Some notes concerning Dr. Fodor's 'Reflections on L.S. Vygotsky's Thought and language'

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After carefully studying Dr. J. A. Fodor's 'Reflections on L. S. Vygotsky's Thought and language', we decided to reply for two basic reasons: Firstly, as collaborators and followers of L. S. Vygotsky, we are naturally extremely interested in any article on this outstanding researcher, who still has a great influence on experimental psychology in our country. Thus we were very attentive to a paper on Vygotsky's basic work, especially by such a gifted psychologist as Dr. Fodor.

Secondly, it is quite apparent to us that although Dr. Fodor makes some very good points when he discusses some of the basic problems in the contemporary approach to psychology, nevertheless, he makes some statements with which we are in complete disaccord. Defending truths or discovering mistakes is a much easier task compared to dealing with half-truths, and these are the most dangerous in history of science.

Having briefly stated our reasons for replying, we would now like to discuss the contents of J. A. Fodor's paper. Dr. Fodor begins his article by saying that towards the end of the last century, psychology came to an amicable divorce with philosophy, and began to lead an independent life; a page later, Dr. Fodor takes this statement up again saying that psychology, however, still remained under the influence of a bad philosophy, and that this lead to a 'deplorable state of affairs'. We entirely agree with both these statements. We have always believed that in order for psychology to make any real progress, it must develop as an independent field. But nonetheless, we think that a scientifically based philosophy, which deals with some of the basic concepts and general laws on the development of nature and society, has a decisive and positive influence on our research. It also provides a guarantee against certain misinterpretations of data and loss of progress in the field.

When Dr. Fodor says 'L. S. Vygotsky started from a priori assumptions more than from real facts' (which we do not believe), it seems to us that he himself has based his views on another set of a priori assumptions, sometimes much more superficial than the ideas of L. S. Vygotsky.
The question of the relation between thought and language was of basic interest to Vygotsky. (Unfortunately Dr. Fodor's information is limited, since *Thought and language* is the only book of Vygotsky's to have been translated into English.) Leaving aside the historical problem (i.e., between the late twenties, when the book was written, and the early thirties when it was published, the question of the relation between thought and language was a basic problem to cognitive psychologists at that time) Dr. Fodor claims that Vygotsky's basic mistake lies in identifying language with speech, and thought with problem-solving. His own idea is that the relation between the 'deep structures' or 'natural' and 'inborn' language and the 'superficial language codes' and their place in thought, has to be the central problem in cognitive psychology today. At the same time, he assumes that the processes of thinking can have different relations with speech and problem solving ('do we really solve a problem thinking "Sunday will perhaps be warm?"').

We quite agree that thinking can take many different forms and that speech is not at all identical to language. We also agree that the language in which we integrate visual and auditory information cannot either be the language of vision or the language of audition, although it must contain both. But we doubt that the theory of a 'natural language' and 'innate language codes' is valid, and we turn to the works of D. O. Hebb (1971), who in describing the most complex cognitive basis of language processes has rendered any hypothesis on its 'innate' origin untenable. We also know that the relation between language and thought can be extremely variable at different stages of the child's development, and, consequently, any theory on the stability of this relation seems out of the question.

An important factor in the works of L. S. Vygotsky is that he totally differs in his approach to the nature of mental processes from that of classical psychology. Vygotsky presumed that conscious (or cognitive) processes have a socio-historical issue, and that language is narrowly related to every conscious reflection of reality: These forms of conscious reflection undergo a series of deep structural changes during the child's development. Thus any theory of a 'natural' (ready made) or 'innate' language seemed unacceptable to Vygotsky, and it remains unacceptable to both of us. It seems to us that a contrast between the immediate (natural) evolution of animal behavior and the social (or language-based) development of the human mind (of man's cognitive processes) has a much broader significance. This is why Vygotsky mentions the social origin of language and its influence on human thought as a central issue in sciences psychology. Vygotsky believed (as we do) that to think 'Sunday will perhaps be warm' is impossible without the participation of language, not because Sunday is a verbal concept, but because any conscious thought of the future is a mental process which needs language as its base, and it is impossible to deal with the future (as with the past) without the aid of inner speech as a derivation
of language. Thus Vygotsky accepted that even ‘practical intelligence’, i.e. constructing-tasks or problem-solving such as the Link blocks, etc. as well as the complex forms of active attention or memory are not ‘natural’ processes but can be realized only with the aid of inner speech – which is a specialized derivation of socially originated behavior.

These statements are not mere philosophical speculations, or ‘a priori assumptions’. Vygotsky himself prepared a long series of articles on his experimental works which are only partly published in Russian (a six-volume collection of his articles is now in preparation), as well as publications such as The development of memory published by A. N. Leontiev in the thirties, and a series of experimental studies concerning the development of speech and its directive functions, published by A. R. Luria. Also, many experimental works by such pupils of Vygotsky as A. V. Zaporozhets, D. B. Elconin, P. Ya. Galperin, and others give evidence that to apply the term ‘philosophical muddle’ to L. S. Vygotsky’s findings as does Dr. Fodor is entirely out of place when discussing the heritage of one of the most outstanding psychologists of our time.

Let us now examine Dr. Fodor’s second ‘reflection’. He says that the idea ‘the meaning of the words evolve’ is of basic significance in Vygotsky’s theory. But he himself disagrees with the statement and gives a series of arguments which, according to him, render this idea untenable. His arguments can appear to be obvious and convincing at first glance, but a close examination shows how weak they really are: If the meaning of words were different for children and adults, then they would be talking different languages and no mutual understanding could be possible. ‘Vygotsky’s way of dealing with this objection is simply hopeless’, concludes Dr. Fodor. This statement can appear to be viable only if it is read at a superficial level without taking the context into consideration. It is not true that a mutual understanding is possible only if word meanings are identical. It is well known and accepted by all psychologists and linguists that the word has a very complex structure – we need not repeat it to such an outstanding psychologist as Dr. Fodor. A word always design an object (quality, action, or relation) and a common designation suffices for a mutual understanding. But every word is a complex matrix, in which the same object can form different systems of relations – these matrices of relations constitute the essence of word meanings.

Thus when a child and an adult use the word ‘shop’, they are relating to the same object, but the child relates ‘shop’ to a set of empirical (emotional) impressions, whereas an adult disposes of many more potential systems and can therefore select from a much wider range of relations than can a child. It is obvious that the word ‘angle’ fundamentally differs in meaning for a pre-school child, a schoolboy, and a student in geometry – and it is not just a quantitative difference of images and as-
associations. What is really important is that at each stage, the developing word meaning requires a different mental operation. Thus with a small child a basic role is played by immediate impressions (partly emotional), with a schoolchild this structure undergoes a deep change, and finally with an adult the mental operations required to process word meanings involves an extremely complex process of deep psychological changes — and to believe, as does Dr. Fodor, that these changes are only quantitative, i.e. that an adult 'knows more' than a child but uses the same psychological operations, is an assumption which brings us back to the old times of associationistic psychology but which hinders the further progress of psychological science. One can be a good psycholinguist, with excellent empirical works, but, as Dr. Fodor, one can come under the influence of a bad philosophy. We do not think it worthwhile to abandon the theories of Vygotsky and Piaget for those of Dr. Fodor. Doing so would be going right the way back to a kind of psychology which was abandoned at least two generations ago.

In his third critical remark, Dr. Fodor argues that L. S. Vygotsky had a simplified notion of the basic essence of an adult's thought, reducing it to Boolean Logics. Vygotsky understood the development of the child's thought as a process of mastering abstract concepts and of selecting relevant criteria from a confused mass of sounds. We quite agree with Dr. Fodor's remark that the processes of thought in an adult cannot be reduced to simply a process of abstraction and categorization, and that the flow of an adult's thought depends to a great extent on his purposes, motives, and goals. Only a schizophrenic selects abstract criteria of a string, instead of using them for practical purposes: A normal adult will never do so. But the fact is that a normal adult has various levels of logical thought, and he can use these levels differently according to his purposes and environmental requirements; a young child does not have these different levels of thought, and some theoretical operations are inaccessible to the child (if he does not acquire them through special forms of instruction). Thus a child who is capable of solving one kind of problem — by his own means — remains unable to solve other abstract problems, so that we have to find special ways of instructing (but under no circumstance, simply of conditioning) so as to develop new forms of cognitive processes even in young school children. A series of works by Vygotsky's followers in our country (D. B. Elkonin, V. V. Davydov, P. Y. Galperin, et al.) have shown that the methods of education should not only follow the steps of a child's mental development but a psychologically based instruction could highly stimulate the mental development of the child, permitting younger children to acquire new forms of thinking. And this is the essence of our discussion with our friend Jean Piaget, which took place during the XVIII International Psychological Congress in Moscow, as well as in a series of publications.

Vygotsky thought of his method of classifying blocks simply as a model to
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demonstrate the qualitative stages of the basic forms of generalization, which change during the child's mental development. This technique brings forward a psychological issue of great significance, namely that the acquisition of abstract operations opens new possibilities to thought and results in an immense enrichment in the possibility of finding new relations between concrete objects. This is why we do not believe in the separation of abstract and concrete thinking but – as in Marx' philosophy – we suppose that a transition from the empirical to the categorical approach provides a new opening in dealing with concrete objects. There are different ways open to this development, and Vygotsky himself mentions that the acquisition of empirical and scientific concepts have a different psychological mechanism. This is why we can hardly agree with an attempt to describe L. S. Vygotsky as a hard-headed defender of the idea of the development of thought as a linear approach to Boolean logics.

We would like to say a few words in connection with some of the points made by Fodor with which we agree. These have already been developed by Soviet psychologists during the last decade.

We totally agree with Dr. Fodor's statement that thinking highly depends on the purposes which it serves and, we would like to add, on the form of activity (Tätigkeit) it is included in. Thus it would be too dogmatic to say that concepts become accessible to children at the age of 12 to 14 years. Since Vygotsky's death nearly forty years ago, Soviet psychologists have not just been repeating his work: It has been a period of extremely intensive and creative work. Many of L. S. Vygotsky's statements were enriched and elaborated, and a series of significant data were obtained at the same time that new ideas were formulated. One of the basic steps in the development of psychology during these years was the elaboration of the general concepts of human actions and their psychological structures (see a series of publications by A. N. Laontiev, A. V. Zaporozhets, D. B. Elkonin, P. Ya. Galperin, L. I. Bozhovich, et al.). Another research project was the study of the relation between instruction and the mental development of a child, and the methods which could be used to intensify the course of his development, such as finding a method of teaching young school children of 7-8 years to master even complex concepts of algebra, linguistics, etc. (see the works of D. B. Elconin, V. V. Davyдов, P. Ya. Galperin, et al.).

It was clearly shown how man's motives and purposes result in new forms of activity, how actions and operations – different at various of development – are acquired, and how the most complex unity of a child's personality is formed. The data was preceded by a series of theoretical hypotheses formulated by Vygotsky in the last period of his life. Later they formed part of a highly elaborated field of psychology. We are mentioning all this to say that Vygotsky's contribution to psychology is much greater than what is contained in Thought and language (which,
by the way, appeared in a shortened version in English).

So Dr. Fodor’s assumption that the development of the basic forms of thinking depends, to a great extent, on goals, purposes, and real tasks, fully concords with all that has been said by Soviet psychologists in the last decades. Thus we called Dr. Fodor’s ‘Reflections on L. S. Vygotsky’s *Thought and language*’, a ‘half-truth’. We wished to point out what seemed to us to be serious mistakes in interpretation, and to frankly express our disagreement. At the same time we wished to underline what we believe to be true in Dr. Fodor’s article, and with which points we totally agree.