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Editors

Sociogenesis
Reexamined

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6. The Concept of Sociogenesis in Cultural-Historical Theory

René van der Veer

In 1924, American Congress passed the Immigration Restriction Act that specified quotas for the immigration of people from the southern and eastern European countries. This major political event was greatly influenced by the active lobbying of eugenicists who argued that the consistently low IQ scores obtained by immigrants from these countries reflected a biologically based intellectual inferiority (Gould, 1981; Lewontin, Rose, & Kamin, 1984; Kevles, 1985).

At approximately the same time in the Soviet Union, persons whose parents (had) belonged to the social class of the bourgeoisie were submitted to political examinations and purges. Because of their inappropriate social background, they were often deemed unfit to occupy important positions in society and dismissed, imprisoned, or executed (Graham, 1987; Van der Veer & Valsiner, 1991).

These political events in the USA and the USSR were facilitated by the dominance of two extreme views on human behavior and development that formed each other's perfect mirror image. Prominent American and British psychologists such as Spearman, Galton, and Burt defended a biological determinist view of human behavior and had no difficulty at all in providing politicians with arguments in favor of eugenic measures. In their view, the different average IQ scores obtained by different races, nationalities, or (sub)cultural groups were caused by their different biological makeup. Ultimately, as twin studies had allegedly proven beyond reasonable doubt, the explanation of human behavior was to be found in the genes. In contradistinction to these Anglo-Saxon researchers, their Soviet counterparts subscribed to a cultural determinist view of human behavior arguing that, ultimately, all cultural and mental phenomena were determined by the social class of the person, which in its turn was determined by economic factors, such as productive relations. The remnants of this view can still be felt in present-day Soviet psychological writings (cf. Van der Veer, 1990).

These two extreme views on the causal determinants of the human mind formed part of the historical context of Lev Vygotsky's attempt to formulate his own view of human development. It is the purpose of this paper to outline several aspects of Vygotsky's view of human mental development and to raise
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some questions for further reflection. It will be realized that such an analysis
is not only of historical interest: a theoretically fully adequate view of human
mental development is still lacking and the ghosts of biological and cultural
determinism continue to roam among us (cf. Lewontin, et al., 1984).

That essentially biological and cultural determinist views of human devel-
opment dominate the scientific debate within psychology up to the present day
has recently been argued in an important book by Ratner (1991). The author
argues that seemingly interactionist views, such as the one advocated by
Piaget, are, in reality, heavily tilted towards the maturational, biologist side
and do not take into account the concrete conditions of human life. Likewise,
he criticizes learning theorists, such as Bandura, for their extreme environ-
mentalism. The author points out the detrimental effects of these views in
such areas as perception, emotions, and memory and forcefully argues the
validity and potential fruitfulness of a Vygotskian, sociohistorical point of
view in which human mental functioning is viewed as the result of the
individuals' participation in concrete social interactions and their employment
of cultural tools.

Some Key Ideas of Vygotsky’s View

Vygotsky opposed the biological and cultural determinism of his time and
explicitly acknowledged the role of both environment and genotype in child
development. However, he resisted a simple interactionist model in which the
trajectory of human development is viewed as the summative result of the
influences of a stable environment plus a stable genotype. He explicitly
argued that organism and environment both change during their continual
interaction and emphasized the role of individual life histories. In his Founda-
tions of Paedology (Vygotsky, 1935), for example, he argued that the concept
of environment is, in itself, problematic as the same environment plays
different roles in different age groups and for different individuals. The same
environment is subjectively experienced and intellectually understood in
different ways by children of different ages and varying backgrounds (Vygots-
ky, 1935, p. 60). Moreover, the environment is, like the child, far from
stable, but in a continual flux, not in the least because the children themselves
are actively changing their environments (Vygotsky, 1935, p. 68). With these
observations Vygotsky pointed out that the concept of environment is relative
to the individual or species we study and that organism and environment
change in complex interactions (cf. Hinde, 1982, pp. 86-87). This view
implied that a developmental state at a certain moment can never be decom-
posed into \( x \) percent genes plus \( y \) percent environment, as the order of events
(determining the individual's life history) is crucial.
Vygotsky also surmised that higher psychological functions are less dependent on hereditary factors than lower ones and suggested that the role of heredity may change for certain mental properties as children grow older. These ideas seem to have been partly based on the longitudinal twin research carried out at the time in the Moscow Medical-Genetic Institute (Luria, 1936, 1937; Luria & Mirenova, 1936; Mirenova, 1932; Vygotsky, 1935, pp. 50-51). The results of this research have never been fully published, as its basic idea was at variance with the cultural determinist ideology. Incidentally, the idea of testing twins repeatedly for the same mental traits, that is, following a longitudinal design, seems to be relatively rare in contemporary twin studies.

Lower and Higher Psychological Functions

Vygotsky's suggestion that higher psychological functions are less dependent on hereditary factors than lower ones deserves our attention. It implies dividing psychological processes into those closer to the genotype (or less environment-dependent) and those further removed from the genotype (or more environment dependent). While such a distinction can never be clear-cut—as functions will vary on a continuum and depending on the environment in question—it shows that Vygotsky attempted to formulate the intricate interplay between genotype and environment in more concrete terms. In his view, children's cognitive development rested on the transformation of lower psychological functions in a process of mastering cultural knowledge and skills and resulting in what were called higher psychological functions.

The distinction between lower and higher psychological functions in its present form goes basically back to Wundt (cf. Danziger & Shermer, in press) and seems intuitively plausible. Lower functions are generally associated with psycho-physiological processes such as reaction time, GSR, etcetera, while processes such as thinking and problem solving belong to the higher functions. It is not altogether clear, however, why these quasi-physiological processes would be less dependent on the environment, nor did Vygotsky ever clearly and consistently explain until what age we may encounter lower psychological functions, or whether they may exist forever.

In Vygotsky's view, the lower psychological processes evolved during the biological evolution of the species (that is, they are innate), whereas higher psychological processes evolve through the mastering of cultural rules and scripts in the individual's life history. This view implied that the processes thought to be specific to the human species, such as language and thinking, presupposed the existence of a cultural heritage and the social other or socius in Baldwin's terms. Higher psychological functions do not unfold according to
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a pre-programmed developmental sequence, but are mastered in a process called sociogenesis.

The Idea of Sociogenesis

Of course, many psychologists and philosophers had proposed similar views of human development and Vygotsky was very well acquainted with their work. He had thoroughly studied the work of, among others, Baldwin, Durkheim, Freud, Janet, and Natorp, and often referred to them when formulating his own view of sociogenesis. Janet, in particular, had made several speculations about the social origin of several higher conducts that seemed quite attractive to Vygotsky. He agreed, for example, with Janet’s speculation that the singular power of words over another person’s or one’s own behavior goes back to a period in the history of mankind when words were commands spoken by the chief of the tribe to rule his people (cf. Van der Veer & Valsiner, 1988, 1991). Having positively referred to Janet, he once summarized Janet’s and his view of sociogenesis in the following way:

That, which now is united in one person, and seems to us a unified holistic structure of complex higher inner psychological functions, was once in history composed of separate processes divided over individual persons. To put it simply, the higher psychological functions evolve from collective social forms of behavior....We might point to the central and leading role of the whole cultural development, whose fate cannot be confirmed more clearly than by that law of the transition from social to individual forms of behavior, that might also be called the law of the sociogenesis of the higher forms of behavior....Thus, the structures of the higher psychic functions represent a copy of the collective social relations between persons. (Vygotsky, 1931, pp. 483-485; emphasis added).

Thus, higher forms of behavior develop as the child starts internalizing social relations and attitudes. Janet (1928) had suggested that the child’s personality basically develops with the internalization of important others’ attitudes towards the child. Likewise, children’s self-control was thought to be a verbal control, based on children’s realization of the singular power words tend to have on others. In this view, then, the individual self does not exist originally but gradually evolves during childhood in a peculiar, roundabout way. While Vygotsky basically accepted that children’s higher psychological processes evolve through the internalization of rules, scripts, knowledge, and attitudes provided by the social others, he tried to merge this conception with the (Marxist) idea of cultural tools, or instruments.
Instruments

The transmission of culture from one generation to another is a complex bidirectional process that proceeds in a variety of ways. It is possible with Vygotsky to conceive of culture as a conglomerate of cultural tools, but only at the risk of losing a large part of the meaning of the concept "culture." Several reasons led Vygotsky, who was one of the finest connoisseurs of European culture of his time (cf. Van der Veer & Valsiner, 1991), to narrow down the concept of culture in this way. Among other things, he was greatly impressed by Köhler's (1921) seminal research on chimpanzees using physical tools. Köhler's work served as an example of how higher animals and human beings might use tools in problem solving (cf. Van der Veer & Valsiner, 1991). Vygotsky also tried to link up with Engels' analysis of the role of labor in human anthropogeny. Finally, thinking of culture as consisting of tools or instruments seemed particularly apt for the study of cognitive human development (as compared to emotional, or affective development).

To Vygotsky the major cultural tools of human beings were verbal signs, or concepts. In his view they play a role in human behavior that is very similar to that of tools in the behavior of chimpanzees. However, in a whole series of investigations carried out by Vygotsky and his associates, it was attempted to prove the view that the use of these types of cultural instruments was preceded in ontogeny by a period in which children only use physical tools. Human cognitive skills would first be mediated by physical means, then by external speech, and, finally, by internal speech. We can see, then, that in this series of investigations, Vygotsky, rather than using the Janetian framework of the internalization of social attitudes and relations, used a "Marxist" framework of internalizing external cultural tools. Instead of emphasizing the social other or socius, as he did in the quotation given above, he now tended to concentrate on the mastering of cultural tools that form the embodiment of the knowledge acquired by a specific culture. It is seldom realized that this implied a conceptual shift that resulted in a different concept of sociogenesis. Moreover, the idea that cognitive skills should necessarily go through a phase of mediation by material means is probably unfortunate. A detailed discussion of Vygotsky's and Leont'ev's (1931, 1932) forbidden colors experiment will make this apparent (cf. Van der Veer, 1991 for further information and a replication of this study).

The Forbidden Colors Experiment: An Example

In Leont'ev's (1931, 1932) forbidden colors experiment, children and adults were presented a memory/attention task and provided with auxiliary means to
aid performance. Leont'ev (and Vygotsky) wondered whether subjects of different ages would show different use of the instruments (colored cards) provided, whether this would be reflected in task performance (in terms of the number of mistakes made), and whether reliance on external instruments would gradually disappear as subjects grew older. The latter result would constitute an indirect argument in favor of the internalization hypothesis. Thirty subjects participated in the experiment of whom 7 of preschool age (5 to 6 years old), 15 of school age (seven children of 8 to 9 years old and 8 children of 10 to 13 years old), and 8 adults. No further information (e.g., SES, sex, ethnic background) about these subjects was provided.

The Nature of the Task

Leont'ev (1932, pp. 64-65) presented his subjects with three or four series of 18 questions, out of which 7 concerned the color of things. In each series the 2nd, 4th, 8th, 9th, 12th, 15th, and 17th question required a color answer. The other questions were either arbitrary (e.g., "Do you like reading?") or in some way prepared the next color question. Thus, one of Leont'ev’s questions was "Have you seen the sea?", which was immediately followed by the next question "What color is the sea?". The subjects were instructed to answer each question promptly and in one word, especially in the case of colors. The first series of 18 questions was presented without any additional limitations, that is, the subjects were free to answer whatever they liked. In the second series the actual rules of the game were explained: the subject should (1) not repeat the name of one and the same color within one series; and (2) avoid mentioning two specified "forbidden" colors. The third series differed from the second one insofar as the subject was now given a set of nine colored cards and told that these might help him to accomplish the task ("They must help you to win," Leont'ev, 1932, p. 64). A fourth series was only presented in cases where the subject did not show evidence of having found out how to use the cards, or did so only towards the end of the experiment. Apparently, before this fourth series, the subjects were told explicitly how to make use of the cards.

From Leont'ev’s account it becomes clear that for the subjects the whole setting was that of a "game," which they could either lose or win. The experimenter tried to introduce a relaxed atmosphere and linked the questions together—by means of phrases such as "Tell me!," or "What do you think?"—to simulate a normal conversation-like situation. Also, because the experimental situation was very much like a traditional game played in Russian (and Dutch) families, it may be assumed that the subjects felt "at home" during the "game" and "played" at an optimal level.
The Nature of the Questions

Most of Leont’ev’s questions were very simple and well within comprehension of his subjects. Examples of his questions were: “Can you draw?”; “Did you ever listen to music?”; “What color is the sea?”; “Do you like dogs?”; “Do you want to be big?,” “What colors can leaves be?,” etcetera. It should be remarked, however, that not all of the questions could be answered equally easily. To illustrate this, let us look at Leont’ev’s second series where the forbidden colors were green and yellow. His 7 color questions were, respectively: (2) “What color is your shirt?”; (4) “What color are the railway-carriages?”; (8) “What color is the floor (generally)?”; (9) “and the walls?”; (12) “What color are lilacs?”; (15) “What color can leaves be?”; (17) “What is your favorite color?”.

It is clear that some of these questions (e.g., 17 and, maybe, 15) leave considerable freedom to the subject, while others (e.g., 2 and 12) permit only one possible answer, unless the subject is prepared to give an untruthful, arbitrary answer (e.g., “Lilacs are red”). The rules of the game allow for such arbitrary answers, but it is quite likely that young subjects will find it very hard to give them. Unfortunately, Leont’ev said virtually nothing of this varying level of difficulty, mentioning only (Leont’ev, 1932, p. 65) that some questions were more “provocative of error” than others. We also do not know whether in the list given above, the second question was meant to provoke an error, that is, we do not know whether the experimenter deliberately selected some detail of the subject’s clothes that had a “forbidden” color. We may conclude, then, that some questions were more difficult than others in the sense that they, if answered truthfully, required the mentioning of one of the forbidden colors. For other questions there were more degrees of freedom.

The Colored Cards

Leont’ev provided his subjects with nine colored cards of unknown size. His colors were black, white, red, blue, yellow, green, purple (lilac), brown, and gray. The “forbidden” colors he used were green, yellow (in the second series), blue, red (third series), black, and white (fourth series). The fact that each color was represented only once and that nine cards were available is of great significance for the strategies of card use that may be followed. Thus, quite a few children followed the simple strategy of turning first the two forbidden colors upside down and then, following each color question, successively mentioned one of the remaining color cards and turned it over. In this way they avoided mentioning both the forbidden colors and the repetition of any color. Having nine cards at one’s disposal, this strategy can always be
employed as there are exactly seven color questions in each series.

The fact that each color is represented only once in the set of colored cards as well as the fact that it contains all "forbidden" colors is, of course, also of significance. Interesting variations of the game and possibly other forms of card use would arise if this were not the case.

**Forms of Card Use**

Leont'ev (1932, p. 70) claimed that the various methods of using the cards could be reduced to two different forms. One strategy was to put the forbidden colors out of the range of vision, to exhibit the remainder, and—as the subject was answering the questions—to place the already named cards on one side. This approach was very similar to the one mentioned above, but there is one essential difference. In the strategy we described, the subject can "mechanically" read off the remaining colors, which puts virtually no demands on either memory or attention processes. The only thing the subject has to do properly is to turn over the colored cards after their use. In no way, thus, does he or she have to keep track of the colors already mentioned or even to remember the forbidden colors. In the first strategy mentioned by Leont'ev, the cards are not turned over; they are merely put out of sight, which makes this strategy presumably slightly more difficult to maintain. Leont'ev (1932, p. 70) regarded this method as "the least perfect" one, reasoning that the subjects often did not use the colored cards as a real mediating device, and only put the card aside after having given their answer. Putting aside the cards, then, was little more than the registering of the spontaneously given answers. Leont'ev (1932, p. 74) was inclined to interpret this strategy as a temporary phenomenon caused by the subjects' enchantment by the method: they were so impressed by the magic power of the cards that they used them irrespective of the questions asked. Such a "formalist" phase in the use of mediating devices was characteristic for both ontogeny and phylogeny. Leont'ev (1932, p. 74) speculated:

> Probably it is just this phase of the domination of external psychological mediums, through which the development of the higher instrumented, "significative" acts of behavior pass, that reveals itself in the history of the cultural development of humanity, in those numerous and extremely worked-out systems of external methods of behavior which compose a typical feature of primitive society.

Some pages before, Leont'ev (1932, pp. 69-70) had compared the same behavior—putting the forbidden colors out of sight—to the "way...an Australian or African savage might act in freeing himself from a dangerous man by destroying his image or symbol." Thus, the fascination with a specific
elaborate method and the inability to see its limitations and real value would be characteristic of both children in a certain age period and of humanity in its "primitive" or "magic" period. For this reason, Leont'ev and Vygotsky (see Van der Veer & Valsiner, 1991) used to call children who used such a strategy—and children who showed no card use at all—"primitive" or "natural" as opposed to the "cultural" children who employed "more sophisticated" strategies.

In the second strategy discerned by Leont'ev, the cards remain in sight (the child may separate them into two rows or columns, for instance) and before each answer the child consults the available cards. In this case, then, the cards are used before the answer is given and the subjects’ behavior can be called mediated in the real sense of the word. Undoubtedly, the second method is more difficult to follow as the cards used so far are now not simply ignored, but consulted. It is only after this consultation of both the forbidden color cards, the cards used, and the remaining cards that the subjects can give their answer. To Leont'ev this meant that the second strategy reflected a higher form of (mediated) thinking typical of a later stage of mental development.

The Number of Mistakes and Their Interpretation

The most important quantitative results of Leont'ev's experiment were formed by the number of incorrect answers to the color questions in the various age groups. Table 1 summarizes his data.

Two things seem immediately evident from this table. First, the number of incorrect answers (with or without cards) seems to diminish with age. Second, performance with colored cards (Series III/IV) seems better than performance without (Series II). It was the second fact that was theoretically the most interesting to Leont'ev, and a substantial part of his paper was devoted to its

<table>
<thead>
<tr>
<th>Age</th>
<th>N (no. cards)</th>
<th>Series II (cards)</th>
<th>Series III/IV II–III/IV Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–6</td>
<td>7</td>
<td>3.9</td>
<td>3.6</td>
</tr>
<tr>
<td>8–9</td>
<td>7</td>
<td>3.3</td>
<td>1.5</td>
</tr>
<tr>
<td>10–13</td>
<td>8</td>
<td>3.1</td>
<td>0.3</td>
</tr>
<tr>
<td>22–27</td>
<td>8</td>
<td>1.4</td>
<td>0.6</td>
</tr>
</tbody>
</table>
interpretation. As can be seen, the youngest children made virtually the same number of mistakes (3.9 versus 3.6 out of 7 possible mistakes) in both card (Series III/IV) and non-card (II) series. For older children, however, the results were decidedly better for the card series (differences between Series II and III/IV of, respectively, 1.3 and 2.8). Finally, for adults the results were still in favor of the card series, but the advantage was considerably smaller (a difference between Series II and III/IV of only 0.8). Combining these results with his qualitative observations of the subjects’ behavior and the answers they gave to his questions Leont’ev came to the following interpretation of his findings.

The youngest children (5–6 years old) gave incorrect answers to slightly more than half of the color questions and the difference between the series with and without cards was very small. Leont’ev explained that these children were very easily distracted from the task and did not discover, by themselves, how to use the cards. Even after the explicit instruction on how to use them that preceded Series IV (sometimes, also, the children were allowed to watch the card use of more able peers) the children remained unable to handle the cards (Leont’ev, 1932, p. 68). At best they superficially imitated the card use of others, but their whole behavior as well as their answers to questions asked by the experimenter demonstrated a complete lack of understanding of their function. In fact, Leont’ev observed several times that the colored cards actually hindered the correct performance of children as they were drawn to some cards and kept repeating their attractive colors. In general, then, the youngest children were unable to detect and/or understand the instrumental function of the colored cards. It can be concluded, therefore, that their answers were not mediated by the external stimuli provided, but formed an immediate reaction to the question or to some accidental part of the environment. Quite another picture can be observed in the case of the older children. These children showed a considerably better result in the series with cards (Series III/IV) than in that without (Series II). As can be seen in Table 1 the differences were, respectively, 1.8 and 2.8. Leont’ev suggested that this improvement from Series II to Series III/IV was due to the children’s better understanding of the functions of the cards. The children were now increasingly capable of using the cards, often detecting their correct use spontaneously, that is, not needing the additional instruction or modeling and the extra Series IV. Leont’ev concluded that these children understood the instrumental function of the colored cards and that their thinking, thus, was mediated through external means.

The results of the adults were at first sight rather puzzling: while their number of mistakes was quite low, there was virtually no difference between the card and non-card series. At any rate, the difference between the performance in Series II and III/IV was considerably smaller (0.8) than the corresponding difference (1.8 or 2.8) for schoolchildren. In fact, the magnitude of
the difference was rather similar to that of the preschool children. Moreover, observation pointed out that the adult subjects manipulated the colored cards far less than the schoolchildren did. It would seem, then, that the behavior of adults was as unmediated or "natural" as that of these youngest children. Leont'ev, however, did not at all believe in such a peculiar form of mental regression. Instead, he claimed that

the second series of stimulation [that is, the colored cards] gets emancipated from primary external forms. What takes place is what we here call the process of "ingrowing" of the external means: the external sign turns into an internal one. (Leont'ev, 1932, p. 76)

Leont'ev argued, thus, that the behavior of adult subjects remains mediated, but that the mediation process shifts from external to internal means. He provided two arguments to substantiate his claim: First, he pointed out that the phenomenon of internalization of external means is a very general one as in the case of children who learn to do calculations by heart only after extensive training with paper and pencil calculations. It, therefore, seemed unlikely that the adults in the present task would suddenly relapse into "natural," unmediated behavior. Second, several of the adults did make use of the cards, but without manipulating them. Having spread out the cards, usually with the forbidden colors in a special position, they would fixate them after each color question and then give the correct answer. To Leont'ev this strategy formed a perfect illustration of the shift to internal means: while younger children have to remove the forbidden colors physically, the adults can carry out this operation "in their heads" using the cards only as a sort of reminder. The observed cases, therefore, demonstrated a mental operation that is halfway its internalization process.

This set of results was explained by Leont'ev in the following way: That the very young children did not display any spontaneous card use shows that children of this age do not understand the potential of cultural instruments and are still in their "pre-cultural" or "natural" period. Their performance on the task is, consequently, rather poor, and card and no-card conditions lead to equivalent results. That slightly older and older children do show improvement from no-card to card conditions proves that children of this age realize the power of the cultural instruments and are able to use them successfully. Finally, that adults show good performance in both the no-card and card condition, while at the same time relying far less on the cultural instruments provided, suggests that adults shift towards another form of mediated performance: rather than relying on external cultural instruments, such as colored cards, they rely on internal cultural instruments, such as words. In other words, what we witness in this experiment is a process of internalization.
On the Interpretation of the Forbidden Colors Task

A number of critical comments have been made concerning the nature and methodology of the forbidden colors task and the interpretation of its results (Adams, Sciortino-Brudzynski, Bjørn, & Tharp, 1987; Van der Veer, 1991). For our present purpose it will suffice to say the following: First, to designate children who do not use the colored cards provided as "pre-cultural," or "natural" is rather misleading. It is, however, the logical result of Vygotsky's narrowing down of the concept of culture. A child may be "natural" in Vygotsky's and Leont'ev's (see Van der Veer & Valsiner, 1991) way of using that word (that is, not making use of intricate cultural instruments), but "cultural" in another, and far more normal, sense of that word (that is, following all sorts of cultural models and having been molded by a specific culture in many ways). Vygotsky's and Leont'ev's view is unfortunate as it would imply that children up to 8 years old are somehow not really partaking in their culture. It is also inconsistent with Vygotsky's claim in other places (e.g., Vygotsky, 1984, p. 281) that children are social (and, thus, cultural) from their birth. Secondly, to conclude from the increasing performance of adults and their diminishing card use in a cross-sectional experiment that adults increasingly rely on internal cultural means is an indirect proof of internalization at best. Thirdly, it seems an unfortunate idea to suggest that internalization always proceeds from the use of physical, material tools, such as colored cards, to internal tool use. The idea of literal internalization loses some of its plausibility in the case of colored cards (unless the children would eat them, of course) and other physical, material means. What seems far more plausible is to think of internalization as a process in which (meta)cognitive skills are initially provided in the form of verbal assistance by more able peers or adults, which are gradually internalized by the child (cf. Wertsch's work on mother-child dialogues; Wertsch, 1980), or as a process of shifting from some external cultural mediators (e.g., cards) towards other internal cultural mediators (mostly words). Unfortunately, the forbidden colors experiment and other similar experiments conducted by Vygotsky and his associates were not suited for the study of this process.

Implications for a Concept of Sociogenesis

Vygotsky tried to integrate various views on the sociogenetic origin of specifically human behavior in one comprehensive theory. In doing so he made two conceptual distinctions that deserve additional thought: First, he distinguished between lower psychological processes tied to the genotype of the individual and higher psychological processes acquired during the indivi-
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dual's life history. Such a distinction is conceptually tenable and fruitful as long as one doesn't think it possible to somehow partition out the biological and social-cultural aspects of human behavior. As Lewontin, Rose, and Kamin (1984, p. 282) have argued, "the biological and the social are neither separable, nor antithetical, nor alternatives, but complementary...All human phenomena are simultaneously social and biological, just as they are simultaneously chemical and physical" (cf. Ratner, 1991). Secondly, he distinguished "natural," or "pre-cultural," and "cultural" periods in the development of specific cognitive processes such as memory. This distinction was unfortunate as it either suggested that children up to a certain age do not form part of the culture they grow up in or implied a use of the concept of culture in the very restricted meaning of tool use. Both views are untenable and contrary to claims made by Vygotsky (1925/1987) in other places.

For a concept of sociogenesis, it seems far more promising to view the mastering of cultural tools as only a tiny part of the transmission of culture from one generation to the next. Accepting the Janetian-Baldwinian framework we may conceive of a process of sociogenesis as a process in which social relations and attitudes (and modern researchers would add "scripts") are being internalized by the developing child. The mastering of cultural instruments may be, but need not be, particularly appropriate for the development of cognitive skills, but development involves much more than cognition. Even accepting the metaphorical model of the cultural instrument, we should be reluctant to accept the Vygotskian idea of a necessary period of reliance on physical tool use.

An adequate sociogenetic view should show and explain the essential bi-directionality of the process in which children master their culture (Valsiner, 1989). The internalization of human culture by the child involves at the same time a transformation of the tools, instruments, and scripts thus mastered. Likewise, the reciprocal process of externalization connotes activities by which what has become part of the subject's conceptual system is injected back into the environment. In such an account the internalizing process is not seen as an automatic copying operation but rather as an operation involving the coordination of the new with the old and the restructuring of both (Lawrence & Valsiner, 1993). It does away with unidirectional views of child development in which the child's own selective contribution is underemphasized. Or, to put it in Wallon's words:

The manner in which the child assimilates [culture] can have no resemblance at all with the manner in which the adult himself uses it. If the adult surpasses the child, the child in his way surpasses the adult. (Wallon, 1941/1968, p. 15)

Vygotsky would undoubtedly have agreed with this statement, and he made many valuable contributions to an adequate sociogenetic understanding of the
human mind (cf. Ratner, 1991; Van der Veer & Valsiner, 1991). Neither is there any doubt that he understood that culture is broader than cognition and technology. In this chapter, however, we have pointed out that at times he made use of a concept of culture and a view of internalization that were too narrowly defined and led to less adequate views on human sociogenesis as well as to internal inconsistencies in his thinking. A fully adequate and comprehensive view of sociogenesis should correct this one-sidedness and probably requires the integration of the contributions made by Baldwin, Janet, Vygotsky, and various other thinkers.

References


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