

When Solo Activity Is Not Privileged: Participation and Internalization Models of Development

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Key Words

Cultural development · Internalization · Participation model · Practice · Sociocultural approach

Abstract

The purpose of this paper is to examine the notion of internalization which mainly stemmed from Vygotsky's work and to provide a critique of this concept as being favorably biased toward specific sociocultural practices common in industrial societies. These practices involve global networks of alienated and decontextualized activities overemphasizing the value of people's independent solo activity and de-emphasizing the social nature of solo activities. The internalization model of cultural development, emphasizing transformation of social functions into individual skills, leads to a chain of mutually related dualisms between oppositional abstractions such as the social and the individual, the external and the internal, and the environment and the organism. Attempts to bridge these dualistic gaps seem problematic because these dual abstractions mutually constitute each other and are, thus, inseparable from the beginning. An alternative model, the participation model of cultural development (Lave and Wenger, 1991; Rogoff, 1990), which has recently emerged in different areas of the social sciences, seems helpful in overcoming such dualism inherent in the internalization model. The participation model considers individual cultural development as a validated process of transformation of individual participation in sociocultural activity. Transformation of participation involves assuming changed responsibility for the activity, redefining membership in a community of practice, and changing the sociocultural practice itself. In this paper, I argue that the participation model may be a more helpful conceptual tool for analyzing development in diverse sociocultural practices where participants' solo activities are not necessarily privileged and emphasized. Unlike the internalization model, the participation model seems to be able to address development equally well in both decontextualized and situated sociocultural practices. It also generates exploration of new questions.

The purpose of this paper is to consider two models of development: internalization and participation. In brief, the internalization model suggests that high-level psy-

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chological phenomena are a transformation of social activities, functions, and relations into individual ones. The participation model focuses on transformation of the participation of an individual in sociocultural activity. I will criticize the internalization model of development because I argue that it overemphasizes solo activity and individual skills at the expense of joint activity. I will also describe the participation model and try to argue that this model is more suitable for analysis of diverse communities with diverse developmental values and sociocultural practices. Finally, I will overview some horizons and challenges of the participation model.

One of the difficulties in writing this paper has been my realization that participation and internalization models are not just two slightly different 'points' but two different worldviews. They generate different research questions, and different research goals and methodology, and provide different perceptions of a variety of psychological phenomena. On the other hand, these two worldviews are relatives if we consider some other worldviews - for example, purely cognitive. Unlike purely cognitive approaches, they both emphasize the social, cultural, and historical nature of human mind and its processes. My major critique of the internalization model is that it is ethnocentric - it privileges mastery of solo activity as the crux of human development. I argue that this emphasis on mastery of solo activity is an ideological 'birthmark' of modern Western societies based on alienated labor (i.e. labor that does not have intrinsic value for the worker) as the main way of socioeconomic production [Marx, 1962]. Although modern Western societies are grounded in both solo and joint activities, they put their societal value more on the individual's mastery of solo activity than on the individual's mastery of joint activity. I see the participation model and the participation worldview [Lave and Wenger, 1991; Rogoff, 1990] as an alternative to the internalization model and with the ethnocentrism associated with it.

Critique of Internalization as a Theoretical Concept and Defining a Participation Model of Development

Vygotsky was not only a founder of the internalization model but also, using Bakhtin's [1990] term, its archetype. However, this paper criticizes and focuses on the notion of internalization widely used in developmental psychology rather than analyzing Vygotsky's theory in depth. It seems that Vygotsky's conceptual framework emerging from his writing is not cohesive but represents Vygotsky's conceptual development over the 10 years of his active contribution to psychology [van der Veer and Valsiner, 1991; Wertsch, 1985]. It is possible to find insights about the participation model in Vygotsky's writing as well. Not all of my critical comments are directed to Vygotsky but sometimes to researchers who continue to use the internalization model of development in their own way.

Nevertheless, I believe that Vygotsky shaped and gave the major impetus for the internalization model of development. He ethnocentrically considered Western societies as the historically most progressive and advanced [Rogoff, 1990; Wertsch, 1985]. His life project [using Sartre's, 1968, term] seemed to be how to facilitate people's connection with the network of Western sociocultural practices of mass production, formal schooling, vast institutional bureaucracy, and alienated labor. That is why, in my view, Vygotsky mainly focused on studying children, people with disabilities, and people from 'primitive' cultures. In contrast, his contemporary Russian theoretician Bakhtin, whose scholarship was deeply literary, had a very different life project. Bakhtin seemed

to be concerned with how people constitute each other in their diversity, agency, and dialogue. According to Bakhtin, people need each other not so much to successfully accomplish some goal in their cooperative efforts but because of their 'transgradience' (it literally means 'the outsideness'), which allows them to be participants of **never-ending** dialogue. Bakhtin's project was much closer to the participation worldview than Vygotsky's. I treat the difference between the internalization and participation models as differences between two worldviews driven by two different types of life project.

This paper is organized as a dialogue between the participation and internalization worldviews from a participation perspective. I do not want to pretend that I am not taking sides. However, I appreciate the internalization worldview as a dialogic partner that stimulates and even shapes development of the participation model. Thus, I consider Vygotsky or proponents of the internalization worldview as not being wrong but as researchers whose historical limitations I can see while the historical limitations of Bakhtin, proponents of the participation model, such as Lave, Wenger, and Rogoff, and myself remain largely unseen to me.

Vygotsky's Notion of Internalization

Vygotsky [1978; see Bakhurst, 1997; Wertsch, 1985] introduced the concept of internalization in order to emphasize the sociocultural nature of human development. The concept was defined as a transformation of intermental (interpsychological) external functions distributed among participants of joint sociocultural activity into intramental (intrapsychological) internal functions of individual skills, or as Vygotsky put it, 'the social plane' transforms into 'the psychological plane'. Vygotsky [1981] illustrated this conceptual idea with an example¹ (apparently imaginary) of development of the pointing gesture in infants. Vygotsky argued that the pointing gesture develops from a mother's misreading her infant's unsuccessful grasping for a remote object as the infant's command to the mother to give the object to him. This experience repeats again and again. Later the infant notices the link between his action of extending the hand and the mother's action of bringing a desired object and begins to use extending his hand instrumentally for getting remote objects with the help of the mother. Finally, the infant begins to apply the action of extending the hand to control his own attention. Vygotsky argued that the infant internalizes a socially distributed action of giving a command to another to bring a remote object (i.e., in the 'social plane' of development) into a psychological mental function of voluntary attention mediated with the index gesture (i.e., in the 'psychological plane' of development).

Figure 1 illustrates the internalization model. Social support for an action on the left picture becomes redundant on the right picture because the individual can fully apply the action by him/herself without social support. According to Vygotsky, the mental function does not simply move from the 'social' plane into individual's head. It transforms through the process of the individual's growing familiarity with roles that other people play in the distributed action [e.g., according to Vygotsky, 1987, internal private speech by the child is an abbreviation of external speech that was directed to others]. It also transforms through change in mediation (e.g., initially stretching out the hand mediated a command to another to give a remote object; then stretching out the hand mediated a command to the child himself to pay attention to a remote object or event).

¹ This example seems to come from Wundt and was shared with Mead [Valsiner, personal communication].

and the constitution and privacy of his or her inner world is understood as occurring within the individual's participation in the flow of sociocultural activity rather than context-free mental functions contained in the individual.

Internalization thesis: An individual can take skills and functions from one activity and bring them to another activity. Skills and psychological functions (e.g., memory, cognition, and motivation) can exist outside activity contexts. Activity is isomorphic to the physically unfolding time continuum. The individual exists in physical time that transcends activities.

Participation antithesis: Skills and functions are embedded in sociocultural activity [Lave, 1988]. The individual exists in the flow of sociocultural activities and cannot transcend them. Activity is not isomorphic to the unfolding physical time continuum because it is grounded in meaning. Meaning is distributed across time, space, and participants, interpreted, and renegotiated - which creates possibilities for such violations of physical time laws as reverse causality in which a future event can define the meaning of a past event.

Internalization thesis: The course of development (i.e., its teleology) is objectively defined by human sociocultural nature. Vygotsky, with his (ethnocentric) belief in the societal progress, thought that this teleology is universal. Current neoVygotskian thought in the West seems to be more relativistic, arguing that each society sets its own teleology of what is considered to be developmental [Tharp and Gallimore, 1988].

Participation antithesis: The notion of development, like the notions of activity and learning, is grounded in meaning and thus is distributed, interpreted, and renegotiated. Several contemporary sociocultural authors put emphasis on the creative role of the child (and, broadly defined, of other community newcomers), who not only contributes to shaping the process of development but also contributes to defining the direction of development (i.e., what activity and what changes of participation in the activity are valued) and changes of the community at large. Any time that a newcomer learns a community way of participating in an activity, the activity and the community have been changed to accommodate the newcomer's unique background, interests, and relationships with other people. The importance and, thus, the scope, of the change is negotiable and problematic [Griffin and Cole, 1984; Lave and Wenger, 1991; Lemke, 1995; Litowitz, 1997].

Internalization thesis: Development should be studied as a comparison of individual skills and functions before, during, and after a specially designed social intervention aiming to promote 'the zone of proximal development' [Vygotsky, 1978] and internalization. This is Vygotsky's 'formative experiment' methodology [see van der Veer and Valsiner, 1991]. This methodology is compatible with (but not absolutely the same as) the traditional pretest - intervention - posttest methodology.

Participation antithesis: Development can be observed and studied as the processes of changes of participation validated by the changing community [Lave and Wenger, 1991]. An individual test is still a joint activity shaped by the interaction of the participant and experimenter and by the institution of academia that defines the experimenter's goal and constraints of such activity.

The internalization model attempts to approach rather important and real phenomena such as the development of individual agency, the social and cultural origin of human development, individual learning to use physical and semiotic tools, and so forth. However, I argue that the internalization model has limited use in describing these real phenomena. At some point, I believe, this model makes explanations confus-

ing and its guidance in pursuing our inquiries misleading. I think that the participation model can be a promising alternative that can clarify many of the confusions promoted by the internalization model. The rest of the paper is devoted to extending the critique of each of these theses of the internalization model and to the development of the anti-theses of the participation model.

Dualism of Social and Psychological in the Internalization Model

As Rogoff [1990, 1992], Lemke [1993, personal communication] and Lave and Wenger [199 1] have pointed out, the concept of internalization leads to a chain of mutually related dualisms² between the social and the individual, the external and the internal, the environment and the organism, and the biological ('natural' in Vygotsky's terms) and the cultural. Attempts to bridge these dualistic gaps within the internalization model [Valsiner, 1991] seem to be problematic because these dual abstractions mutually constitute each other and, thus, are inseparable by definition [Rogoff, 1992].

Vygotsky [198 1] developed his concept of internalization [see van der Veer and Valsiner, 199 1, for a historical overview of the origin of Vygotsky's concept] to explain the mechanism by which socially distributed cultural functions (like mnemotechniques, literacy, language, arithmetic, conventional gestures, and so on) become individual psychological tools that provide self-regulation:

It is necessary that everything internal in higher forms was external, that is, for others it was what it now is for oneself. Any higher mental function necessarily goes through an external stage in its development because it is initially a social function. This is the center of the whole problem of internal and external behavior... When we speak of a process, 'external' means 'social'. Any higher mental function was external because it was social at some point before becoming an internal, truly mental function. [p.162]

'How does the social become the individual?' is the core question for Vygotsky's concept of internalization [Valsiner, 199 1; Wertsch, 1985]. Although Vygotsky [1987] stressed interaction and influences between inner and external behavior, this view of development implies a qualitative leap that is covered by some mediator mechanism *linking* 'social' (e.g., socially distributed knowledge) and 'individual' (e.g., individual skills) [Valsiner, 199 1]. Several authors have commented that it is difficult to define a mediating link between social and individual [Lawrence and Valsiner, 1993; Wertsch, 1985]. As Rogoff [1992] in her response to Valsiner [1991] suggests, the difficulty in identifying the 'link is related directly to the dualistic nature of the social-individual opposition derived from such an inquiry. Indeed, according to the logic underlying Vygotsky's question of transformation from social to individual, because the 'social plane' exists before the ontogenetic development and, thus, separate from the 'individual plane', any linking element has to be *either* social *or* individual. Thus, the dualism prevails without adequately addressing the link between social and individual elements.

It is possible to assume that a linking element is a mixture of both social and individual independent elements, but, as the logical consequence of this assumption, in order to solve the mystery of 'social becoming individual', it is necessary to accept that

² Dewey [1916] defined dualism as discontinuity.

the ends of the mediating link are also both social and **individual**.³ From this assumption, a dualism can be inserted in the initial and final developmental points of the link, transforming the core question into 'How 'does social-individual become **individual-social**? In this case, the development is redefined in terms of a quantitative regrouping of social and individual functioning. Thus, it seems that it is not very helpful to separate social and individual. It may be more useful to define 'social-individual' and 'individual-social' holistically as two qualitatively separate moments of an individual's participation in sociocultural practice [Wertsch, 1994].

Both the 'social' and 'psychological' planes can be viewed as forms of participation. From the participation perspective, Vygotsky's social and individual planes of development appear to reflect *different types of participation* in a specific sociocultural practice based on alienation of the participants from the sociocultural nature of the practice in an industrial society. From this point of view, Vygotsky's [1981] general law of cultural development ('Any function in the child's cultural development appears twice or in 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'.) [p. 163] is a two-snapshot picture of the process of transformation of a child's participation in sociocultural practice. The 'social plane' would involve immediate participation in the joint sociocultural activity, while the 'psychological plane' would involve mediated participation in joint sociocultural activity without direct and immediate communication with the partners [Wertsch, 1991]. The definition of cultural development as transformation of participation holds regardless of the emphasis on and value of 'purely' joint or 'purely' solo aspects of sociocultural activity in the studied community.

Participation is essentially collaborative. Skillful mastery of joint activity cannot be dissected and reduced to the individual situation-free skills of its participants because, in a joint activity, the participants often become contextual motivators and dynamic environment for each other's actions [McDermott, 1977]. For example, a successful musical improvisation in a jazz band involves musicians providing the musical and emotional context and support for each other's creative contributions as well as incorporating feedback from listeners [Sawyer, 1995]. Similarly, in innovative classrooms emphasizing 'emergent curricula' [Moll and Whitmore, 1993] and 'instructional conversations' [Tharp and Gallimore, 1988], the theme of classroom discussion often goes beyond either what the teacher preplanned for the lesson or what the students find to be interesting and entertaining by themselves. The students' emerging interests during an instructional classroom discussion provide the context, content, and motivation for the teacher's guidance, which also shapes and promotes students' interests.

Guidance and learning are always a united collaborative process rather than being separable individual processes as the internalization model implies (i.e., the teacher provides an appropriate dose of guidance to the student who internalizes it). Learning is happening not only in the 'novice' but also in the 'expert' - the novice participates in shaping the guidance that the expert provides to the novice. This mutuality and simultaneity of guiding-learning processes is especially evident in a classroom where curriculum emerges as a result of shared inquiry and ownership of the activity between the

³ In his late work, Vygotsky [1987] seemed to try to introduce a unit of analysis such as 'word' that is both 'social' and 'individual' at the same time. It is unclear whether he noticed and tried to address the dualism that appeared in his earlier work.

students and the teacher. The teacher constantly learns students' values, knowledge (and its lack), interests, inquiries, and experience through the process of guided collaboration and in building a classroom community. Students' and teacher's ideas are related to each other and integrated by the guiding efforts of the teacher and the students learning the process. In this case, a new, emerging curriculum is a result of shared inquiries between the teacher and the students [Calkins, 1986; DeBruin Parecki and Palincsar, 1995; Moll and Whitmore, 1993; Rogoff, 1994; Rogoff et al., 1996; Tharp and Gallimore, 1988; Wineburg, 1990]. Who is responsible for the guidance - the teacher? the students? - it seems to be all of them but, perhaps, to different extents and by assuming different roles. What makes a person a teacher is his or her deliberate attempt to involve another person (a student) in his/her own guidance [see Matusov and Rogoff, 1997, for more discussion of roles in schools with different educational philosophies].

Another example that illustrates transformation of participation is the adult development that occurs when adults move from participation in traditional to innovative educational institutions. Tharp and Gallimore [1988], Matusov and Rogoff [1997], and Matusov [in press] describe how adults with traditional schooling backgrounds emphasizing transmission of knowledge from the teacher to students [Cuban, 1984; Mehan, 1979] learn how to participate in an instruction-based collaborative philosophy of teaching and learning. Figure 2 illustrates my own development along these lines.

People who come from a traditional schooling background have to learn how to share their guidance, control of communication, planning, and ownership of learning activities with children. This learning involves refocusing on what is important in teaching, how to build reciprocal relations with children, and so forth. Considering these issues often leads to reshaping relationships with other people (not only children), new styles of communication, new interests, and new problems. This process of reshaping has the character of transformation rather than construction from scratch because new relations, skills, styles of communications are never absolutely new but to some degree are always based on already existing forms of participation.

In such context- and process-oriented sociocultural practices, the 'social plane' constantly transforms into another 'social plane'. Individual development, evident in changes of the character of individual's contributions to a sociocultural activity, is not independent solo performance (or an outcome of the social plane), as Vygotsky seemed to suggest, but a form of the social plane itself - a person learns how to participate differently in the sociocultural activity. This change may or may not involve increasing division of labor and solo performance embedded in joint activity. For example, the transformation of a teacher from using an adult-run educational philosophy in his classroom to using a collaborative educational philosophy does not involve anything becoming more 'inward', as the internalization model often portrays individual development.

Even when transformation of participation in a sociocultural activity involves an individual gaining more skills, solo performance, and responsibility in the activity, the internalization model still does not capture the entire phenomenon and promotes misleading research questions. For example, when a child in a mainstream middle-class society learns how to read solo for him or herself it involves more than just acquiring necessary skills. It involves availability of books of interest, people who appreciate, interpret, and discuss the readings with the reader and recognize him or her as a reader, and other activities that capitalize and promote reading. In brief, a child learning to read involves his or her becoming a member of a community of readers and writers [Smith, 1992]. Not only the child changes in the process of learning to read but also changes



The adult assumes full responsibility for guidance and joint activity

"My previous experience [as a] traditional teacher] prepared me for delivering a lesson to a whole class or an individual. I was used to controlling children's talk that was supposed to be addressed only to me. Moreover, it was my expectation as well as the students'. Students learned very early on that they can talk legitimately only **to the teacher** and only when it was allowed **by the teacher**. The teacher was supposed to be a director, conductor, and main participant of classroom interaction." (Matusov, in press) (picture by V. Iliatova).

TRANSFORMATION of
PARTICIPATION



Responsibility for guidance and joint activity is shared between the adult and children.

"... what I came to after that [in an innovative school emphasizing collaborative learning as a parent volunteer] was more than finding a middle point between control and withdrawal [of/from guidance and communication], it was a third position: the position of mutuality. This third approach nurtures collaboration between the [parent volunteer] and the children where guidance emerges from collaborative participation, shared interests, and mutual respect. Preliminary planning of the activity by the [parent volunteer] has a very general outline rather than a detailed character, anticipating children's ownership and contribution in planning the activity as well as in modifying it." (Matusov, in press) (picture by V. Iliatova).

Fig. 2. Participation model of development as an adult transforms his philosophy of teaching.

occur with the surrounding people and material environment (e.g., new and different books, newly comprehensive texts in the child's surroundings). People build new and different relationship with the child. It is impossible to understand what occurs with a child's motivation, engagement, attention, thinking, emotions, and other psychological processes without taking into consideration the entire process of the child's becoming a member of a community of practice.

The internalization model would focus a researcher of reading development on apparently misleading questions such as how the external word becomes internal for the child or how reading aloud becomes silent reading. According to the participation model, the word is never fully external, social, and material (because without meaning, a word is not a word but merely a 'scribble') and never fully internal, psychological, and ideal without some material form and conventional content. Similarly, reading is *never* exclusively aloud (social, external) or silent (psychological/internal), because print always psychologically directs a reader (i.e., 'silent', internal aspect of reading) in the reader's social and cultural world of reading content (i.e., 'aloud', external aspect of readings).

What makes aspects dominate in different forms of child's participation in reading is not 'psychological mechanisms' but how the local community of readers, which includes the child, prioritizes and defines forms of participation in its practice and the practice itself. In other words, I argue that development is not an objective process but rather a sociocultural process based on negotiation of values and social co-construction. For example, in a working class Black community described by Heath [1983], silent reading alone is considered to be alienation from the community and even, probably, disrespectful to the community and the immediate people involved. It is no surprise, as Heath found, that silent reading by children is more subordinated to reading and discussion aloud there than in a mainstream middle-class US community. In contrast, in a mainstream middle-class US community, a child's solo silent reading is a marker of the child's maturation and preparedness for school. At some point, which is defined within the immediate local community, the too-salient social and aloud aspect of the child's participation in reading may become highly discouraged and considered by the community as a marker of a child's ineptness in reading and even, sometimes, a symptom of a child's mental backwardness or disability. However, the participation model suggests that the direction (i.e. teleology), the content, and the means of this development are defined by the community of practice, in which the child participates.

In sum, in the participation model, sociocultural activity unites external and internal, individual and social, cultural and biological, and process and product not as separate entities but as aspects of sociocultural activity that mutually constitute each other [Rogoff, in press]. Following Marx [1962], I suggest that the separation of these aspects into separate entities - often manifested in tension between individual and society - is a result of historically developed social, political, and economic relations in Western societies. This idea was echoed by Piaget [1977], 'one might suppose that it is the individual that holds the truth up against society, but individual independence is a social fact, a product of civilization' [p. 220]. Similarly, Russian historian and philosopher Losev [1977] emphasized that the notions of personal freedom and societal history were grounded in specific socioeconomic and political relations that emerged in Ancient Greek societies.

It seems that behind Vygotsky's terminology of 'the social' and 'the individual' ('psychological') there is reference to the boundary between joint and solo activities. However, as Marx [1962] pointed out, both joint and solo activities are 'moments' (aspects) of sociocultural practices. Marx argued that the perceived boundary between joint and solo activity is an outcome of the phenomenon of alienation of labor in specific sociocultural practices penetrating many aspects of life in industrial societies.

The internalization model seems to emerge from the needs of industrial society to develop participants in decontextualized alienated activities. In an alienated (i.e., 'decontextualized') activity, the problem-defining process (e.g., consumers' emerging demands) becomes separated from the problem-solving process (e.g., the producers' offers of products or services) [Csikszentmihalyi and Sawyer, 1995; Lave, 1988]. Because of the mobile and disembedded character in the relationship among participants of alienated sociocultural activities, these activities have a tendency for self-organization in networks of alienated sociocultural practices propagating disengaged relationships among people throughout the society [Latour, 1987; Matusov, 1997a].

An example of such disengagement is the way that an affluent person from an industrial society may not think that it is other people who produce almost all the resources and opportunities that he or she uses - thinking about them as his or her own individual achievements and thinking about him/herself as a self-sufficient and autonomous individual. However, in the case of social or economic crises caused by revolution, political unrest, or war, people's global interconnectedness becomes evident for people [Burke, 1978]. Without providing gas for cars, ships, and airplanes; maintaining and building roads; producing electricity; and bringing food to grocery stores; a 'mighty' citizen (i.e., resident of cities) of Western civilization becomes almost helpless.

Marx's [1962] analysis reveals the socioeconomic foundation of the internalization model with its emphasis on mastery in solo activity. The alienated nature of the interdependence and interconnectedness in many sociocultural practices of industrial societies becomes evident in the fact that people are treated by the economic system as containers for universal depersonalized and decontextualized skills. According to Marx, people's work becomes a thing and a commodity for the global market, something to be bought and sold. When individual labor is a commodity in the market, solo activity has the highest value.

However, a closer look at this solo activity reveals that it is actually an element of joint activity mediated by special semiotic means [e.g., by money, Marx, 1962]. These semiotic means allow individuals to negotiate and define their individual goals in a way that constitutes joint sociocultural activities. In modern industrial societies, negotiation of goals is usually mediated by a rigid (disengaged) division of labor between people who define the problem and people who solve it - which masks the joint and sociocultural character of the activity [Argyris and Schon, 1978]. Thus, for example, the reason why so much mainstream educational attention is paid to problem *solving* and not to problem *defining* can be explained by reference to their traditional separation in the modern industrial economy of the global marketplace and the idea that the goals and curricula of educational joint activities are often (tacitly) defined by more powerful groups [Lave, 1988; Lemke, 1995]. Traditional schools seem to teach students how to use and 'travel' via the global networks of alienated sociocultural practices and how to solve problems

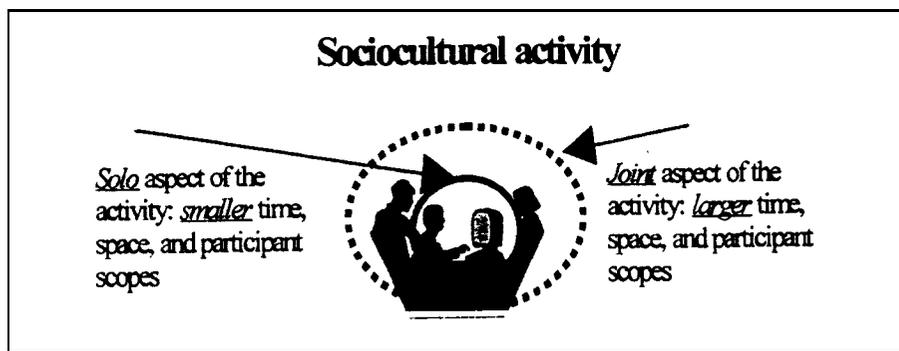


Fig. 3. Solo and joint aspects of a sociocultural activity: a research focus zooming in and out.

assigned by someone who is more powerful. However, beneath this formal and apparently one-sided direction there always exists an informal negotiation of collective goals (although it is often tacit, asymmetrical, and even coercive) [Lemke, 1995].

Vygotsky and Luria [1993] praised school knowledge as more advanced:

An Australian child who has never been beyond the boundaries of his village amazes the cultural⁴ European with his ability to orient himself in a country where he has never been. However, a European school child, who has completed just one class in geography, can assimilate more than any adult primitive man can ever assimilate in his entire lifetime... [p. 96]

However, as Latour [1987] points out, the helplessness of a person from modern industrial societies becomes evident when this person suddenly becomes disconnected from the global network. He argues that geographical maps learned by a European school child make sense only in the context of complex interwoven sociocultural practices such as shipbuilding and trade, tools, relationships, motivations, political systems, taxation, and so on of his/her society. It seems that what a European school child learns in school is how to use and participate in the global social network of alienated sociocultural practices available in industrial societies. Without support of mighty global networks, child's knowledge learned in his geography lesson in school becomes almost useless.

Individual's Skills Embedded in the Activity Flow

In the participation model of development, the unit of analysis (i.e., object of a study) is defined by neither global nor local time, space, or participant frames but by the totality of the activity, including direct and remote, past, present, and future dialogic negotiation of actual and potential meanings. The research focus in a specific study can be chosen to be on a local or a global time scale (focusing either on solo or joint activity aspects, see fig. 3), individual contribution or trajectory, interpersonal communication,

⁴ I think that the Russian word 'kul'turnii' should have been translated here as 'literate' or 'educated' ('schooled') rather than 'cultural'. In Russian, the word 'kul'tura' is used more to describe art, literature, high (university) education, technology, and even quality (e.g., 'vysokay kul'tura obsluzhivaniya' = high quality service) than with ways of life as the word 'culture' is used in English.

community development and maintenance, and so forth. The issue is to keep the unit of analysis – the totality of the activity system [Engeström, 1990] – intact.

In the participation model of development, individual contribution to the activity is seen as never fully completed and self-contained, but rather as relational, contextual, and distributed. The relationship between the participation and the internalization models in regard to individual and sociocultural activity resembles the relationship between Galileo's and Aristotle's physics in regard to matter and movement. Like in Galileo's physics, where motion itself does not have to be explained but only changes in motion (matter does not 'leave' or 'enter' motion), the sociocultural individual only changes participation in specific sociocultural activities never 'leaving' or 'entering' sociocultural activity per se. So, a sociocultural individual never joins or leaves the sociocultural activity, but changes partners, directions, and forms of participation, even when the individual is in a 'solo' phase of the activity. Sociocultural activity never begins or ends, but, instead, only transforms [Csikszentmihalyi and Sawyer, 1995; Lave and Wenger, 1991; Rogoff, 1990]. Thus, the participation model calls for studying transformation of sociocultural activities and individual participation (e.g., see example in fig. 2), not for studying the development of atomized individual context-free skills as the internalization model requires.

Concepts like internalization, acquisition, appropriation, and transmission seem to be designed to address the question of what an individual brings to and gains from a specific sociocultural activity. It seems that Vygotsky's [1978] approach to the study of individual development was to disassemble sociocultural activities and practices into separate self-contained functions (e.g., memory, index gesture, private speech) that can be internalized by the individual. The functions involve mediation and are 'liberated from immediacy of the situation [Wertsch, 1985]. Although Vygotsky emphasized the social and cultural nature of mental functions, he seemed to focus on their historical origin rather than on their situational context. In other words, Vygotskian 'higher' mental functions are seen as universal across all situations – voluntary memory, index gesture, private speech can be applied by a skillful individual to any situation without much alternation of these functions [Vygotsky, 1978]. The cultural and social nature of Vygotsky's higher mental functions is similar to cultural and social nature of material tools (like scissors, hammer, computer, and so on). In brief, Vygotsky's approach is instrumental.

In light of the participation model, the individual brings nothing to and gains nothing from sociocultural activity because the individual never leaves the flow of sociocultural activities. Similarly, animals often cross local ecological subsystems – the animals may change these subsystems and the subsystems can change the animals – but they never leave the global ecosphere. Indeed, the metaphor of bringing to/gaining from is misleading: it promotes questions investigating a participant in sociocultural activity as a container for activity-free skills (e.g., what triggers/activates the skill, where it is stored, how it gets in). While an individual transforms the activities and objects of the activities through the course of his or her actions, the individual has also been transformed him- or herself. The phenomena of individual experience, solo activity, culture, and intersubjectivity should be addressed within the activity flow. However, in the internalization model these phenomena transcend the notion of sociocultural activity and attribute to the individual the transcended context-free, universal entities like generic skills, generic knowledge, and generic memory. In contrast, the participation model emphasizes situational contexts of activities:

Specifics of the circumstances of an event or activity are essential to understanding how people act in the attempt to reach their goals. For example, a child attempting to find his mother's office telephone number will take different courses of action, depending on whether he can ask someone else present, can find and read a list containing the number, or can with some certainty remember the number, perhaps with some mnemonics used previously to fit pieces of the telephone number together. All these strategies require thinking and action tailored to the circumstances to reach the goal. Thinking cannot be meaningfully separated from the actions, the circumstances, and the goal [Rogoff, 1990, pp. 29-30].

Boundaries between activities are often fuzzy, dynamic, and even can be changed in the future. For example, writing a story can be reintroduced in 10 years, while in the meantime, the writer might consider the story finished. There is no an isomorphism between activity and the linear physical time continuum. All attempts to translate an activity in terms of physical time duration are actions of some specific activities themselves (e.g., measurements of labor in market economy) - their success or failure are defined subjectively and socially, within goals of these activities, but not objectively. Objectively, activity is grounded in the continuum of meaning and, thus, is the target of negotiation and interpretation.

Activity can have reverse causality because meaning and, thus, boundaries of previous events can be changed by sequential events. For instance, the meeting of two young people can gain the meaning of the beginning of their romance after their marriage or can obtain the meaning of flirtation or even just causal encounter if marriage or serious relations did not follow the encounter. In his sociological analysis of science, Latour [1987] nicely demonstrates the reverse causality of scientific activity where hypotheses, uncertainties, suggestions, and proposals are later re-claimed by the scientist authors as discoveries after their acceptance by the scientific community.⁵

Analysis of people's participation can be described in terms of continuity and discontinuity of the activities within the activity flow. As Cole et al. [1997] point out, 'Activities are not short-lived events or actions that have a temporally clear-cut beginning and end. They are systems that produce events and actions and evolve over lengthy periods of sociohistorical time' [p. 4]. For example, Rogoff et al. [1993] found that adults with formal education seem to use forms of traditional school guidance (e.g., like asking known-answer questions) with their toddlers long after they finish school. In this sense, schooling activity is not over for them. Their schooling background shapes the way these people provide guidance to their children.

The mechanical notion that activity and its aspects such as memory, goal, skill, motivation, and so forth can be stored in a person's body and can be activated by the environment contradicts the sociocultural nature of activity as a meaningful process embedded in different frames and having both direct and reverse causality.

⁵ The notion of the reverse causality of activity sheds light on the sociocultural nature of such notions as 'evolution', 'development', and 'progress'. Indeed, changes in species can be defined as 'evolution' only if this process is seen as an activity (by 'Nature') directed toward producing *Homo sapiens*. Similarly, 'child development' is another activity metaphor with a long-lasting dispute of who is the actor of the activity: 'Nature' or 'society'. It is interesting that in Western European and North American social sciences, it has been recently recognized the sociocultural construction of the notion of 'societal progress' is dangerous ethnocentrism but 'child development' or 'evolution of species' have still been seen as objective concepts. It probably takes time to discover anthropocentrism in the notion of 'the evolution of species' and adultocentrism in the notion of 'child development'.

Development as a Validation Process in a Community

The participation model considers individual development as a process of transformation of individual participation in sociocultural activity [Lave and Wenger, 1991; Rogoff, 1994]. This transformation process has to be *validated* by a community, society, other participants, and/or the individual him/herself. Transformation of participation involves constant renegotiation of responsibility for the activity, redefining membership in a community of practice, and change in the sociocultural practice itself [Lave and Wenger, 1991]. While describing individual development, the participation model focuses a researcher on changes in the character of a person's contributions to sociocultural activity, responsibility, and ownership for the activity, relations with other people, and membership in the community [see Rogoff, in press, for more discussion]. The participation inquiry involves issues of what facilitates and hinders such transformations, what are their directions (and how they are desired by community members), what are means for the transformations rather than what is the generic mechanism of the transformation separated from contexts and people. The purpose of participation inquiry is to bridge communities of practice: to inform both community members, the academic community, and broader society about experiences of the community rather than reveal the grandiose machinery of Nature.

Value and assigned relevance are important for both defining development (and learning) and rooted in cultural practices.

Learning is in the conditions that bring people together and organize a point of contact that allows for particular pieces of information [and behavior - EM] to take relevance: without the points of contact, without system of **relevances**, there is no learning [and development - EM], and there is little memory. Learning [and development - EM] does not belong to individual persons, but to the various conversations of which they are a part. What we call learning, warns Birdwhistell, is simply the other side of an institutionalized dance called teaching [McDermott, 1993, p. 292].

This means that communities with different practice values have different developmental trajectories. It also means that there can be a disagreement or even conflict in defining individual development among different parties.

The participation model is equally able to describe communities that *value* mastery of solo activity (like in many Western societies) and communities that value integration of participants' contributions and working together (like in many non Western societies, see below). If a community values mastery of solo activity, then the participation model suggests that a newcomer's participation in community practices will probably change toward greater differentiation of skills, division of labor, separation of individual contributions from the rest of joint sociocultural activity. de-emphasis (and decreasing awareness of) the joint and sociocultural nature of activity. and mastery of solo activity (which is seen as self-contained, self-sufficient, and self-promoted). On the other hand, if a community values integration of participants' efforts in joint activity, then a newcomer's participation in community practices will probably change toward nurturing the participant's skills of sensitivity to coordination with others' contributions. However, even in mainstream Western institutions based on alienated labor networks of the global market such as in business corporations, there is a growing awareness of the importance of joint activity and the skills necessary to participate in it, in addition to an understanding that even solo activity is embedded in sociocultural practices and complex social and institutional networks [Argyris and Schon, 1978]. Unlike the internaliza-

tion model that focuses only on describing individual development in the context of participation in global networks of decontextualized, alienated practices, the participation model seems to apply equally well to individual development in diverse cultures and practices.

In many sociocultural practices and communities, individual independence and working alone may not be seen as the final goal of learning. For example, Heath [1991] observed that Black and Mexican-origin working-class communities in the US rely heavily on distribution of knowledge and participation among members:

Adults expect talents to be differentially distributed across the community. All community members need not learn to do all tasks equally well, so long as they remain group members and can rely on mediators of various sorts within the group. [p. 15]

This kind of social network is different from the global network of alienated practices common in industrial societies because it emphasizes aligning the interests of the participants rather than maximizing gains from others and minimizing losses for oneself. In the communities described by Heath, using others as a source of help is more important than working independently for later exchange of services and products. Similar observations were made by Philips [1983] about a Native American community on the Warm Springs reservation in Oregon, and by Ochs [1987] about a Samoan community.⁶

The internalization model seems to be historically situated in advances in globalization of the networks of alienated practices promoted by both capitalist and socialist economies, with its emphasis on solo activity. However, the internalization model of development seems not to provide adequate descriptions of some important features of alienated sociocultural practices common in industrial societies. What seems to be missing in the internalization model is participants' efforts to de-emphasize the joint and sociocultural nature of the practices. For example, in many middle-class Western communities, caregivers try to stress the progressively 'independent' character of children's participation, while downplaying their own involvement, help, and guidance [Ochs and Schieffelin, 1984; Ochs, 1992]. Caregivers often reframe their joint activity with the child as solely the child's accomplishment. The joint character of the activities is 'recontextualized' [Ochs, 1992, p. 353] to become perceived by the child as the child's solo effort independent from the caregivers' help and the context of joint activity. What is striking is that this reframing is done in the context where the adults provide extra efforts to focus joint activities around the child:

⁶ I am not arguing that the ideological collectivism emphasized by many traditional societies is better than the ideological individualism stressed in many industrial societies. It is well known from recent history that ideological collectivism can take the form of totalitarianism and oppression of individuals, while ideological individualism, with its emphasis on market economy and alienated labor, can take the form of freedom from slavery, feudalism, and totalitarianism. [See Barker, 1993, for a description of the emergence of coercive collectivism as a new form of industrial control.] It is also known that ideological individualism can take the form of poverty, educational failure, alienation, manipulation, and meaninglessness, while ideological collectivism can take the form of care, social security networks, flexibility, quality of relations, and so forth. [See Triandis, 1995, for more discussion of individualist and collectivist cultures and their excesses.] My point is that the participation model equally well describes and analyzes the diversity in sociocultural practices in communities with different ideologies because, unlike the internalization approach, it highlights and holistically describes the sociocultural nature of these practices and ideologies.

⁷ In the West, the political and social regime in Soviet Russia and the People's Republic of China is often referred to as 'communism' while in those countries it is referred to as 'socialism'. Because the latter terminology is more consistent with Marx's writing, I use it here.

This is accomplished by directing praises at the child such as 'Good!' or 'Look at the beautiful castle you made!', with no mention of the mother's role nor any expectation that the child should praise the mother for her part in accomplishing the task at hand. In other words, these mothers deny their own participation; through their own praising practices, they make themselves invisible [Ochs, 1992, p. 353].

In contrast, in many traditional communities, adults assume that children eventually join ongoing community activities and do not try to center the activities around the children. In some communities, such as in traditional Samoan communities studied by Ochs [1992], praising is reported to be typically bidirectional. Mother and child praise the activity and appreciate each other's contributions by saying to each other in turns, 'Well done!', 'Well done!' In sum, the value placed on independence and solo activities in industrial societies is a form of interdependence that makes the roles and contributions of other people in sociocultural activity invisible. This feature of child rearing practices in industrial societies seems difficult to portray using the internalization model where 'social' becomes 'individual'.

The participation model of development considers developmental goals within the local values of the studied sociocultural practices and communities rather than assuming a priori that the 'psychological plane' is a more mature form than 'social plane' as is the case with the internalization model. For example, Rogoff et al. [1993] argued that different communities might have different developmental agendas in the relationship between children and caregivers. The authors' comparison of the interactional patterns between mother and toddler when the toddler was involved in operation of unfamiliar objects in a middle-class community in the US and in a Mayan town of San Pedro in Guatemala reveals that in the US community, unlike in the Mayan, the goal of development appears to involve the 'children in "literate" forms of narrative in preschool discourse' [p. 10]. In the US, mother-child interaction was organized by the mother in a separate activity from other ongoing activities (such as interaction with the visiting researchers), centered around the child (e.g., the mother used babytalk, peer-like relations with the children, and marking and praising of child's 'individual' accomplishments), in back-and-forth alternation of attention from the visiting researchers to the child. In contrast, in the Mayan community, mother-child interaction was embedded in the flow of multiple ongoing events (including mother's interaction with the researchers and other family members) and was integrated into the social fabric. It involved simultaneous attention management by the mother and the child. Both types of 'guided participation' [Rogoff, 1990] fit their own mainstream communal and institutional relations between people and their developmental goals. From the Rogoff et al. [1993] study, it becomes clear that, in these two communities, children may learn not only how to operate the unfamiliar objects brought by the researchers, but may also learn their community's cultural values. The findings support the idea that in the US community, children seem to learn how to emphasize individual contributions and their self-sufficient nature and downplay the joint nature of the activity. In the Mayan community, children seem to learn how to integrate ongoing joint activities and participants' contributions.

The diversity of developmental goals for different communities necessitates defining development in terms of progress toward the forms of participation that are validated as more responsible in specific communities of practice, rather than assuming that development is a generic process independent of the goals and community institu-

tions in which an individual develops. At the same time, the developing individual contributes to the further development of the practices (and goals and institutions) of the community by changing the practices and values of the community. Paraphrasing Emerson [1983], it is possible to conclude that development is also a dialogue between the individual and his/her future and not just a dialogue between the individual and his/her past.

Critique of Research Methodology Which Privileges Solo Activity

The individual's mastery in solo activity does not provide a better 'window' into individual's development, as traditional developmental psychological methodology suggests [Forman and McPhail, 1993; Newman et al., 1989; Parker, 1993; Rogoff et al., 1995]. Moreover, many authors argue that the study of the joint phase of a sociocultural activity provides a more comprehensive picture of individual development because in the solo phase of a sociocultural activity the sociocultural nature of the activity is usually invisible for the researchers. For example, Forman and McPhail [1993] point out that the process of negotiation of goals in lab experiments between the researchers and participants usually escapes researchers' attention. In comparing children's problem solving in solo pre- and posttests and in their joint activity, Forman and McPhail [1993] noticed that not only were children's goals different in the joint and solo activities, but in solo activities, children's goals were different from those of the researchers and the researchers' definitions of the task. For example, one child seemed to be more interested in involvement in the collaboration and guidance that she provided to her friend than in giving the researcher a justification for her solution in the posttest condition.

Solo activity organized by a researcher in the psychological lab seemed to be 'a strange joint activity with strange people in a strange place' where the dominant role of the researcher as an organizer and controller of the activity was disregarded by some children [Bronfenbrenner, 1977]. What is disregarded in laboratory pre- and posttests is the (atomized and product-oriented) institutional structure of academia that guides the child/researcher joint activity: how the goal of the assigned lab activity is (or is not) negotiated between the researcher and participants [Elbers et al., 1992; Hendrick, 1990; Lave, 1988; Matusov, 1996; Matusov et al., 1997; Perret-Clermont et al., 1991; Smolka et al., 1995; van der Veer et al., 1994].

From the participation perspective, administering tests or doing lab experiments are legitimate scientific procedures. However, these methodological procedures do not have privileged status over studies of joint activities in naturalistic settings. What these procedures allow a researcher to study is how people act in the specific (not generic!) test and/or lab *sociocultural* activities. For example, testing is a common practice in many modern Western institutions, and so studying testing is an important scientific endeavor. Lab experiments simulate such practices of industrial societies. However, it is the person-in-testing that is the focus in such a study, not the generic properties of the individual. This means that understanding of an individual's actions demonstrated in the test situation can be understood only within the context of his/her dynamic relationship with the researcher, current goals, and previous history relevant to the experience. These contexts will also define the generalization of the test/lab findings.

Lave [1993] pointed out that what is problematic (or nonproblematic) in the traditional approach turns out to be nonproblematic (or problematic) in the participation approach. Here problematicity is defined as anticipation of plausible options in someone's behavior or activity. Traditional psychology is preoccupied with the question of whether learning happened in an activity or not. The content of possible learning is controlled in the activity and thus it is nonproblematic - what is supposed to be learned in the lesson or lab experiment is controlled by the teacher or researcher and is nonnegotiable for the student or participant in the experiment. In the participation model, learning is nonproblematic - people always learn from participation in sociocultural activities. The question becomes what they learn and how much of what they learn is expected and valued by the participants. For example, students might actually learn in school what they were not expected to learn and do not learn what was expected for them to learn. So, there might be a failure in learning the expected and valued content but not in learning per se.

For example, Eckert [1989] demonstrated that different adolescent social groups (Jocks and Burnouts) successfully learn at high school, but they learn different practices. Jocks learn practices that are expected and valued by the school institution (e.g., participating in sports, governing committees, attending classes: Burnouts learn mainly those not expected and valued in the middle-class institution of school (e.g., skipping classes, resisting school officials. participating in discretionary adult activities). Eckert described Jocks as an adolescent social group that corresponds to the corporate middle class in contemporary American society. On average, Jocks 'come' from the middle class and they 'arrive' at the middle class. They develop their 'corporate middle-class skills' - including conformity, hierarchy, negotiation, and managing - through participation in school activities and with guidance by their parents and teachers. On average, Jocks learn to be involved in relationships with other adolescents primarily on a task and role basis (e.g., managerial, cooperative, and electoral). Eckert stressed the great degree of competition among Jocks, which is supported by middle-class families and the school, and suggested that they learn what they need to be able to function in this stratum.

In contrast, Burnouts are portrayed by Eckert [1989] as young representatives of the working class that mostly come from the working class and are more likely to become employed in working-class jobs. They develop 'working-class skills' through alienation from official school activities, propelling involvement in adult-like activities inside their family and their hetero-age groups. Eckert described the egalitarian character of Burnouts' relationships, emotional involvement, and non-task orientation as what they learn in their nonsanctioned school activities of hanging out outside the classrooms.

Eckert [1989] showed that what children learn in school is how to become adults in their society. Through explicit and implicit organization, school institutions guide adolescents to participate in different communities of practice and define what those practices are about. At the same time, the processes of reshaping the practices by new members involve the school institution in constant changes. Learning involves finding a role in the community of practice as well as defining a new self-identity, as a new transforming member of a community. Changing and being changed involve complex dialectics of learning and development [Lave, 1992; Lave and Wenger, 1991; Rogoff, 1990; Wenger, 1992].

Rogoff et al. [1995] suggested a shift from studying ‘what an individual can do and think’ to ‘what people do do and think’ [p. 144]. Analyzing the phenomena of conversational fluency and inarticulateness, McDermott [1988] also called for changing the focus of analysis from attributing a deficiency to an individual to describing sociocultural circumstances when such attribution is a part of the sociocultural practice:

Certainly, the term ‘ability’ is loaded: it stops where it should begin. The issue is not so much who can do what, but what is there that can be done and under what conditions. From the commonsense point of view, the list [of abilities necessary for conversational fluency] offers an accurate account of what we mean by fluency and articulateness in our culture. From the sociocultural point of view, it is exactly this easy acceptability of the list that is our topic. From the commonsense point of view, we can separate the articulate from the inarticulate and wonder why respectively they are the way they are. From the sociocultural point of view, we can only wonder how full members of the culture can come together and arrange for each other to look differently able. It is speaker abilities that we need to understand. For a sociocultural account, we must describe (a) the situations that bring speakers and hearers together, (b) the particular relational jobs available for them to work on together, and (c) the language resources, exuberant and deficient, the people have available for talking about what they are doing together. [p. 41]

A similar analysis of the difference between the traditional and sociocultural approaches can be applied not only to learning and conversational fluency, but also to other concepts. such as memory, planning, problem solving, and development. For example, in the participation approach, whether people remember something in their activities is not problematic, but the content and sociocultural circumstances (i.e., what, when, why, and how they remember) are [see Hist and Manier, 1995, for more discussion of the issue]. It is assumed that the memory process always happens but what is remembered might or might not be expected and/or desired by the activity participants. Psychological phenomena like learning, conversational fluency, memory, planning, problem solving, goal setting, and development have a socially distributed and emergent character. They are grounded in the participants’ backgrounds, and their communities’ and institutions’ organizations.

Horizons of the Participation Model of Development: Diversity and Conflicts of Values

I have argued that the practice of privileging solo activity, independence, and individualism is a part of specific sociocultural practices based on alienated division of labor. Recognition of this fact makes a researcher focus on diversity of sociocultural practices and the circumstances of their development. Variability in studying cultural communities with different practices and values should involve not only variability of ethnicity or geography but also variability of communities of practice (e.g., different professional communities) and institutions that are trying to promote diverse cultural values [e.g., traditional and innovative schools, see Matusov and Rogoff, 1997]. Comparison of different practices allows researchers to define distinct mediating means of activities, cultural values, developmental trajectories and goals, and links with other sociocultural practices.

The diverse nature of agency (i.e., local communities, institutions, society, participants, and the individual) that validates transformation of participation often makes

the notion of development problematic, conflicting, and dynamic. This fact calls for a shift of research attention from considering the diversity of developmental values between communities, societies, and cultures to focusing on diversity within the same institutions, communities, and societies.

When consensus about developmental values becomes fragile or disappears in a society or a community, it is especially important to examine the position of the researcher. A researcher has his or her own personal values and social and political goals that guide (and are guided by) the research. Sociocultural research seems to attempt to reveal, critically examine, and transform researcher personal biases rather than to separate them to make research 'objective' and value- and politics-free or to attempt to present the research in an indifferent relativistic way.

My own personal passion that contributes to shaping my research is directed toward promoting collaboration as the basis of any sociocultural practice and against institutional alienation so widespread in modern industrial societies.⁸ As a researcher, I try to study instances in which communities of practice change their practices toward promoting and institutionalizing more collaborative and respectful relationships for individuals as the highest agencies for their own actions and how these instances contribute to development of the participants. I am also interested in what functions institutional alienation serves, by what means, and whether and how it can be changed.

I think that the main challenge of the participation model of development (as a guiding tool) is to be involved in reformist efforts of practitioners that are aimed to harmonize means and ends of the reforms. In other words, the value of proposed changes (e.g., promoting collaboration between teacher and students) should guide the changes themselves (e.g., promoting collaboration between proponents and opponents of the reforms). It seems that deviation from this goal by the proponents is a strategic defeat for the participation approach even despite local tactic gains. Developmental values and their changes are closely related to the notions of philosophy of practice and community ecology [see Matusov, 1997b; Matusov and Rogoff, 1997; Rogoff et al., 1996, for more discussion]. As to the science of human development, I think that considering the dynamics of changes of participants' philosophies of practice and community ecology seems to be an interesting direction for addressing the main challenge of the participation model of development.

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⁸ This does not mean that I subscribe to a 'missionary' approach or try to impose my vision and views on other members of a community (although I may struggle avoiding it). Rather it focuses on experiences that facilitate or hinder mutuality and collaboration in the activity. This ethical approach, which I can also call 'participation', does not prerequisite shared vision for initiating collaboration, respect, and mutuality in activity [Matusov, 1997b].

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