

Vygotsky Thinking and Speaking

7. Thought and Word

I

WE BEGAN our study with an attempt to discover the relation between thought and speech at the earliest stages of phylogenetic and ontogenetic development. We found no specific interdependence between the genetic roots of thought and of word. It became plain that the inner relationship we were looking for was not a prerequisite for, but rather a product of, the historical development of human consciousness.

In animals, even in anthropoids whose speech is phonetically like human speech and whose intellect is akin to man's, speech and thinking are not interrelated. A prelinguistic period in thought and a preintellectual period in speech undoubtedly exist also in the development of the child. Thought and word are not connected by a primary bond. A connection originates, changes, and grows in the course of the evolution of thinking and speech.

It would be wrong, however, to regard thought and speech as two unrelated processes either parallel or crossing at certain points and mechanically influencing each other. The absence of a primary bond does not mean that a connection between them can be formed only in a mechanical way. The futility of most of the earlier investigations was largely due to the assumption that thought and word were isolated, independent elements, and verbal thought the fruit of their external union.

The method of analysis based on this conception was bound to fail. It sought to explain the properties of verbal thought by breaking it up into its component elements, thought and word, neither of which, taken separately, possesses the properties of the whole. This method is not true analysis helpful in solving concrete problems. It leads, rather, to generalisation. We compared it to the analysis of water into hydrogen and oxygen - which can result only in findings applicable to all water existing in nature, from the Pacific Ocean to a raindrop. Similarly, the statement that verbal thought is composed of intellectual processes and speech functions proper applies to all verbal thought and all its manifestations and explains none of the specific problems facing the student of verbal thought.

We tried a new approach to the subject and replaced analysis into elements by analysis into *units*, each of which retains in simple form all the properties of the whole. We found this unit of verbal thought in *word meaning*.

The meaning of a word represents such a close amalgam of thought and language that it is hard to tell whether it is a phenomenon of speech or a phenomenon of thought. A word without meaning is an empty sound; meaning, therefore, is a criterion of word, its indispensable component. It would seem, then, that it may be regarded as a phenomenon of speech. But from the point of view of psychology, the meaning of every word is a generalisation or a concept. And since generalisations and concepts are undeniably acts of thought, we may regard meaning as a phenomenon of thinking. It does not follow, however, that meaning formally belongs in two different spheres of psychic life. Word meaning is a phenomenon of thought only in so far as thought is embodied in speech, and of speech only in so far as speech is connected with thought and illumined by it. It is a phenomenon of verbal thought, or meaningful speech - a union of word and thought.

Our experimental investigations fully confirm this basic thesis. They not only proved that concrete study of the development of verbal thought is made possible by the use of word meaning as the analytical unit but they also led to a further thesis, which we consider the major result of our study and which issues directly from the further thesis that word meanings develop. This insight must replace the postulate of the immutability of word meanings.

From the point of view of the old schools of psychology, the bond between word and meaning is an associative bond, established through the repeated simultaneous perception of a certain sound and a certain object. A word calls to mind its content as the overcoat of a friend reminds us of that friend, or a house of its inhabitants. The association between word and meaning may grow stronger or weaker, be enriched by linkage with other objects of a similar kind, spread over a wider field, or become more limited, i.e., it may undergo quantitative and external changes, but it cannot change its psychological nature. To do that, it would have to cease being an association. From that point of view, any development in word meanings is inexplicable and impossible - an implication which handicapped linguistics as well as psychology. Once having committed itself to the association theory, semantics persisted in treating word meaning as an association between a word's sound and its content. All words, from the most concrete to the most abstract, appeared to be formed in the same manner in regard to meaning, and to contain nothing peculiar to speech as such; a word made us think of its meaning just as any object might remind us of another. It is hardly surprising that semantics did not even pose the larger question of the development of word meanings. Development was reduced to changes in the associative connections between single words and single objects: A word might denote at first one object and then become associated with another, just as an overcoat, having changed owners, might remind us first of one person and later of another. Linguistics did not realize that in the historical evolution of language the very structure of meaning and its psychological nature also change. From primitive generalisations, verbal thought rises to the most abstract concepts. It is not merely the content of a word that changes, but the way in which reality is generalised and reflected in a word.

Equally inadequate is the association theory in explaining the development of word meanings in childhood. Here, too, it can account only for the purely external, quantitative changes in the bonds uniting word and meaning, for their enrichment and strengthening, but not for the fundamental structural and psychological changes that can and do occur in the development of language in children.

Oddly enough, the fact that associationism in general had been abandoned for some time did not seem to affect the interpretation of word and meaning. The Wuerzburg school, whose main object was to prove the impossibility of reducing thinking to a mere play of associations and to demonstrate the existence of specific laws governing the flow of thought, did not revise the association theory of word and meaning, or even recognise the need for such a revision. It freed thought from the fetters of sensation and imagery and from the laws of association, and turned it into a purely spiritual act. By so doing, it went back to the prescientific concepts of St. Augustine and Descartes and finally reached extreme subjective idealism. The psychology of thought was moving toward the ideas of Plato. Speech, at the same time, was left at the mercy of association. Even after the work of the Wuerzburg school, the connection between a word and its meaning was still considered a simple associative bond. The word was seen as the external concomitant of thought, its attire only, having no influence on its inner life. Thought and speech had never been as widely separated as during the Wuerzburg period. The overthrow of the association theory in the field of thought actually increased its sway in the field of speech.

The work of other psychologists further reinforced this trend. Selz continued to investigate thought without considering its relation to speech and came to the conclusion that man's productive thinking and the mental operations of chimpanzees were identical in nature - so completely did he ignore the influence of words on thought.

Even Ach, who made a special study of word meaning and who tried to overcome associationism in his theory of concepts, did not go beyond assuming the presence of determining tendencies operative, along with associations, in the process of concept formation. Hence, the conclusions he reached did not change the old understanding of word meaning. By identifying concept with meaning, he did not allow for development and changes in concepts. Once established, the meaning of a word was set forever; its development was completed. The same principles were taught by the very psychologists Ach attacked. To both sides, the starting point was also the end of the development of a concept; the disagreement concerned only the way in which the formation of word meanings began.

In Gestalt psychology, the situation was not very different. This school was more consistent than others in trying to surmount the general principle of associationism. Not satisfied with a partial solution of the problem, it tried to liberate thinking and speech from the rule of association and to put both under the laws of structure formation. Surprisingly, even this most progressive of modern psychological schools made no progress in the theory of thought and speech.

For one thing, it retained the complete separation of these two functions. In the light of Gestalt psychology, the relationship between thought and word appears as a simple analogy, a reduction of both to a common structural denominator. The formation of the first meaningful words of a child is seen as similar to the intellectual operations of chimpanzees in Koehler's experiments. Words enter into the structure of things and acquire a certain functional meaning, in much the same way as the stick, to the chimpanzee, becomes part of the structure of obtaining the fruit and acquires the functional meaning of tool. The connection between word and meaning is no longer regarded as a matter of simple association but as a matter of structure. That seems like a step forward. But if we look more closely at the new

approach, it is easy to see that the step forward is an illusion and that we are still standing in the same place. The principle of structure is applied to all relations between things in the same sweeping, undifferentiated way as the principle of association was before it. It remains impossible to deal with the specific relations between word and meaning.

They are from the outset accepted as identical in principle with any and all other relations between things. All cats are as grey in the dusk of Gestalt psychology as in the earlier fogs of universal associationism.

While Ach sought to overcome associationism with the determining tendency, Gestalt psychology combated it with the principle of structure - retaining, however, the two fundamental errors of the older theory: the assumption of the identical nature of all connections and the assumption that word meanings do not change. The old and the new psychology both assume that the development of a word's meaning is finished as soon as it emerges. The new trends in psychology brought progress in all branches except in the study of thought and speech. Here the new principles resemble the old ones like twins.

If Gestalt psychology is at a standstill in the field of speech, it has made a big step backward in the field of thought. The Wuerzburg school at least recognised that thought had laws of its own. Gestalt psychology denies their existence. By reducing to a common structural denominator the perceptions of domestic fowl, the mental operations of chimpanzees, the first meaningful words of the child, and the conceptual thinking of the adult, it obliterates every distinction between the most elementary perception and the highest forms of thought.

This critical survey may be summed up as follows: All the psychological schools and trends overlook the cardinal point that every thought is a generalisation; and they all study word and meaning without any reference to development. As long as these two conditions persist in the successive trends, there cannot be much difference in the treatment of the problem.

II

The discovery that word meanings evolve leads the study of thought and speech out of a blind alley. Word meanings are dynamic rather than static formations. They change as the child develops; they change also with the various ways in which thought functions.

If word meanings change in their inner nature, then the relation of thought to word also changes. To understand the dynamics of that relationship, we must supplement the genetic approach of our main study by functional analysis and examine the role of word meaning in the process of thought.

Let us consider the process of verbal thinking from the first dim stirring of a thought to its formulation. What we want to show now is not how meanings develop over long periods of time but the way they function in the live process of verbal thought. On the basis of such a functional analysis, we shall be able to show also that each stage in the development of word meaning has its own particular relationship

between thought and speech. Since functional problems are most readily solved by examining the highest form of a given activity, we shall, for a while, put aside the problem of development and consider the relations between thought and word in the mature mind.

The leading idea in the following discussion can be reduced to this formula: The relation of thought to word is not a thing but a process, a continual movement back and forth from thought to word and from word to thought. In that process the relation of thought to word undergoes changes which themselves may be regarded as development in the functional sense. Thought is not merely expressed in words; it comes into existence through them. Every thought tends to connect something with something else, to establish a relationship between things. Every thought moves, grows and develops, fulfils a function, solves a problem. This flow of thought occurs as an inner movement through a series of planes. An analysis of the interaction of thought and word must begin with an investigation of the different phases and planes a thought traverses before it is embodied in words.

The first thing such a study reveals is the need to distinguish between two planes of speech.- Both the inner, meaningful, semantic aspect of speech and the external, phonetic aspect, though forming a true unity, have their own laws of movement. The unity of speech is a complex, not a homogeneous, unity. A number of facts in the linguistic development of the child indicate independent movement in the phonetic and the semantic spheres. We shall point out two of the most important of these facts.

In mastering external speech, the child starts from one word, then connects two or three words; a little later, he advances from simple sentences to more complicated ones, and finally to coherent speech made up of series of such sentences; in other words, he proceeds from a part to the whole. In regard to meaning on the other hand, the first word of the child is a whole sentence. Semantically, the child starts from the whole, from a meaningful complex, and only later begins to master the separate semantic units, the meanings of words, and to divide his formerly undifferentiated thought into those units. The external and the semantic aspects of speech develop in opposite directions - one from the particular to the whole, from word to sentence, and the other from the whole to the particular, from sentence to word.

This in itself suffices to show how important it is to distinguish between the vocal and the semantic aspects of speech. Since they move in reverse directions, their development does not coincide, but that does not mean that they are independent of each other. On the contrary, their difference is the first stage of a close union. In fact, our example reveals their inner relatedness as clearly as it does their distinction. A child's thought, precisely because it is born as a dim, amorphous whole, must find expression in a single word. As his thought becomes more differentiated, the child is less apt to express it in single words but constructs a composite whole. Conversely, progress in speech to the differentiated whole of a sentence helps the child's thoughts to progress from a homogeneous whole to well-defined parts. Thought and word are not cut from one pattern. In a sense, there are more differences than likenesses between them. The structure of speech does not simply mirror the structure of thought; that is why words cannot be put on by thought like a ready-made garment. Thought undergoes many changes as it turns into speech. It does not merely find expression in speech; it finds its reality and form. The semantic and the phonetic developmental processes are essentially one, precisely because of their reverse directions.

The second, equally important fact emerges at a later period of development. Piaget demonstrated that the child uses subordinate clauses with *because*, *although*, etc., long before he grasps the structures of meaning corresponding to these syntactic forms. Grammar precedes logic. Here, too, as in our previous example, the discrepancy does not exclude union but is, in fact, necessary for union.

In adults the divergence between the semantic and the phonetic aspects of speech is even more striking. Modern, psychologically oriented linguistics is familiar with this phenomenon, especially in regard to grammatical and psychological subject and predicate. For example, in the sentence *The clock fell*, emphasis and meaning may change in different situations. Suppose I notice that the clock has stopped and ask how this happened. The answer is, *The clock fell*. Grammatical and psychological subject coincide: *The clock* is the first idea in my consciousness; *fell* is what is said about the clock. But if I hear a crash in the next room and inquire what happened, and get the same answer, subject and predicate are psychologically reversed. I knew something had fallen - that is what we are talking about. *The clock* completes the idea. The sentence could be changed to: *What has fallen is the clock*; then the grammatical and the psychological subject would coincide. In the prologue to his play *Duke Ernst von Schwaben*, Uhland says: *Grim scenes will pass before you*. Psychologically, *will pass* is the subject. The spectator knows he will see events unfold; the additional idea, the predicate, is *grim scenes*. Uhland meant, *What will pass before your eyes is a tragedy*. Any part of a sentence may become the psychological predicate, the carrier of topical emphasis: on the other hand, entirely different meanings may lie hidden behind one grammatical structure.' Accord between syntactical and psychological organisation is not as prevalent as we tend to assume - rather, it is a requirement that is seldom met. Not only subject and predicate, but grammatical gender, number, case, tense, degree, etc. have their psychological doubles. A spontaneous utterance wrong from the point of view of grammar, may have charm and aesthetic value. Absolute correctness is achieved only beyond natural language, in mathematics. Our daily speech continually fluctuates between the ideals of mathematical and of imaginative harmony.

We shall illustrate the interdependence of the semantic and the grammatical aspects of language by citing two examples which show that changes in formal structure can entail far-reaching changes in meaning.

In translating the fable *La Cigale et la Fourmi*, Krylov substituted a dragonfly for La Fontaine's grasshopper. In French grasshopper is feminine and therefore well suited to symbolise a light-hearted, carefree attitude. The nuance would be lost in a literal translation, since in Russian *grasshopper* is masculine. When he settled for *dragonfly*, which is feminine in Russian, Krylov disregarded the literal meaning in favour of the grammatical form required to render La Fontaine's thought.

Tjutchev did the same in his translation of Heine's poem about a fir and a palm. In German *fir* is masculine and *palm* feminine, and the poem suggests the love of a man for a woman. In Russian, both trees are feminine. To retain the implication, Tjutchev replaced the fir by a masculine cedar. Lermontov, in his more literal translation of the same poem, deprived it of these poetic overtones and gave it an

essentially different meaning, more abstract and generalised. One grammatical detail may, on occasion, change the whole purport of what is said.

Behind words, there is the independent grammar of thought, the syntax of word meanings. The simplest utterance, far from reflecting a constant, rigid correspondence between sound and meaning, is really a process. Verbal expressions cannot emerge fully formed but must develop gradually. This complex process of transition from meaning to sound must itself be developed and perfected. The child must learn to distinguish between semantics and phonetics and understand the nature of the difference. At first he uses verbal forms and meanings without being conscious of them as separate. The word, to the child, is an integral part of the object it denotes. Such a conception seems to be characteristic of primitive linguistic consciousness. We all know the old story about the rustic who said he wasn't surprised that savants with all their instruments could figure out the size of stars and their course - what baffled him was how they found out their names. Simple experiments show that preschool children explain the names of objects by their attributes. According to them, an animal is called *cow* because it has horns, *calf* because its horns are still small, *dog* because it is small and has no horns; an object is called *car* because it is not an animal. When asked whether one could interchange the names of objects, for instance call a *cow* *ink*, and *ink* *cow*, children will answer no, because *ink* is used for writing, and the *cow* gives milk. An exchange of names would mean an exchange of characteristic features, so inseparable is the connection between them in the child's mind. In one experiment, the children were told that in a game a dog would be called *cow*. Here is a typical sample of questions and answers:

Does a cow have horns?

Yes.

But don't you remember that the cow is really a dog? Come now, does a dog have horns?

Sure, if it is a cow, if it's called cow, it has horns. That kind of dog has got to have little horns.

We can see how difficult it is for children to separate the name of an object from its attributes, which cling to the name when it is transferred like possessions following their owner.

The fusion of the two planes of speech, semantic and vocal begins to break down as the child grows older, and the distance between them gradually increases. Each stage in the development of word meanings has its own specific interrelation of the two planes. A child's ability to communicate through language is directly related to the differentiation of word meanings in his speech and consciousness.

To understand this, we must remember a basic characteristic of the structure of word meanings. In the semantic structure of a word, we distinguish between referent and meaning correspondingly, we distinguish a word's nominative from its significative function. When we compare these structural and functional relations at the earliest, middle, and advanced stages of development, we find the following genetic regularity: In the beginning, only the nominative function exists; and semantically, only the objective reference; signification independent of naming, and meaning independent of reference, appear later and develop along the paths we have attempted to trace and describe.

Only when this development is completed does the child become fully able to formulate his own thought and to understand the speech of others. Until then, his usage of words coincides with that of adults in its objective reference but not in its meaning.

III

We must probe still deeper and explore the plane of inner speech lying beyond the semantic plane. We shall discuss here some of the data of the special investigation we have made of it. The relationship of thought and word cannot be understood in all its complexity without a clear understanding of the psychological nature of inner speech. Yet, of all the problems connected with thought and language, this is perhaps the most complicated, beset as it is with terminological and other misunderstandings.

The term *inner speech*, or *endophasy*, has been applied to various phenomena, and authors argue about different things that they call by the same name. Originally, inner speech seems to have been understood as verbal memory. An example would be the silent recital of a poem known by heart. In that case, inner speech differs from vocal speech only as the idea or image of an object differs from the real object. It was in this sense that inner speech was understood by the French authors who tried to find out how words were reproduced in memory - whether as auditory, visual, motor, or synthetic images. We shall see that word memory is indeed one of the constituent elements of inner speech but not all of it.

In a second interpretation, inner speech is seen as truncated external speech - as speech minus sound (Mueller) or sub-vocal speech (Watson). Bekhterev defined it as a speech reflex inhibited in its motor part. Such an explanation is by no means sufficient. Silent pronouncing of words is not equivalent to the total process of inner speech.

The third definition is, on the contrary, too broad. To Goldstein [12, 13], the term covers everything that precedes the motor act of speaking, including Wundt's motives of speech and the indefinable, non-sensory and non-motor specific speech experience - i.e., the whole interior aspect of any speech activity. It is hard to accept the equation of inner speech with an inarticulate inner experience in which the separate identifiable structural planes are dissolved without trace. This central experience is common to all linguistic activity, and for this reason alone Goldstein's interpretation does not fit that specific, unique function that alone deserves the name of inner speech. Logically developed, Goldstein's view must lead to the thesis that inner speech is not speech at all but rather an intellectual and affective-volitional activity, since it includes the motives of speech and the thought that is expressed in words.

To get a true picture of inner speech, one must start from the assumption that it is a specific formation, with its own laws and complex relations to the other forms of speech activity. Before we can study its relation to thought, on the one hand, and to speech, on the other, we must determine its special characteristics and function.

Inner speech is speech for oneself; external speech is for others. It would indeed be surprising if such a basic difference in function did not affect the structure of the two kinds of speech. Absence of

vocalisation per se is only a consequence of the specific nature of inner speech, which is neither an antecedent of external speech nor its reproduction in memory but is, in a sense, the opposite of external speech. The latter is the turning of thought into words, its materialisation and objectification. With inner speech, the process is reversed: Speech turns into inward thought. Consequently, their structures must differ.

The area of inner speech is one of the most difficult to investigate. It remained almost inaccessible to experiments until ways were found to apply the genetic method of experimentation. Piaget was the first to pay attention to the child's egocentric speech and to see its theoretical significance, but he remained blind to the most important trait of egocentric speech - its genetic connection with inner speech - and this warped his interpretation of its function and structure. We made that relationship the central problem of our study and thus were able to investigate the nature of inner speech with unusual completeness. A number of considerations and observations led us to conclude that egocentric speech is a stage of development preceding inner speech: Both fulfil intellectual functions; their structures are similar; egocentric speech disappears at school age, when inner speech begins to develop. From all this we infer that one changes into the other.

If this transformation does take place, then egocentric speech provides the key to the study of inner speech. One advantage of approaching inner speech through egocentric speech is its accessibility to experimentation and observation. It is still vocalised, audible speech, i.e., external in its mode of expression, but at the same time inner speech in function and structure. To study an internal process it is necessary to externalise it experimentally, by connecting it with some outer activity; only then is objective functional analysis possible. Egocentric speech is, in fact, a natural experiment of this type.

This method has another great advantage: Since egocentric speech can be studied at the time when some of its characteristics are waning and new ones forming, we are able to judge which traits are essential to inner speech and which are only temporary, and thus to determine the goal of this movement from egocentric to inner speech - i.e., the nature of inner speech.

Before we go on to the results obtained by this method, we shall briefly discuss the nature of egocentric speech, stressing the differences between our theory and Piaget's. Piaget contends that the child's egocentric speech is a direct expression of the egocentrism of his thought, which in turn is a compromise between the primary autism of his thinking and its gradual socialisation. As the child grows older, autism recedes and socialisation progresses, leading to the waning of egocentrism in his thinking and speech.

In Piaget's conception, the child in his egocentric speech does not adapt himself to the thinking of adults. His thought remains entirely egocentric; this makes his talk incomprehensible to others. Egocentric speech has no function in the child's realistic thinking or activity - it merely accompanies them. And since it is an expression of egocentric thought, it disappears together with the child's egocentrism. From its climax at the beginning of the child's development, egocentric speech drops to zero on the threshold of school age. Its history is one of involution rather than evolution. It has no future.

In our conception, egocentric speech is a phenomenon of the transition from interpsychic to intrapsychic functioning, i.e., from the social, collective activity of the child to his more individualised activity - a pattern of development common to all the higher psychological functions. Speech for oneself originates through differentiation from speech for others. Since the main course of the child's development is one of gradual individualisation, this tendency is reflected in the function and structure of his speech.

Our experimental results indicate that the function of egocentric speech is similar to that of inner speech: It does not merely accompany the child's activity; it serves mental orientation, conscious understanding; it helps in overcoming difficulties; it is speech for oneself, intimately and usefully connected with the child's thinking. Its fate is very different from that described by Piaget. Egocentric speech develops along a rising not a declining, curve; it goes through an evolution, not an involution. In the end, it becomes inner speech.

Our hypothesis has several advantages over Piaget's: It explains the function and development of egocentric speech and, in particular, its sudden increase when the child faces difficulties which demand consciousness and reflection - a fact uncovered by our experiments and which Piaget's theory cannot explain. But the greatest advantage of our theory is that it supplies a satisfying answer to a paradoxical situation described by Piaget himself. To Piaget, the quantitative drop in egocentric speech as the child grows older means the withering of that form of speech. If that were so, its structural peculiarities might also be expected to decline; it is hard to believe that the process would affect only its quantity, and not its inner structure. The child's thought becomes infinitely less egocentric between the ages of three and seven. If the characteristics of egocentric speech that make it incomprehensible to others are indeed rooted in egocentrism, they should become less apparent as that form of speech becomes less frequent; egocentric speech should approach social speech and become more and more intelligible. Yet what are the facts? Is the talk of a three-year-old harder to follow than that of a seven-year-old? Our investigation established that the traits of egocentric speech which make for inscrutability are at their lowest point at three and at their peak at seven. They develop in a reverse direction to the frequency of egocentric speech. While the latter keeps falling and reaches zero at school age, the structural characteristics become more and more pronounced.

This throws a new light on the quantitative decrease in egocentric speech, which is the cornerstone of Piaget's thesis.

What does this decrease mean? The structural peculiarities of speech for oneself and its differentiation from external speech increase with age. What is it then that diminishes? Only one of its aspects: vocalisation. Does this mean that egocentric speech as a whole is dying out? We believe that it does not, for how then could we explain the growth of the functional and structural traits of egocentric speech? On the other hand, their growth is perfectly compatible with the decrease of vocalisation - indeed, clarifies its meaning. Its rapid dwindling and the equally rapid growth of the other characteristics are contradictory in appearance only.

To explain this, let us start from an undeniable, experimentally established fact. The structural and

functional qualities of egocentric speech become more marked as the child develops. At three, the difference between egocentric and social speech equals zero; at seven, we have speech that in structure and function is totally unlike social speech. A differentiation of the two speech functions has taken place. This is a fact - and facts are notoriously hard to refute.

Once we accept this, everything else falls into place. If the developing structural and functional peculiarities of egocentric speech progressively isolate it from external speech, then its vocal aspect must fade away; and this is exactly what happens between three and seven years. With the progressive isolation of speech for oneself, its vocalisation becomes unnecessary and meaningless and, because of its growing structural peculiarities, also impossible. Speech for oneself cannot find expression in external speech. The more independent and autonomous egocentric speech becomes, the poorer it grows in its external manifestations. In the end it separates itself entirely from speech for others, ceases to be vocalised, and thus appears to die out.

But this is only an illusion. To interpret the sinking coefficient of egocentric speech as a sign that this kind of speech is dying out is like saying that the child stops counting when he ceases to use his fingers and starts adding in his head. In reality, behind the symptoms of dissolution lies a progressive development, the birth of a new speech form.

The decreasing vocalisation of egocentric speech denotes a developing abstraction from sound, the child's new faculty to think words instead of pronouncing them. This is the positive meaning of the sinking coefficient of egocentric speech. The downward curve indicates development toward inner speech.

We can see that all the known facts about the functional, structural, and genetic characteristics of egocentric speech point to one thing: It develops in the direction of inner speech. Its developmental history can be understood only as a gradual unfolding of the traits of inner speech.

We believe that this corroborates our hypothesis about the origin and nature of egocentric speech. To turn our hypothesis into a certainty, we must devise an experiment capable of showing which of the two interpretations is correct. What are the data for this critical experiment?

Let us restate the theories between which we must decide.

Piaget believes that egocentric speech stems from the insufficient socialisation of speech and that its only development is decrease and eventual death. Its culmination lies in the past. Inner speech is something new brought in from the outside along with socialisation. We believe that egocentric speech stems from the insufficient individualisation of primary social speech. Its culmination lies in the future. It develops into inner speech.

To obtain evidence for one or the other view, we must place the child alternately in experimental situations encouraging social speech and in situations discouraging it, and see how these changes affect

egocentric speech. We consider this an *experimentum crucis* for the following reasons.

If the child's egocentric talk results from the egocentrism of his thinking and its insufficient socialisation, then any weakening of the social elements in the experimental setup, any factor contributing to the child's isolation from the group, must lead to a sudden increase in egocentric speech. But if the latter results from an insufficient differentiation of speech for oneself from speech for others, then the same changes must cause it to decrease.

We took as the starting point of our experiment three of Piaget's own observations: (1) Egocentric speech occurs only in the presence of other children engaged in the same activity, and not when the child is alone; i.e., it is a collective monologue. (2) The child is under the illusion that his egocentric talk, directed to nobody, is understood by those who surround him. (3) Egocentric speech has the character of external speech: It is not inaudible or whispered. These are certainly not chance peculiarities. From the child's own point of view, egocentric speech is not yet separated from social speech. It occurs under the subjective and objective conditions of social speech and may be considered a correlate of the insufficient isolation of the child's individual consciousness from the social whole.

In our first series of experiments [46, 47], we tried to destroy the illusion of being understood. After measuring the child's coefficient of egocentric speech in a situation similar to that of Piaget's experiments, we put him into a new situation: either with deaf-mute children or with children speaking a foreign language. In all other respects the setup remained the same. The coefficient of egocentric speech dropped to zero in the majority of cases, and in the rest to one-eighth of the previous figure, on the average. This proves that the illusion of being understood is not a mere epiphenomenon of egocentric speech but is functionally connected with it. Our results must seem paradoxical from the point of view of Piaget's theory: The weaker the child's contact is with the group - the less the social situation forces him to adjust his thoughts to others and to use social speech - the more freely should the egocentrism of his thinking and speech manifest itself. But from the point of view of our hypothesis, the meaning of these findings is clear: Egocentric speech, springing from the lack of differentiation of speech for oneself from speech for others, disappears when the feeling of being understood, essential for social speech, is absent.

In the second series of experiments, the variable factor was the possibility of collective monologue. Having measured the child's coefficient of egocentric speech in a situation permitting collective monologue, we put him into a situation excluding it - in a group of children who were strangers to him, or by himself at a separate table in a corner of the room; or he worked quite alone, even the experimenter leaving the room. The results of this series agreed with the first results. The exclusion of the group monologue caused a drop in the coefficient of egocentric speech, though not such a striking one as in the first case - seldom to zero and, on the average, to one-sixth of the original figure. The different methods of precluding collective monologue were not equally effective in reducing the coefficient of egocentric speech. The trend, however, was obvious in all the variations of the experiment. The exclusion of the collective factor, instead of giving full freedom to egocentric speech, depressed it. Our hypothesis was once more confirmed.

In the third series of experiments, the variable factor was the vocal quality of egocentric speech. Just outside the laboratory where the experiment was in progress, an orchestra played so loudly, or so much noise was made, that it drowned out not only the voices of others but the child's own; in a variant of the experiment, the child was expressly forbidden to talk loudly and allowed to talk only in whispers. Once again the coefficient of egocentric speech went down, the relation to the original figure being 5:1. Again the different methods were not equally effective, but the basic trend was invariably present.

The purpose of all three series of experiments was to eliminate those characteristics of egocentric speech which bring it close to social speech. We found that this always led to the dwindling of egocentric speech. It is logical, then, to assume that egocentric speech is a form developing out of social speech and not yet separated from it in its manifestation, though already distinct in function and structure.

The disagreement between us and Piaget on this point will be made quite clear by the following example: I am sitting at my desk talking to a person who is behind me and whom I cannot see; he leaves the room without my noticing it, and I continue to talk, under the illusion that he listens and understands. Outwardly, I am talking with myself and for myself, but psychologically my speech is social. From the point of view of Piaget's theory, the opposite happens in the case of the child: His egocentric talk is for and with himself; it only has the appearance of social speech, just as my speech gave the false impression of being egocentric. From our point of view, the whole situation is much more complicated than that: Subjectively, the child's egocentric speech already has its own peculiar function - to that extent, it is independent from social speech; yet its independence is not complete because it is not felt as inner speech and is not distinguished by the child from speech for others. Objectively, also, it is different from social speech but again not entirely, because it functions only within social situations. Both subjectively and objectively, egocentric speech represents a transition from speech for others to speech for oneself. It already has the function of inner speech but remains similar to social speech in its expression.

The investigation of egocentric speech has paved the way to the understanding of inner speech, which we shall examine next.

IV

Our experiments convinced us that inner speech must be regarded, not as speech minus sound, but as an entirely separate speech function. Its main distinguishing trait is its peculiar syntax. Compared with external speech, inner speech appears disconnected and incomplete.

This is not a new observation. All the students of inner speech, even those who approached it from the behaviouristic standpoint, noted this trait. The method of genetic analysis permits us to go beyond a mere description of it. We applied this method and found that as egocentric speech develops it shows a tendency toward an altogether specific form of abbreviation: namely, omitting the subject of a sentence and all words connected with it, while preserving the predicate. This tendency toward predication appears in all our experiments with such regularity that we must assume it to be the basic syntactic form

of inner speech.

It may help us to understand this tendency if we recall certain situations in which external speech shows a similar structure. Pure predication occurs in external speech in two cases: either as an answer or when the subject of the sentence is known beforehand to all concerned. The answer to 'Would you like a cup of tea?' is never 'No, I don't want a cup of tea' but a simple 'No'. Obviously, such a sentence is possible only because its subject is tacitly understood by both parties. To 'Has your brother read this book?' no one ever replies, 'Yes, my brother has read this book.' The answer is a short 'Yes', or 'Yes, he has'. Now let us imagine that several people are waiting for a bus. No one will say, on seeing the bus approach, 'The bus for which we are waiting is coming.' The sentence is likely to be an abbreviated 'Coming', or some such expression, because the subject is plain from the situation. Quite frequently shortened sentences cause confusion. The listener may relate the sentence to a subject foremost in his own mind, not the one meant by the speaker. If the thoughts of two people coincide, perfect understanding can be achieved through the use of mere predicates, but if they are thinking about different things they are bound to misunderstand each other.

Very good examples of the condensation of external speech and its reduction to predicates are found in the words of Tolstoy, who quite often dealt with the psychology of understanding: 'No one heard clearly what he said, but Kitty understood him. She understood because her mind incessantly watched for his needs' [*Anna Karenina*, Pt. V, Ch. 18]. We might say that her thoughts, following the thoughts of the dying man, contained the subject to which his word, understood by no one else, referred. But perhaps the most striking example is the declaration of love between Kitty and Levin by means of initial letters:

I have long wished to ask you something.

Please do.

This, he said, and wrote the initial letters: *W y a: i c n b, d y m t o n*. These letters meant: 'When you answered: it can not be, did you mean then or never?' It seemed impossible that she would be able to understand the complicated sentence.

I understand, she said, blushing.

What word is that? he asked, pointing to the *n* which stood for 'never'

The word is 'never,' she said, but that is not true. He quickly erased what he had written, handed her the chalk, and rose. She wrote: *I c n a o t*.

His face brightened suddenly: he had understood. It meant: 'I could not answer otherwise then.'

She wrote the initial letters: *s t y m f a s w h*. This meant: 'So that you might forget and forgive what happened.'

He seized the chalk with tense, trembling fingers, broke it, and wrote the initial letters of the following: 'I have nothing to forget and forgive. I never ceased loving you.'

I understand, she whispered. He sat down and wrote a long sentence. She understood it all and, without asking him whether she was right took the chalk and answered at once. For a long time he could not make out what she had written, and he kept looking up into her eyes. His mind was dazed with happiness. He was quite unable to fill in the words she had meant; but in her lovely, radiantly happy

eyes he read all that he needed to know. And he wrote down three letters. Before he had finished writing, she was already reading under his hand, and she finished the sentence herself and wrote the answer, yes. Everything had been said in their conversation: that she loved him, and would tell her father and mother that he would call in the morning. [*Anna Karenina*, Pt. IV, Ch. 13]

This example has an extraordinary psychological interest because, like the whole episode between Kitty and Levin, it was taken by Tolstoy from his own life. In just this way, Tolstoy told his future wife of his love for her. These examples show clearly that when the thoughts of the speakers are the same the role of speech is reduced to a minimum. Tolstoy points out elsewhere that between people who live in close psychological contact, such communication by means of abbreviated speech is the rule rather than the exception.

Now Levin was used to expressing his thought fully without troubling to put it into exact words: He knew that his wife, in such moments filled with love, as this one, would understand what he wanted to say from a mere hint, and she did. [*Anna Karenina*, Pt. VI, Ch. 13]

A simplified syntax, condensation, and a greatly reduced number of words characterise the tendency to predication which appears in external speech when the partners know what is going on. In complete contrast to this kind of understanding are the comical mix-ups resulting from people's thoughts going in different directions. The confusion to which this may lead is well rendered in this little poem:

Before the judge who's deaf two deaf men bow.
One deaf man cries: He led away my cow.
Beg pardon, says the other in reply
That meadow was my father's land in days gone by.
The judge decides: For you to fight each other is a shame.
Nor one nor t'other, but the girl's to blame.

Kitty's conversation with Levin and the judgment of the deaf are extreme cases, the two poles, in fact, of external speech. One exemplifies the mutual understanding that can be achieved through utterly abbreviated speech when the subject is the same in two minds; the other, the total misunderstanding, even with full speech, when people's thoughts wander in different directions. It is not only the deaf who cannot understand one another but any two people who give a different meaning to the same word or who hold divergent views. As Tolstoy noted, those who are accustomed to solitary, independent thinking do not easily grasp another's thought and are very partial to their own; but people in close contact apprehend one another's complicated meanings by laconic and clear communication in the fewest words.

V

Having examined abbreviation in external speech, we can now return enriched to the same phenomenon in inner speech, where it is not an exception but the rule. It will be instructive to compare abbreviation in oral, inner, and written speech. Communication in writing relies on the formal meanings of words and

requires a much greater number of words than oral speech to convey the same idea. It is addressed to an absent person who rarely has in mind the same subject as the writer. Therefore it must be fully deployed; syntactic differentiation is at a maximum; and expressions are used that would seem unnatural in conversation. Griboedov's *He talks like writing* refers to the droll effect of elaborate constructions in daily speech.

The multifunctional nature of language, which has recently attracted the close attention of linguists, had already been pointed out by Humboldt in relation to poetry and prose - two forms very different in function and also in the means they use. Poetry, according to Humboldt, is inseparable from music, while prose depends entirely on language and is dominated by thought. Consequently, each has its own diction, grammar, and syntax. This is a conception of primary importance, although neither Humboldt nor those who further developed his thought fully realised its implications. They distinguished only between poetry and prose, and within the latter between the exchange of ideas and ordinary conversation, i.e., the mere exchange of news or conventional chatter. There are other important functional distinctions in speech. One of them is the distinction between dialogue and monologue. Written and inner speech represent the monologue; oral speech, in most cases, the dialogue.

Dialogue always presupposes in the partners sufficient knowledge of the subject to permit abbreviated speech and, under certain conditions, purely predicative sentences. It also presupposes that each person can see his partners, their facial expressions and gestures, and hear the tone of their voices. We have already discussed abbreviation and shall consider here only its auditory aspect, using a classical example from Dostoevski's *The Diary of a Writer* to show how much intonation helps the subtly differentiated understanding of a word's meaning.

Dostoevski relates a conversation of drunks which entirely consisted of one unprintable word:

One Sunday night I happened to walk for some fifteen paces next to a group of six drunken young workmen, and I suddenly realised that all thoughts, feelings and even a whole chain of reasoning could be expressed by that one noun, which is moreover extremely short. One young fellow said it harshly and forcefully, to express his utter contempt for whatever it was they had all been talking about. Another answered with the same noun but in a quite different tone and sense - doubting that the negative attitude of the first one was warranted. A third suddenly became incensed against the first and roughly intruded on the conversation, excitedly shouting the same noun, this time as a curse and obscenity. Here the second fellow interfered again, angry at the third, the aggressor, and restraining him, in the sense of Now why do you have to butt in, we were discussing things quietly and here you come and start swearing. And he told this whole thought in one word, the same venerable word, except that he also raised his hand and put it on the third fellow's shoulder. All at once a fourth, the youngest of the group, who had kept silent till then, probably having suddenly found a solution to the original difficulty which had started the argument, raised his hand in a transport of joy and shouted . . . Eureka, do you think? I have it? No, not eureka and not I have it; he repeated the same unprintable noun, one word, merely one word, but with ecstasy, in a shriek of delight - which was apparently too strong, because the sixth and the oldest, a glum-looking fellow, did not like it and cut the infantile joy of the other one short, addressing

him in a sullen, exhortative bass and repeating . . . yes, still the same noun, forbidden in the presence of ladies but which this time clearly meant What are you yelling yourself hoarse for? So, without uttering a single other word, they repeated that one beloved word six times in a row, one after another, and understood one another completely. [*The Diary of a Writer*, for 1873]

Inflection reveals the psychological context within which a word is to be understood. In Dostoevski's story, it was contemptuous negation in one case, doubt in another, anger in the third. When the context is as clear as in this example, it really becomes possible to convey all thoughts, feelings, and even a whole chain of reasoning by one word.

In written speech, as tone of voice and knowledge of subject are excluded, we are obliged to use many more words, and to use them more exactly. Written speech is the most elaborate form of speech.

Some linguists consider dialogue the natural form of oral speech, the one in which language fully reveals its nature, and monologue to a great extent artificial. Psychological investigation leaves no doubt that monologue is indeed the higher, more complicated form, and of later historical development. At present, however, we are interested in comparing them only in regard to the tendency toward abbreviation.

The speed of oral speech is unfavourable to a complicated process of formulation - it does not leave time for deliberation and choice. Dialogue implies immediate unpremeditated utterance. It consists of replies, repartee; it is a chain of reactions. Monologue, by comparison, is a complex formation; the linguistic elaboration can be attended to leisurely and consciously.

In written speech, lacking situational and expressive supports, communication must be achieved only through words and their combinations; this requires the speech activity to take complicated forms - hence the use of first drafts. The evolution from the draft to the final copy reflects our mental process. Planning has an important part in written speech, even when we do not actually write out a draft. Usually we say to ourselves what we are going to write; this is also a draft, though in thought only. As we tried to show in the preceding chapter, this mental draft is inner speech. Since inner speech functions as a draft not only in written but also in oral speech, we shall now compare both these forms with inner speech in respect to the tendency toward abbreviation and predication.

This tendency, never found in written speech and only some times in oral speech, arises in inner speech always. Predication is the natural form of inner speech; psychologically, it consists of predicates only. It is as much a law of inner speech to omit subjects as it is a law of written speech to omit subjects as it is a law of written speech to contain both subjects and predicates.

The key to this experimentally established fact is the invariable, inevitable presence in inner speech of the factors that facilitate pure predication: We know what we are thinking about - i.e., we always know the subject and the situation. Psychological contact between partners in a conversation may establish a mutual perception leading to the understanding of abbreviated speech. In inner speech, the mutual perception is always there, in absolute form; therefore, a practically wordless communication of even the

most complicated thoughts is the rule. The predominance of predication is a product of development. In the beginning, egocentric speech is identical in structure with social speech, but in the process of its transformation into inner speech it gradually becomes less complete and coherent as it becomes governed by an almost entirely predicative syntax. Experiments show clearly how and why the new syntax takes hold. The child talks about the things he sees or hears or does at a given moment. As a result, he tends to leave out the subject and all words connected with it, condensing his speech more and more until only predicates are left. The more differentiated the specific function of egocentric speech becomes, the more pronounced are its syntactic peculiarities - simplification and predication. Hand in hand with this change goes decreasing vocalisation. When we converse with ourselves, we need even fewer words than Kitty and Levin did. Inner speech is speech almost without words.

With syntax and sound reduced to a minimum, meaning is more than ever in the forefront. Inner speech works with semantics, not phonetics. The specific semantic structure of inner speech also contributes to abbreviation. The syntax of meanings in inner speech is no less original than its grammatical syntax. Our investigation established three main semantic peculiarities of inner speech.

The first and basic one is the preponderance of the sense of a word over its meaning - a distinction we owe to Paulhan. The sense of a word, according to him, is the sum of all the psychological events aroused in our consciousness by the word. It is a dynamic, fluid, complex whole, which has several zones of unequal stability. Meaning is only one of the zones of sense, the most stable and precise zone. A word acquires its sense from the context in which it appears; in different contexts, it changes its sense. Meaning remains stable throughout the changes of sense. The dictionary meaning of a word is no more than a stone in the edifice of sense, no more than a potentiality that finds diversified realisation in speech.

The last words of the previously mentioned fable by Krylov, *The Dragonfly and the Ant*, are a good illustration of the difference between sense and meaning. The words *Go and dance!* have a definite and constant meaning, but in the context of the fable they acquire a much broader intellectual and affective sense. They mean both *Enjoy yourself* and *Perish*. This enrichment of words by the sense they gain from the context is the fundamental law of the dynamics of word meanings. A word in a context means both more and less than the same word in isolation: more, because it acquires new content; less, because its meaning is limited and narrowed by the context. The sense of a word, says Paulhan, is a complex, mobile, protean phenomenon; it changes in different minds and situations and is almost unlimited. A word derives its sense from the sentence, which in turn gets its sense from the paragraph, the paragraph from the book, the book from all the works of the author.

Paulhan rendered a further service to psychology by analysing the relation between word and sense and showing that they are much more independent of each other than word and meaning. It has long been known that words can change their sense. Recently it was pointed out that sense can change words or, better, that ideas often change their names. Just as the sense of a word is connected with the whole word, and not with its single sounds, the sense of a sentence is connected with the whole sentence, and not with its individual words. Therefore, a word may sometimes be replaced by another without any change in sense. Words and sense are relatively independent of each other.

In inner speech, the predominance of sense over meaning, of sentence over word, and of context over sentence is the rule.

This leads us to the other semantic peculiarities of inner speech. Both concern word combination. One of them is rather like agglutination - a way of combining words fairly frequent in some languages and comparatively rare in others. German often forms one noun out of several words or phrases. In some primitive languages, such adhesion of words is a general rule. When several words are merged into one word, the new word not only expresses a rather complex idea but designates all the separate elements contained in that idea. Because the stress is always on the main root or idea, such languages are easy to understand. The egocentric speech of the child displays some analogous phenomena. As egocentric speech approaches inner speech, the child uses agglutination more and more as a way of forming compound words to express complex ideas.

The third basic semantic peculiarity of inner speech is the way in which senses of words combine and unite - a process governed by different laws from those governing combinations of meanings. When we observed this singular way of uniting words in egocentric speech, we called it influx of sense. The senses of different words flow into one another - literally influence one another - so that the earlier ones are contained in, and modify, the later ones. Thus, a word that keeps recurring in a book or a poem sometimes absorbs all the variety of sense contained in it and becomes, in a way, equivalent to the work itself. The title of a literary work expresses its content and completes its sense to a much greater degree than does the name of a painting or of a piece of music. Titles like *Don Quixote*, *Hamlet*, and *Anna Karenina* illustrate this very clearly - the whole sense of a work is contained in one name. Another excellent example is Gogol's *Dead Souls*. Originally, the title referred to dead serfs whose names had not yet been removed from the official lists and who could still be bought and sold as if they were alive. It is in this sense that the words are used throughout the book, which is built tip around this traffic in the dead. But through their intimate relationship with the work as a whole, these two words acquire a new significance, an infinitely broader sense. When we reach the end of the book, *Dead Souls* means to us not so much the defunct serfs as all the characters in the story who are alive physically but dead spiritually.

In inner speech, the phenomenon reaches its peak. A single word is so saturated with sense that many words would be required to explain it in external speech. No wonder that egocentric speech is incomprehensible to others. Watson says that inner speech would be incomprehensible even if it could be recorded. Its opaqueness is further increased by a related phenomenon which, incidentally, Tolstoy noted in external speech: In *Childhood, Adolescence, and Youth*, he describes how between people in close psychological contact words acquire special meanings understood only by the initiated. In inner speech, the same kind of idiom develops - the kind that is difficult to translate into the language of external speech.

With this we shall conclude our survey of the peculiarities of inner speech, which we first observed in our investigation of egocentric speech. In looking for comparisons in external speech, we found that the latter already contains, potentially at least, the traits typical of inner speech; predication, decrease of

vocalisation, preponderance of sense over meaning, agglutination, etc., appear under certain conditions also in external speech. This, we believe, is the best confirmation of our hypothesis that inner speech originates through the differentiation of egocentric speech from the child's primary social speech.

All our observations indicate that inner speech is an autonomous speech function. We can confidently regard it as a distinct plane of verbal thought. It is evident that the transition from inner to external speech is not a simple translation from one language into another. It cannot be achieved by merely vocalising silent speech. It is a complex, dynamic process involving the transformation of the predicative, idiomatic structure of inner speech into syntactically articulated speech intelligible to others.

VI

We can now return to the definition of inner speech that we proposed before presenting our analysis. Inner speech is not the interior aspect of external speech - it is a function in itself. It still remains speech, i.e., thought connected with words. But ' while in external speech thought is embodied in words, in inner speech words die as they bring forth thought. Inner speech is to a large extent thinking in pure meanings. It is a dynamic, shifting, unstable thing, fluttering between word and thought, the two more or less stable, more or less firmly delineated components of verbal thought. Its true nature and place can be understood only after examining the next plane of verbal thought the one still more inward than inner speech.

That plane is thought itself. As we have said, every thought creates a connection, fulfils a function, solves a problem. The flow of thought is not accompanied by a simultaneous unfolding of speech. The two processes are not identical, and there is no rigid correspondence between the units of thought and speech. This is especially obvious when a thought process miscarries - when, as Dostoevski put it, a thought will not enter words. Thought has its own structure, and the transition from it to speech is no easy matter. The theatre faced the problem of the thought behind the words before psychology did. In teaching his system of acting, Stanislavsky required the actors to uncover the subtext of their lines in a play. In Griboedov's comedy *Woe from Wit*, the hero, Chatsky, says to the heroine, who maintains that she has never stopped thinking of him, Thrice blessed who believes. Believing warms the heart. Stanislavsky interpreted this as Let us stop this talk ; but it could just as well be interpreted as I do not believe you. You say it to comfort me, or as Don't you see how you torment me? I wish I could believe you. That would be bliss. Every sentence that we say in real life has some kind of subtext, a thought hidden behind it. In the examples we gave earlier of the lack of coincidence between grammatical and psychological subject and predicate, we did not pursue our analysis to the end. Just as one sentence may express different thoughts, one thought may be expressed in different sentences. For instance,

The clock fell, in answer to the question Why did the clock stop? could mean: It is not my fault that the clock is out of order; it fell. The same thought, self-justification, could take the form of It is not my habit to touch other people's things. I was just dusting here, or a number of others.

Thought, unlike speech, does not consist of separate units. When I wish to communicate the thought that

today I saw a barefoot boy in a blue shirt running down the street, I do not see every item separately: the boy, the shirt, its blue colour, his running, the absence of shoes. I conceive of all this in one , thought, but I put it into separate words. A speaker often takes i several minutes to disclose one thought. In his mind the whole thought is present at once, but in speech it has to be developed successively. A thought may be compared to a cloud shedding a shower of words. Precisely because thought does not have its automatic counterpart in words, the transition from thought to word leads through meaning. In our speech, there is always the hidden thought, the subtext. Because a direct transition from thought to word is impossible, there have always been laments about the inexpressibility of thought:

How shall the heart express itself?

How shall another understand?

[F. Tjutchev]

Direct communication between minds is impossible, not only physically but psychologically. Communication can be achieved only in a roundabout way. Thought must pass first through meanings and then through words.

We come now to the last step in our analysis of verbal thought. Thought itself is engendered by motivation, i.e., by our desires and needs, our interests and emotions. Behind every thought there is an affective-volitional tendency, which holds the answer to the last why in the analysis of thinking. A true and full understanding Of another's thought is possible only when we understand its affective-volitional basis. We shall illustrate this by an example already used: the interpretation of parts in a play. Stanislavsky, in his instructions to actors, listed the motives behind the words of their parts. For example:

Text of the Play

Parallel Motives

SOPHYA:

O, Chatsky, but I am glad you've come.

CHATSKY:

You are glad, that's very nice;

But gladness such as yours not easily one tells.

It rather seems to me, all told,

That making man and horse catch cold

I've pleased myself and no one else.

LIZA:

There, sir, and if you'd stood on the same landing here

Five minutes, no, not five ago

You'd heard your name clear as clear.

You say, Miss! Tell him it was so.

SOPHYA:

And always so, no less, no more.

No, as to that, I'm sure you can't reproach me.

Tries to hide her confusion.

Tries to make her feel guilty by teasing her.

Aren't you ashamed of yourself

Tries to force her to be frank.

Tries to calm him.

Tries to help Sophya in a difficult situation.

Tries to reassure Chatsky.

I am not guilty of anything

CHATSKY:

Let us stop this conversation; etc.

Well, let's suppose it's so.

Thrice blessed- who believes.

Believing warms the heart.

[A. Griboedov, *Woe from Wit*, Act I]

To understand another's speech, it is not sufficient to understand his words - we must understand his thought. But even that is not enough - we must also know its motivation. No psychological analysis of an utterance is complete until that plane is reached.

We have come to the end of our analysis; let us survey its results. Verbal thought appeared as a complex, dynamic entity, and the relation of thought and word within it as a movement through a series of planes. Our analysis followed the process from the outermost to the innermost plane. In reality, the development of verbal thought takes the opposite course: from the motive which engenders a thought to the shaping of the thought, first in inner speech, then in meanings of words, and finally in words. It would be a mistake, however, to imagine that this is the only road from thought to word. The development may stop at any point in its complicated course; an infinite variety of movements to and fro, of ways still unknown to us, is possible. A study of these manifold variations lies beyond the scope of our present task.

Our investigation followed a rather unusual path. We wished to study the inner workings of thought and speech, hidden from direct observation. Meaning and the whole inward aspect of language, the side turned toward the person, not toward the outer world, have been so far an almost unknown territory. No matter how they were interpreted, the relations between thought and word were always considered constant, established forever. Our investigation has shown that they are, on the contrary, delicate, changeable relations between processes, which arise during the development of verbal thought. We did not intend to, and could not, exhaust the subject of verbal thought. We tried only to give a general conception of the infinite complexity of this dynamic structure - a conception starting from experimentally documented facts.

To association psychology, thought and word were united by external bonds, similar to the bonds between two nonsense syllables. Gestalt psychology introduced the concept of structural bonds but, like the older theory, did not account for the specific relations between thought and word. All the other theories grouped themselves around two poles - either the behaviourist concept of thought as speech minus sound or the idealistic view, held by the Wuerzburg school and Bergson, that thought could be pure, unrelated to language, and that it was distorted by words. Tjutchev's *A thought once uttered is a lie* could well serve as an epigraph for the latter group. Whether inclining toward pure naturalism or extreme idealism, all these theories have one trait in common - their antihistorical bias. They study thought and speech without any reference to their developmental history.

Only a historical theory of inner speech can deal with this immense and complex problem. The relation between thought and word is a living process; thought is born through words. A word devoid of thought

is a dead thing, and a thought unembodied in words remains a shadow. The connection between them, however, is not a preformed and constant one. It emerges in the course of development, and itself evolves. To the Biblical In the beginning was the Word, Goethe makes Faust reply, In the beginning was the deed. The intent here is to detract from the value of the word, but we can accept this version if we emphasise it differently: In the *beginning* was the deed. The word was not the beginning - action was there first; it is the end of development, crowning the deed.

We cannot close our survey without mentioning the perspectives that our investigation opens up. We studied the inward aspects of speech, which were as unknown to science as the other side of the moon. We showed that a generalised reflection of reality is the basic characteristic of words. This aspect of the word brings us to the threshold of a wider and deeper subject - the general problem of consciousness. Thought and language, which reflect reality in a way different from that of perception, are the key to the nature of human consciousness. Words play a central part not only in the development of thought but in the historical growth of consciousness as a whole. A word is a microcosm of human consciousness.

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