they have something in common, that is, they resemble each other. However, similarity is not always given by having 'something in common', nor does having common elements always lead to similarity (consider the example, typical of some Gestalt theorists, of masked figures). Similarity concerns a 'logical relation', since common parts in different contexts can have a different 'functional role'.

Western thought, since Aristotle, has been accustomed to 'abstracting', to extracting partial identities from similarities (and thus to decomposing). As Bruner (1956) says, we are more accustomed to reasoning that proceeds by *conjunction* than to that which proceeds by *disjunction*.

Lewin (1935) also criticized this approach and attempted an alternative. According to his point of view, we should not proceed (as Aristotle did) by grasping identities through abstraction, but we must 'constructively' seek the conditions that make unification possible. The 'constructive' or 'genetic' method (as he defines it), therefore, consists in abandoning the 'classificatory' method, which groups by similarities or identities. Instead (Lewin, 1972), the unification of events can be explained by looking for the way in which they are produced or derived from each other (just as in geometry figures are not classified by similarity but according to how they are generated starting from certain 'constructive elements' and using well-defined conceptual dimensions).

We will not go into the details of Lewin's proposal here, which in other respects encounters several difficulties (e.g., when he inserts topological schemes to explain structuring). What matters now is that identity may not play a truly essential role in the structuring of events. It follows that it is not always possible to speak of the inclusion of a certain event in a class of similar events only on the basis of the presence or absence of a *discriminating* attribute.<sup>40</sup>

If we try to place ourselves at the extreme pole of the process of *signification*, that is, at the moment we have

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<sup>39</sup> Motivation' can be roughly defined as 'everything that drives us to act or think in a certain way,' and refers to needs, drives, desires, etc. In our case, it is sufficient to highlight the fact that we can resort to such factors to explain the origin of thought, but it would be out of place to examine in detail what all the identifiable motivational factors may be and how they may act.

<sup>40</sup> In this regard, Metzger (1941) points out that the membership of a concept in a class is not always psychologically related to the presence of a certain attribute: what mathematically is a 'rectangle' of dimensions 1 x 50, psychologically is a 'strip'. Moreover, it should be remembered that abstraction leads to atomization, to the search for the most 'elementary' element to which a certain attribute is attached, something impossible if one considers that even the smallest part of a whole is in its own way a 'Gestalt', that is, a form, a configuration, and that in any case the same property, as we have seen, has a different meaning in different contexts.

defined as semantic 'indifferentiation', it is evident that the most elementary distinction that can be made is that between events *for some aspect* (which there is no need to specify) *different*. In fact, to say that events are for some aspect equal necessarily implies specifying what this aspect is that unites them (cf. Watzlawick, Beavin, Jackson, 1967, p. 21).

*Diversity*, therefore, is what *immediately* emerges in an undifferentiated continuum. But conceptualization, articulation, precision, do not consist precisely in 'organizing' this diversity in order to speak about it using the categories of equality?

It is evident, therefore, that in the process of semantic *differentiation*, the simple, immediate exclusion of the 'different' (which we can call *digital* or binary because it is of the type 'yes-no') is not enough. The 'different' that can be excluded in a digital manner can encompass a whole series of events in a state of indifference, of globality (implicit): it can encompass a 'continuum'. If, instead of making the choice to exclude it at the level of indifference, we include it in the field of consciousness and want to 'talk about it', we must enter into this continuum, in a - so to speak - analogical way (cf. Wilden, 1972), and that is to differentiate (in whole or in part) the structure of events.

At this point, it is advantageous to utilize some conceptual models from cognitive psychology. In particular, we find it useful to resort to a specific unifying psychological process, *attention*, which can be adapted to the context of our hypothesis of differentiation<sup>41</sup>. An event has its (digital) limit in being excluded from the field of attention or in being included even at an undifferentiated level.

In the first case, it can be hypothesized that it remains undifferentiated in the memory - depending on the case - in the short or long term (Broadbent, 1971), with the possibility of being retrieved within these limits. If, on the other hand, the field of attention is focused on it, it can be differentiated by extracting, from the global continuum that constitutes it, other events, as in a Chinese box. In this way, an articulated meaning can be 'constructed', not starting, as for Lewin, from pre-established parameters, but allowing *different* elements to be grasped in the flow of the undifferentiated and for a parameter or a system of reference to be spontaneously fixed from time to time for the structuring of this sort of primitive 'inner language' in all its nuances.

This parameter is the 'rule' of structuring, and it too, like events, can only be grasped metacognitively, 'after the fact'. Since unification occurs, as we have seen, as a function of the overall meaning, it can be said that it is not what is similar that unites, but rather what unites becomes similar because, by virtue of certain of its particular characteristics or properties, it has complementary logical functions in the articulated whole.

## 2. The process of understanding and communication

So far, we have characterized meaning as something that emerges from a process (of differentiation of events) that seems to remain exclusively at the level of the subject. But we started by observing that the problem actually arises especially in communication situations. Does the model of the signification process described here explain intersubjectivity or is it confined to the minds of individual individuals?

We have had the opportunity to observe that mental events arise from the relationship with the external world, when they arise in conjunction with physical events, or derive from the "interpretation" of what we have defined as "internal stimuli". Given this, it remains to be specified that those physical "events" are not all of the same kind, because, if we remember what was said in the first part, among them are also included the events provoked by other human beings, and there is a strong temptation to consider the "norms" of their structuring, and therefore their meaning, on the same level as the physical events whose particular structuring is due to "laws of nature".

In the first case, in fact, even if the norm may consist of a linguistic convention, it is necessary to take into account the fact that there is the "intention" to communicate something, that is, that a human being provokes a certain event in order to achieve a certain effect on another. Now, while the risk of attributing to purely physical events the structuring norms that would be appropriate for those "provoked" by man (semioticians would say "mistaking signs for clues") is negligible, which can only be interesting in the case of some animistic conceptions of nature ("things speak to us") and in the study of egocentric language in children, the opposite risk, of taking "signs" for "clues", that is, of considering facts provoked for the purpose of communicating as simple natural physical facts, can be very relevant. Information theory, for example, due to its already mentioned engineering origin, does not make such a distinction and faces a linguistic sequence, or even of behaviors, as if it were any physical fact.

Let us now look at the other side of the coin, that is, the communicative act from the point of view of the subject

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<sup>41</sup> The concept of *attention*, after an initial development at the origins of psychology (see the concept of 'apperception' in Wundt, and some research, even experimental, in the context of the Titchener School, or Pauli's experiments on the limitation of the field of consciousness) was abandoned for a long time, probably due to the aversion manifested against it, as we have seen, by the Gestalt theorists, but also and above all by the behaviorists who considered it a mentalistic concept because it refers to consciousness. In the 1950s there was a resurgence of interest in this concept on the part of experimental psychology (see section 1.2 for cognitive theories on attention).



who performs it. Our hypothesis is that, even before being a communicative act *for others*, it is a cognitive event, a kind of awareness of meaning *for oneself*, which consists precisely in the "differentiation" of which we have spoken. This is in agreement with the point of view of the Palo Alto school (or "pragmatics of communication") according to which not only can any behavior be considered a communication, but one can also speak of a communicative relationship "with oneself" (Watzlawick, Beavin, Jackson, 1967, p.42, n. 1). In order to be communicated to others, events will be transformed into physical events, for example by being made part of observable behavior with appropriate modifications or by manipulating physical objects according to a model or code. The understanding by an observer will consist in the "interpretation" of such events, that is, in their transformation into new mental events through a new process of "signification".

So there isn't 'the' meaning but 'a' meaning? In fact, meaning always concerns a subject, but then, due to the nature of the reality that gives rise to events (both physical and psychological), and due to our ability to make them uniform and conform to pre-existing models, it is in fact very similar in multiple subjects.

The aspect of uniformity or "normalization" of semantic perception, that is, of its being referred to "normal," "customary," "adequate," etc. schemes, is part of the same process of differentiation: as meaning differentiates and becomes logically precise, it also becomes more adherent to particular models accepted by the community.<sup>42</sup>

One of the foundations of intersubjectivity, therefore, will be in the analogy of the differentiation of events related to the same area of reality by two individuals through the adoption of common parameters. Therefore, it has introspection at its origin, but it seems now beyond doubt that even the premises and postulates of operationalism have never been able to entirely escape the "subjective" moment of knowledge or perhaps, at least from our point of view, have only highlighted the need to establish *how* an interpretation in "objective" terms can occur. If, in fact, one cannot delude oneself into escaping the fact of the ultimate subjectivity of knowledge, from a psychological point of view it is necessary to seek the foundation of the intersubjectivity of cognition and semantic understanding in a "unique," normative "interpretation" of the range of possible differentiations of mental events as a function of complex environmental and "intrapsychic" stimulations.<sup>43</sup>

What is intersubjective, therefore, is not the event but the protocol, that is, its differentiated account for oneself and expressed in linguistic form. For example, do two men perceive *the same* red? It is absurd to ask such a question, as it seeks to investigate two incommensurable dimensions, that of the cognitive event and that of the metacognitive event. If one of these men asks himself this question, he begins to think (metacognitively) about his perception of red and begins to differentiate it as much as possible through linguistic parameters, associations ("red" as...), etc., and it is exactly this process that will lead him to find criteria such that it is possible to obtain an operational comparison with the analogous differentiation carried out by the other, until an agreement is reached.

This agreement does not at all disregard subjective experience, but is only the result of the acceptance of common parameters of differentiation of such experience, since at the undifferentiated level (even verbally) it is absolutely incommensurable with any other.

Making this differentiation explicit at the metacognitive level is at the same time a new event, but one cannot fear in practice that even for this a specification of criteria and an agreement is necessary: this would be necessary only if this new event contained new aspects ("different" in the same) to be differentiated (e.g., when investigating the affective or emotional aspects of a scientific communication), that is, only if the interest, the "focus of attention" were specifically directed towards it.

The fact that every differentiation is initially an emergence of the *different* within the same is exploited in scientific inquiry to arrive at an objective 'constating': I cannot ascertain the subjective experiences of another, but when it comes to agreeing to talk about anything, there must be a common agreement on the 'being' or 'non-being' of a determination, the exclusion of different determinations, the equating of two determinations as equal. The criterion that allows for intersubjective understanding, moreover, can be explicit, when it is made directly the object of differentiation, or implicit, that is, shared by speakers without reflection on it.

These hypotheses also present an applied interest, not only in the cognitive field, with regard to scientific creation and creativity in general, but also in the clinical field. Differentiation, as we have seen several times, involves a selective aspect (definable in terms of 'attention') that leads to including one event and excluding others. This process can function at the cognitive level (with the possibility of being grasped later at the metacognitive level) or there may be immediate metacognitive interference, that is, a conscious control over differentiation.

In the first case, differentiation will be an automated, spontaneous, or - if you prefer - unconscious process (in the sense specified in I.2). In the second case, we will have a metacognitive interference in differentiation, which in practice always achieves the result of blocking it: thinking about a process blocks the process itself, just as control

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<sup>42</sup> As for the status of these pre-existing models, whether they are to be attributed to *innate* structures (e.g., the tendency towards the perception of 'good forms') or whether they are *learned*, perhaps corresponding to an agreement on how to interpret events univocally (e.g., the linguistic code), this is a very important problem, but it cannot be explored in depth here.

<sup>43</sup> The latter case is important especially with regard to the possibility of founding psychology as a science.

blocks spontaneity. This can explain the greater effectiveness in certain contexts of non-verbal communication (which, being less differentiated, can more successfully avoid suffering metacognitive interference) or why not saying but "making understand" indirectly is sometimes more effective, paradoxically, than articulated and differentiated communication (because it leaves greater scope for differentiation for the receiver: this almost always happens for what is called "affective" content)."

## Conclusion

In conclusion, we would like to mention some problems implicit in the theses we have been presenting so far.

When one hears of a "psychological" point of view on semantic problems, one suspects that it inevitably leads to psychologism, or to innatism or finalism. However, it does not seem to us that it is an automatic fact, when doing psychology, to "reduce" every cognitive fact to psychic or mental activity, unless one considers this conceptual model to be the *only possible one*, while it is only one of the possible epistemological schemes, as we have tried to show in the course of the exposition, equivalent to that of logic or neurophysiology, etc., and which conceptualizes facts from its own point of view. Moreover, we would not want to give rise to the misconception that our assertion that meaning consists in the cognitive process led one to believe that from our point of view knowledge is exhausted in psychic activity and does not concern real objects: it is evident that we have not at all asserted this, because the term that we have proposed (event) refers to the presence in psychic reality of "something" that owes its characteristics to the peculiar properties of the "external" structure with which we come into contact *to the same extent* as the "internal" structure, and is the result of such interaction.

Nor do we think that the risks of innatism and finalism are inevitable in any psychological investigation of the problem of knowledge: we do not, however, assert that one perceives a certain meaning "because our mind functions in a certain way", or "because it is made to perceive certain contents", or by appealing to the existence of certain *structures* of mental functioning. We speak of a meaning that finds in itself, in its concrete differentiation, its own model of structuring, and that has at its origin a series of choices that are not determined but free. According to the point of view expressed in this research, an idea differs from another by virtue of its intrinsic characteristics encountered, without the need to resort to an external formal "scheme" that goes beyond the simple "process", that is, beyond the simple dynamic succession of events in the temporal dimension.

Our conception is both dynamic and structural. In fact, we have come to conclude that in the process of signification an event arises spontaneously or as a consequence of an act of will and then differentiates and structures itself, being oriented, in a non-random way, on the one hand by external stimuli and on the other by the context of all the other events that preceded it, preserved in memory, transforming them metacognitively into states of varying amplitude, depending on the adopted parameters.<sup>44</sup>

Such a dynamic seeks to escape the rigid determinism of some S-R or psychoanalytic models and the probabilism of cognitive models, while avoiding compromising their results, and seeks to make introspection not a simple "looking inside" but rather a "looking out while remembering to be looking", without forgetting, for the dazzle of immediate contents, that meaning is not an abstract link between signs but is the heart of interpersonal relationships between people who live by continually making choices and setting goals to achieve, who therefore place intentions in their cognitive acts for themselves and for others.

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<sup>44</sup> It is worth repeating that these parameters, norms, and rules of structuring are not 'underlying' structures of these phenomena but are either conscious choices (as in the case of 'chasing away' an unpleasant idea) or the result of metacognitive reflections on an automatic structuring in which, however, the intervention of consciousness is assumed at the moment of the creation of the automatism.

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