SOCIOCULTURAL APPROACH TO MEDIATED ACTION: AN ANALYSIS OF CLASSROOM DISCOURSE

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Does human mind exist independently of cultural, historical and social context or is it inherently tied with such context? This is the question that has been repeatedly posed by thinkers since the time of ancient Greece. Recently, it has attracted revisited interest among psychologist as well as scholars of other disciplines such as anthropology and sociology.

In this paper, we shall delineate the basic theoretical tenets of what we term a "sociocultural approach to mediated action" (Wertsch, in press). By so doing we hope to characterize our stance with regard to the question noted above. We shall then go on to provide an illustration of the way in which the theoretical framework of this sociocultural approach can be used as a tool for empirical analysis.

The sociocultural approach to mediated action outlined by Wertsch (in press) proposes that the goal of inquiry is to formulate an account of human mental functioning that recognizes its inherent relationship to cultural, historical and institutional settings. This approach can be delineated best by examining the set of assumptions underlying it.

This approach begins with the assumption that human action in general and human mental functioning in particular are socioculturally situated. This contrasts with implicit, though widely accepted assumptions in psychology which presume that mental functioning is best understood in a historical, universalistic terms. In this sense, the sociocultural approach is similar with "cultural psychology" as outlined by figures such as Cole (in press) and Shweder (1990). In Shweder's view psychological studies should be grounded in the assumption that "cultural traditions and social practices regulate, express, transform and permute the human psyche, resulting less in psychic unity for human kind than in ethnic divergences in mind, self, and emotion" (p. 1). This is not to deny universals but to point out the existing differences of human mental functioning among various sociocultural settings and to propose a "research agenda" which captures these differences.

A second basic assumption of the sociocultural approach we are outlining is that

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it takes mediated *action* as its fundamental object of study. It assumes that action and mediational means form an irreducible unit. That is, human action does not exist separately from mediational means but inherently involves mediational means which are socioculturally evolved. On the basis of this assumption about the nature of human action, Wertsch (in press) defines the agent of action as "individual(s)-acting-with-mediational-means" rather than "individual(s)". In other words, from the sociocultural perspective delineated by Wertsch (in press), the answer to the question of who is carrying out an action is "individual(s) in the concrete situation *and* the mediational means employed" (p. 12).

It is important to note that the agent is defined as individual- or *individuals*-acting-with-mediational-means. This is meant to highlight the fact that groups as well as individuals may be at issue, and it reflects the concern Vygotsky and his followers had to find a unit of analysis which can be applied both to the "intermental" and "intramental" planes of functioning. Vygotsky's broadest formulation of this point can be found in his "general genetic law of cultural development."

> Any function in the child's cultural development appears twice, or on two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts, and the development of volition. We may consider this position as a law in the full sense of the word, but it goes without saying that internalization transforms the process itself and changes its structure and functions. Social relations or relations among people genetically underlie all higher functions and their relationships (Vygotsky, 1981, p. 163).

The general genetic law of cultural development reflects a presupposition that a mental function such as thinking occurs *both* on the intermental and intramental planes. Further it presupposes that "the social dimension of consciousness is primary in time and fact. The individual dimension of consciousness is derivative and secondary" (Vygotsky, 1979, p. 30).

A third basic assumption underlying the sociocultural approach we are formulating concerns the issue of how we can deal with the relationship between social, cultural and historical context on the one hand and human mental processes without reducing the former to the latter. Wertsch (in press) has approached this issue by employing the notion of "voice" elaborated by Bakhtin (1981, 1984, 1986). In this view voices and categories of voices are understood as a mediational means which can be analyzed from multiple disciplinary perspectives. The notion of voice is not restricted to auditory signal, but concerns the phenomenon of "the speaking personality, the speaking consciousness" (Holquist and Emerson, 1981).

Wertsch (in press) has outlined several basic assumptions tied to the notion of voice.

First, it reflects the assertion that to understand human mental action one must understand the semiotic devices used to mediate such action (Wertsch, 1985). Second, it reflects the assumption that certain aspects of human mental functioning are fundamentally tied to communicative processes. The use of the term voice provides a constant reminder that even psychological processes carried out by an individual in isolation are viewed as involving processes of a communicative nature.

A third, related assumption is that one can adequately understand human mental functioning only through some sort of genetic or developmental analysis. In this connection both Vygotsky and Bakhtin believed that human communicative practices give rise to mental functioning in the individual. . . . .they were convinced that "the social dimension of consciousness is primary in time and in fact. The individual dimension of consciousness in derivative and secondary" (Vygotsky, 1979, p. 30). In this context, then, the term *voice* serves as a constant reminder that mental functioning in the individual originates in social, communicative processes (p. 12-13).

In the sociocultural approach we are outlining the notion of voice is useful in dealing with the issue of *heterogeneity* (Tulviste, 1986) as well as the issue of *dialogicality* in thinking and speaking. The notion of voic*es* opens a way to explore multiple forms of representing reality which are available to us. The possibility of multiple perspectives or voices in turn raises the issue of "Why certain forms of speaking and thinking (voices) rather than others are invoked on particular occasions" and "how and why a particular voice occupies center stage, that is why it is 'privileged' (Wertsch, 1987) in a particular setting" (Wertsch in press, p. 14).

Wertsch (in press) invokes some of Bakhtin's ideas about "social languages" in order to provide a more adequate description of the various kinds of socioculturally situated intermental and intramental functioning that one may encounter. A social language is a "discourse peculiar to a specific stratum of society (professional, age group, etc.) within a given social system at a given time" (Holquist and Emerson, 1981, p. 430), which can be considered as a variant of a "national language" such as English or Japanese. Following Bakhtin, we assume that every utterance people make inevitably invoke a social language and thus an utterance does not belong only to the individual speaker producing it but also to the sociocultural and historical context.

What we have said so far provides a very brief outline of the sociocultural approach to mediated action. Although a complete picture of this approach cannot be provided by such a brief portrayal, we hope that we have made clear its basic outlines (for further discussion, see Wertsch, in press).

AN EMPIRICAL PROJECT

On the basis of the theoretical framework outlined above, we are currently pursuing four areas of empirical study. All of these areas concern socialization, specifically socialization in which children master certain types of socioculturally situated mediated action. The types of empirical data we are examining all focus on children around the

age of ten. These data are in the form of: 1) records of complete days of activities for each of several children, 2) classroom interaction recordings, 3) recordings of discourse from classroom interaction organized around a special instructional method, and 4) textbooks used by fourth graders.

Instead of trying to review all these areas we shall focus on one of them (the classroom discourse organized in accordance with a special instructional method) and outline a few ways in which our theoretical perspective can be brought to bear on empirical evidence. This will involve the analysis of a particular form of mediated action, namely the discourse of classroom interaction.

The discourse at issue here comes from a Japanese fourth grade science classroom organized in accordance with the Hypothesis-Experiment-Instruction (HEI) method (Itakura, 1962). In general, the HEI method consists of the following six phases: 1) students are presented with a question and three or four explicitly defined alternative answers, 2) students are asked to select one of these alternatives by themselves, 3) students' responses, counted by a show of hands, are tabulated and displayed (e. g., on the blackboard), 4) students are encouraged to explain, defend, and generally discuss their choices with one another, 5) students are asked to choose an alternative once again (they may change their choices at this point), 6) students are allowed to test their predictions by observing an experiment or reading a given passage. The main part of HEI method is the discussion among the students (step 4). It typically takes up the greatest amount of time. The purpose of adopting the HEI method in our project is not to evaluate its "effectiveness" as a method of science instruction. Instead, our major purpose is to examine the kind of intermental and intramental functioning that occur in using it.

Our analyses of this functioning is grounded in the notion of the "functional dualism" of texts as outlined by Lotman (1988). Lotman's ideas may be viewed as a contemporary extension of Bakhtin's basic claims. In the article entitled "Text within a text" Lotman (1988) identifies two basic functions of texts. One is "to convey meanings adequately," and another is "to generate new meanings" (p. 34). Following Wertsch's (in press, p. 74) terminology, we shall call the former the "univocal function" and the latter the "dialogic function." Lotman (1988) describes the univocal function of text as follows,

> The first function is fulfilled best when the codes of the speaker and the listener most completely coincide and, consequently, when the text has the maximum degree of univocality. The ideal boundary mechanism for such an operation would be an artificial language and a text in an artificial language. . .Since it is this aspect of a text that is most easily modeled with the means at our disposal, this aspect of a text has been the most noticed. It has become an object of study, and at times has been identified with a text as such, obfuscating the other aspects (p. 34-35).

The univocal function of the text is close to what is assumed in transmission models of communication, which have been criticized by authors such as Reddy (1979).

Such models, which Reddy characterizes in terms of a "conduit metaphor" of communication, are based on the view that communication is basically the process in which: 1) a sender encodes message in a text, 2) the message is transmitted through the text to receiver(s), and 3) the receiver decodes the text. An implication of this function of text is uniformity in the process and consequence of such transmission. That is, through univocal transmission, maximum uniformity and accuracy are expected in information reaching a receiver.

On the contrary, the second function of text, the dialogic function, concerns what Bakhtin called multivoicedness, or dialogicality.

> The second function of a text is to generate new meanings. In this respect a text ceases to be a passive link in conveying some constant information between input (sender) and output (receiver). Whereas in the first case a difference between the message at the input and that at the output of an information circuit can occur only as a result of a defect in the communications channel, and is to be attributed to the technical imperfections of this system, in the second case such difference is the very essence of a text's function as a "thinking device." What from the first standpoint is a defect, from the second is a norm, and vice versa (p. 36).

In Lotman's view, the dialogic function of a text cannot be adequately understood though any modification of a transmission model of communication. This is due to the point that a transmission model is based on monolithic messages to be sent and received in contrast to "internal heterogeneity" (1988, p. 37) which is presupposed to dialogic function.

> The main structural attribute of a text in this second function is its internal heterogeneity. A text is a device formed as a system of heterogeneous semiotic spaces constituting a continuum in which some initial message circulates. We encounter it as an expression of one language, but for its formation a minimum of *two* languages is necessary. No text of this type can be adequately described from the standpoint of one language alone. We may come across a continuous coding with a dual code, and then one or the other organization will be overlooked from the perspective of different readers, or in conjunction with a common encoding by some dominant code and local coding of a second, third, etc., degree (p. 37).

In this passage, the use of the word "language" is almost, if not perfectly, interchangeable with "voice type" or "social language" in Bakhtin's sense. That is, the kind of heterogeneity Lotman argues here is a heterogeneity of various "voices"—the process of different voices come in contact with others. Consequently, when a text is predominantly serving the dialogic function, the meaning of text is not fixed. Instead, it is generated dynamically in the very process of different voices coming into contact with one other.

> —in its second function a text is not a passive receptacle, or bearer of some content placed in it from without, but a generator. The essence of the process of generation, however, is not only an evolution but also, to a considerable extent, an interaction between structures. Their interaction in the closed world of a text becomes an active cultural factor as a working semiotic system. A text of this type is always richer than any particular language, and cannot be put together automatically from it. A text is a semiotic space in which languages interact, interfere, and organize themselves hierarchically. (p. 37)

We have discussed the univocal function and dialogic function of discourse separately. However this does not imply that Lotman sees a text as serving either the univocal function or dialogic function in isolation. Rather, he argues that any text has both functions, but the degree to which one dominates the other varies according to sociocultural setting, area of activity, and historical period. This is precisely why Lotman formulates his argument in terms of a "functional dualism" rather than some kind of mutually exclusive dichotomy.

In what aollows, we shall attempt to explicate how the univocal and dialogic functions of text are manifested in the discourse of a science classroom organized in accordance with the HEI method. The particular problem employed in the session we shall examine was that of the "Lever and Toruku" using a balance beam. Students were presented with three questions, each of which has three alternative answers: when two weights are placed on the right side of the beam at one unit's distance away from the center and one weight is placed on the left side of the beam at 1) one unit's distance, 2) two units' distance, and 3) three units' distance away from the center, will the arm: a) lean to the left, b) lean to the right, or c) be level?

In the session analyzed here various forms of discourse occurred both between teacher and student and between student and student. In terms of the univocal and dialogic functions outlined by Lotman, each of six phases of discourse in this session can be characterized from the perspective of the degree to which one function dominates. As an example of the discourse dominated by univocal function, let us consider the following interchange.

EXCERPT I

Teacher: (1) Hai jyaa henko mitomema-sho.
[*Ok. I approve. You may change your choice of alternatives*]
Akira: (2) ichi ban ga, u kara a.
[*For (question) number one, (I switch) from C to A*]
Ni ban ga, i kara u.
[*For (guestion) number two, (I switch) from D to C*]
Teacher: (3) Hai. Tanaka.
Tanaka: (4) San ban no, . . . etto . . . i kara a.
[*For (guestion) number three, . . . ummm . . . (I switch) from B to A.*]

This interchange took place when some students were being allowed to change their choice of answers. In this interaction, the primary function of the student's utterance is to convey information to the teacher and to the other students in the class. Akira's and Tanaka's statements are made in order to convey the information about the change they have made in their choice of alternative. The rest of the class and the teacher are expected to receive such information literally as it has been stated. If the teacher had repeated Akira's utterance incorrectly (e. g., suppose that the teacher had said "Ok, Akira, you swicth from *C* to *B* for question number one"), he would have objected to the teacher's utterance and corrected it (e. g., Akira would have said "No, from *C* to *A*").

In this kind of interchange, the primary consideration is the accuracy of transmission. Therefore, "a difference between the message at the input and that at the output of an information circuit" (Lotman, 1988b, p. 36) is taken as reflecting a problem either with the sender, the communication channel, or the receiver. This is typical of interchanges where the primary function of utterances is a univocal one.

In contrast to this predominantly univocal discourse, the interaction during the fourth phase of the HEI session involving student debate was grounded primarily in the dialogic function of text. That is, in Lotman's terms the speakers' utterances were taken as "thinking devices" or "generators of meaning" rather than as self-enclosed messages or information that is to be transmitted and received accurately without any modification. Consider the following interchange. During this phase, students are encouraged to explain, defend and generally discuss their choices with one another.

EXCERPT II

T: (1) Hai Matchan.

Matchan: (2) Etto, sakki no Mie no iken ni iundakedo.
[*I am going to address the opinion Mie expressed previously.*]
(goes up to the blackboard)

(3) Sakki Yuko ga itta mitaini ne, kou atte,
[*As Yuko said earlier, something like this is the case.*]
(drawing a seesaw)
de Yuko ga kotchini a-
[*and then Yuko was at this side . . . Ummm.*]

(4) Yuko no imooto ga ne, kottchi ni notta tosuru n de-sho?
[*We suppose that Yuko's sister sits here, right ?*]

(5) Sosuruto ikurakawa turiai ga toreru tte iu n de-sho?
[*Then she (i. e., Yuko) said it balances to a certain degree, right ?*]

(6) Soredattara ne, Mie ga itta mitaini ne,
[*If so, as Mie said. . . .*]
tatoeba ne, Yuko ga koko ni i-te,
[*For example, Yuko sits here, and then*]
Yuko no imooto gane, ikura
[*Yuko's sister sits*]

koko ni ite mo, kottchi ni ite mo...
[*here, or here, or here,*]
onaji omosa... kawara-nai youna iken dakara,
[*it does not make any difference according to the opinion (i. e., Mie). Therefore*]
okashii to omou.
[*it is not right, I think*]

The objective surface form of discourse in this excerpt provides a couple of examples of how a text's dialogic function can be highlighted. The first point to be considered in this respect is that Matchan began her comments by stating that she was going to address points raised by anther student (i. e., Mie). This is an explicit acknowledgement by Matchan that she would like to take the claims of another speaker as a kind of "thinking device" for further discussion, criticism, or consideration. That is, it indicates that what she is going to do is to generate a claim (new meaning in Lotman's term) by being in contact with the voice of Mie.

The second point to be focused on in this excerpt in terms of the dialogicality of discourse is Matchan's use of reported speech in order to construct an argument against Mie's opinion. The use of reported speech is marked with verb "said" in Matchan's utterances (3), (5) and (6). In each case, Matchan *did not simply repeat* another's speech literally but *rephrased* what Yuko had said before. That is, the form of discourse used by Matchan was not "she said, '...'.", but "she said (that)....". The former form of reported speech is what Bakhtin call "direct discourse" in which the phrase within to quotation marks (reported speech) maximally corresponds to what was said before by the reported speaker in order to "maintain the integrity and authenticity' of the reported utterance. (Volosinov, 1973, p. 119). In this connection Volosinov/Bakhtin stated that

> In the first place, the basic tendency in reacting to reported speech may be to maintain its integrity and authenticity, a language may strive to forge hard and fast boundaries for reported speech. In such a case, the patterns and their modifications serve to demarcate the reported speech as clearly as possible, to screen it from penetration by the author's intonations, and to condense and enhance its individual linguistic characteristics (1973, p. 119).

The second form of reported speech [i. e., she said (that).....] is in Bakhtin's term, indirect discourse in which at least two voices are involved simultaneously.

> The processes we observe in the second direction in which the dynamism of the interorientation between reporting and reported speech moves are exactly opposite in nature. Language devises means for infiltrating reported speech with authorial retort and commentary in deft and subtle ways. The reporting context strives to break down the self-contained compactness of the reported speech, to resolve it, to obliterate its boundaries. We may call this style of speech report-

> ing *pictorial.* Its tendency is to obliterate the precise, external contours of reported speech; at the same time, the reported speech is individualized to a much greater degree—the tangibility of the various facets of an utterance may be subtly differentiated. This time the reception includes not only the referential meaning of the utterance, the statement it makes, but also all the linguistic peculiarities of its verbal implementation (1973, p. 120-121).

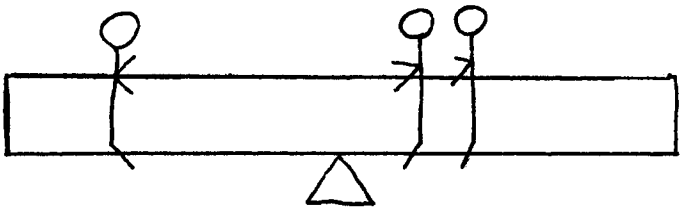
In the utterances (3), (5) and (6), Yuko's voice was not merely reproducing Matchan's statements; it rephrased what Matchan said in the context of constructing argument against Mie's opinion. In this case, the major concern about reporting Yuko and Mie's utterance is not to report or transmit what they said with maximum precision, but to incorporate them effectively for the purpose of making an argument. In Matchan's speech (reporting speech), "precise external contours" of original utterances (reported speech) of Yuko and Mie are distorted and condensed. Matchan's speech thus reveals what he was focusing on in Yuko's and Mie's utterances with regard to developing comments against Mie's opinion.

Furthermore, new meanings are created out of Yuko's and Mie's utterances. These new meanings in the context of Matchan's reporting others' speech. They are a part of Matchan's argument against Mie's opinion and hence a part of new meaning being generated. The speech of Yuko and Mie now became voices within a voice of Matchan, and "interanimate" (Wertsch, in press) each other. Yuko's utterance and Mie's utterance were used as texts, by Matchan, to reflect on and generate new argument forms. This is a striking example of how a voice can come into contact with other voices and how a text may function as a generator of new meanings.

In excerpt II, we have examined two characteristics of discourse that reflect the dialogic function of texts. In addition to these, there is at least one additional way in which the dialogic interanimation of voices occurred. During the discussion phase, the incorporation of other's utterance within one's own argument occurred not only at a verbal level but also at nonverbal level by transforming others' verbal texts into visual representation using drawings. Consider the following excerpt.

EXCERPT III

Aoki: (1) Yes, I am going to address Susumu for question No. 3.
(2) Susumu said (the bar would turn to the right because the amount of weights on the right side and the left side is) two to one a while ago, right?
(3) Even two to one....
(goes up to the board and draws a seesaw)



Students: (4) Yeaaaay, a seesaw !!.
Aoki: (5) This is seesaw, O. K.
(6) Suppose two persons around here on this side (right),
(7) And then, if one person ride around here (on the left side),.... What was it?
(8) If (the one person sits) closer or farther from here (the center of the seesaw),... What was it?... I think it is possible that (the seesaw) would balance.

The two characteristics of the dialogic function of discourse which have been examined in excerpt II are also in evidence in this excerpt. First, in utterance (1), Aoki began his argument by explicitly stating that he was going to address the explanation provided by Susumu. Second, in utterance (2), Aoki used an indirect type of reported speech; he reported Susumu's claim indirectly within the context of constructing an argument against Susumu's claim. Since we have already discussed each of these characteristics, we shall not pursue these points. Instead, we would like to focus on the cross modal transformation and incorporation of texts. For this purpose, two discourse events previous to Aoki's utterance are of specific relevance.

One of these is Susumu's claim that the bar would turn to the right regardless of the positioning of weights because the number of weights on the right and left sides is two and one, respectively. Susumu made this point without actually hanging the weights on the balance beam. A second relevant discourse event is Yuko's explanation about why the beam can balance for question no. 2 (two weights at one unit's distance from the center on the right side, and one weight at two units' distance on the left side), by providing an example of riding a seesaw with her younger sister.

What Aoki did in excerpt III is to construct an argument against Susumu's opinion by incorporating an example of a seesaw which was first provided by Yuko verbally. By incorporating a seesaw, however, Aoki did not merely repeat Yuko's utterance but made a couple of transformations. First, he transformed the verbally stated example about a seesaw into a visual representation by drawing a simplified picture. This is an interesting variation of the ways in which processes of generating new meanings can occur by using others' utterances as thinking devices. Once the picture was drawn, the construction of the argument went hand-in-hand with the picture (i. e., with a new mediational means). This point was reflected in the use of indexical words in Aoki's utterances and in his pointing after drawing the picture. In utterance (6), Aoki said "this side" instead of "right side," "here" instead of "20 inches from the center to the left" in utterance (7), and "here" in place of the center of the seesaw in the utterance (8). Such use of indexical words was possible because of the existence of the

visual representation of a seesaw drawing to which he could refer.

Second, Yuko originally stated an example of riding on the seesaw with her younger sister, and by doing so, tried to reflect the difference in weight between the two sides of a seesaw in terms of the difference in weight between her younger sister and herself. However, Aoki drew two persons of the same size on the right side of the seesaw and drew one equal sized person on the left. This modification made the representation of the seesaw more similar to the question concerning the balance beam. Thus he made it closer to the condition about which Susumu had made a claim, a claim to which Aoki was responding.

In general, Aoki constructed an argument against Susumu by incorporating the seesaw example originally stated by Yuko, but by transforming it into the drawing of seesaw which represents a condition closer to the given question. In this case, "the precise external contours" of Yuko's speech is obliterated and meaning of it is "individualized" by Aoki. This is the craracteristics to be expected when dialogic function of text dominates univocal one.

CONCLUSION

We have outlined the basic tenets of a sociocultural approach to mediated action. In this approach the notion of mediation plays an especially important role, and for this reason we have focused heavily on the kinds of mediational means, or cultural tools employed to carry out mental functioning, both on the intermental and intramental planes. This led us to examine two types of discourse which differ in terms of Lotman's functional dualism. These types of discourse occurred in a science lesson conducted in accordance with the HEI method. In the first excerpt, the function of discourse was predominantly a univocal one. That is, what students did in the excerpt was to convey information to the teacher and the rest of the class. In this type of discourse, the dialogic function was minimized. In contrast, the second and the third excerpts were characterized by a predominance of the dialogic function. This does not mean that the univocal function was not present in these latter excerpts. As Lotman has stated, the univocal function is present to some degree, however miminal, in any text. However, the dialogic function was clearly dominant in these two excerpts. In other words, what the students did primarily in excerpt II and III was to respond in some way (reject, incorporate, etc.) to other students' utterances and to provide their utterance as a text to which other students will in turn respond.

The two functions of text which we have delineated in this paper can serve as an important dimension for examining classroom discourse from the sociocultural perspective. Discourse in which the dialogic function dominates and discourse in which the univocal function dominates reflect two different types of intermental functioning in the classroom. According to Vygotsky's general genetic law of cultural development, differences in intermental functioning gives rise to differences in intramental functioning. That is, it can be expected that depending on the style of intermental functioning employed in socialization settings such as classrooms, different intramental functioning is fostered.

We may expect that when the dialogic function is dominant, students participate

primarily in constructing, questioning and extending the arguments or reasoning by utilizing utterance of others and of themselves as thinking devices. On the other hand, when the univocal function is dominant, it may be expected that students participate predominantly in receiving information, encoding it, and storing (if necessary). Consequently different types of intramental functioning are expected to be fostered by participating in predominantly dialogic discourse or univocal discourse.

The sociocultural approach we outlined at the outset of this paper suggests the importance of carrying out close analyses of discourse and other forms of mediated action. If we wish to understand the forms of intermental functioning which take place in a particular sociocultural context and their intramental consequences through process of socialization such analyses will play a central role. The pattern of discourse which is prevalent in a particular setting, such as classrooms, reflects implicit assumptions of the sociocultural contexts in which the discourse is embedded.

For example, the dialogic discourse which was common in excerpts II and III of our example is not necessarily a common form of discourse in the United States. In an ethnographic study of speech of an elementary school classroom, Mehan (1979) found that a great deal of interaction took place in a standard, scripted form. This form consists of three components: it start out with a teacher's "Initiation," e. g., asking a question; proceeds to a student's "Reply" providing an answer to the question; and is completed by the teacher's "Evaluation" of the answer provided by the student. Considering the wide spread use of this pattern, we may call it one type of social language of elementary school in U. S. (and probably in some other countries as well).

The prevalence of Initiation-Reply-Evaluation sequence of discourse reflects basic cultural assumptions about certain forms of knowledge. This knowledge is viewed as something to be transmitted, mastered and possessed by an individual. Furthermore, a heavy use of the "I-R-E" sequences outlined by Mehan presupposes that a child is supposed to possess certain knowledge at a certain age. As the research of scholars such as Ochs (1988) has demonstrated, however, the notion that individuals possess knowledge may not be universal. Instead, it may reflect certain values in particular sociocultural contexts.

The theoretical framework of the sociocultural approach to mediated action warns us not to take for granted a particular type of discourse as natural or universal. Instead, it encourages us to give an analytic eye to the relationship between types of discourse and types of sociocultural setting. Furthermore, it encourages us to understand how the mastery of particular forms of discourse in intermental functioning results in the emergence of particular forms of intramental functioning. In the end, therefore, discourse and other forms of mediated action are viewed as a crucial link between sociocultural setting and individual mental functioning. It is this link that we see as missing in many contemporary accounts of cognitive and other psychological processes, and it is this link that need to be reestablished if we are to move forward with a psychology that recognizes the inherent sociocultural situatedness of human action.

REFERENCE

Bakhtin, M. M. (1981). *The dialogic imagination ; Four essays by M. M. Bakhtin.* Austin : University of Texas Press. (edited by M. Holquist ; Translated by C. Emerson and M. Holquist).

Bakhtin, M. M. (1984). *Problem of Dostoevsky's poetics.* Minneapolis ; University of Minnesota Press. (edited and translated by C. Emerson).

Bakhtin, M. M. (1986). *Speech genres and other late essays.* Austin : University of Texas Press. (edited by C. Emerson and M. Holquist ; translated by V. W. McGee).

Cole, M. (In press) Cultural psychology : A once and future discipline ? In J. J. Berman (Ed.) *Nebraska symposium on motivation : Cross-cultural perspectives.* Lincoln : vol. 37, University of Nebraska Press.

Holquist, M. and C. Emerson (1981. *Glossary for M. M. Bakhtin.*

Itakura, K. (1962). Instruction and learning of concept "force" in static based on Kasetsu-Jikken-Jigyo (Hypothesis-Experiment-Instruction) : A new method of science teaching. *Bulletin of National Institute for Educational Research.* **52.** (in Japanese).

Lotman, Yu. M. (1988). Text within a text. *Soviet psychology.* **24**, 3, 32-51.

Mehan, H. (1979). *Learning lessons.* Cambridge, MA. : Harvard University Press.

Ochs, E. (1988). *Culture and language acquisition : Acquiring communicative competence in Western Samoa.* Cambridge : Cambridge University Press.

Reddy, M. J. (1979). The conduit metaphor : A case of frame conflict in our language about language. In A. Ortony (Ed.), *Metaphor and thought.* Cambridge : Cambridge University Press.

Shweder, R. A. (1990). Cultural psychology-what is it ? In J. W. Stigler, R. A. Shweder, and G. Herdt (Eds.) *Cultural psychology : Essays on comparative human development.* New York : Cambridge University Press.

Tulviste, P. (1986). Ob istoricheskoi geterogennosti/verbal noge myshlenlya [The historical heterogeneity of verbal thinking]. In Ya. A. Pronomarev (Ed.) *Myehlenie, obshchenie, praktika : Sborink nauchnykn truday.* [Thinking, society, practice ; A collection of scientific works]. Yaroslavl : Yaroslavskii Institut im. K. D. Ushinskii, pp. 19-29.

Volosinov, V. N. (1973). *Marxism and the philosophy of language.* New York : Seminar Press. (translated by L. Matejka and I. R. Titunik).

Vygotsky, L. S. (1979). Consciousness as a problem in the psychology of behavior. *Soviet psychology.* **17**, 4, 3-35.

Vygotsky, L. S. (1981). The genesis of higher mental functions. In Wertshch (1981).

Wertsch, J. V. (Ed.) (1981). *The concept of activity in Soviet psychology.* Armonk, N. Y. : M. E. Sharge.

Wertsch, J. V. (1985). *Vygotsky and the social formation of mind.* Cambridge, Mass. : Harvard University Press.

Wertsch, J. V. (1987). Modes of discourse in the nuclear arms debate. *Current research on peace and violence.* X, 2-3, pp. 102-112.

Wertsch, J. V. (in press)6 *Voices of the mind : A sociocultural approach to mediated action.* Cambridge, Mass. : Harvard University Press.