Irreconcilable differences in Vygotsky's and Bakhtin's approaches to the social and the individual: An educational perspective

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Abstract
In Western psychology and education, up until very recently, Bakhtin has often been introduced as a scholar whose approach was compatible with and an extension of Vygotsky's cultural-historical approach. I argue that this continuity is problematic. Vygotsky's approach to the social was heavily influenced by Hegel's universalist, mono-logic, mono-logical, developmental (diachronic), activity-based philosophy. Bakhtin developed a pluralistic, essentially synchronic, dialogic, discourse- and genre-based approach to the social, involving the hybridity of co-existing competing and conflicting varieties of logic. Extrapolating Bakhtin's approach in education and psychology, I argue that from Bakhtin's dialogic framework, when a child (or any other person) is a subject of development – as in developmental psychology, or a subject of learning – as in education, development, its goals, and developmental values defining the teleology of the development, become (again) unknown for the participant (e.g., a developmental psychologist or parent).

Vygotsky and Bakhtin are two giant waves that have overwhelmed Western social sciences and humanities for the last 30 years. Although in different ways, both

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Soviet scholars put their primary emphases on the social, the cultural, the historical, the political, the practice, the context, the mediation, the social relations, and so on (Morson & Emerson, 1990; Wertsch, 1985). Without a doubt, they inspired and helped Western scholars to launch sociocultural revolutions in psychology, education, anthropology, linguistics, and so on in the 1970s and 1980s (Matusov, 2007, 2008). There are the historical, conceptual, academic, paradigmatic, and political (if not also geographic) reasons to see these scholars together as similar and complementary. For example, when one opposes an information-processing approach in cognitive psychology, the differences between Vygotsky and Bakhtin seem to be minutia. That is probably why the first commentators on Vygotsky and Bakhtin emphasize compatibility and continuity of these scholars – usually Bakhtin has been viewed as a next step after Vygotsky (e.g., Emerson, 1983; Shotter, 1993). For example, Wertsch (1985, 1991) saw the differences between Vygotsky and Bakhtin as Bakhtin's extension of Vygotsky's ideas on (linguistic) mediation to consideration of larger-scale institutional structures such as government and education systems (for more discussion, see Cresswell & Teucher, 2008). However, when the dust of sociocultural revolutions settles down, analysis of how exactly Vygotsky and Bakhtin were compatible and continuous becomes fruitful for the development and differentiation of the sociocultural paradigm.

In this article, I focus not so much on existing similarities in their approaches to the social, the individual, and the social–individual relationship, but on their irreconcilable differences that can be fruitful to explore for the field of education. Here, I argue that Vygotsky's and Bakhtin's conceptualizations are not only different but also irreconcilable. This irreconcilable difference is important for consideration of certain important issues in education.

I argue that Vygotsky's approach to the social was heavily influenced by Hegel's universalist, monologic, mono-logical, developmental (diachronic), activity-based philosophy. In contrast, Bakhtin developed a pluralistic, essentially synchronic, dialogic, discourse- and genre-based approach to the social, involving the hybridity of co-existing competing and conflicting varieties of logic. Although both scholars defined the individual through consciousness, Vygotsky's sociohistorical approach was deeply instrumental, defining consciousness through activity mediation, while Bakhtin's dialogic approach was essentially ontological, defining consciousness through bodily experience, responsibility, addressivity, responsivity, respect, human dignity, and relationship with the other (Cresswell & Teucher, 2008; Holquist, 1990; Morson & Emerson, 1990; Sidorkin, 1999). Vygotsky's sociohistorical approach implies the potential transparency of consciousnesses through the development of shared mediation in the zone of proximal development. I argue that one of Bakhtin's major contributions was the fundamental principle of non-transparency of human consciousnesses. This differentiates Bakhtin from Vygotsky and many other scholars emphasizing the social nature of human consciousness. I argue that Vygotsky's general law of moving from the social to the individual planes of development through the zone of proximal

development would be rejected by Bakhtin, for whom the individual cannot (and even should not try to) absorb the social – mutual understanding, intersubjectivity through agreement (i.e., absorbing the consciousness of another) – within his or her individual self. Extrapolating Bakhtin's approach in education (Bibler, 1993), I can conclude that for Bakhtin, education is promoting the students' voices through their active participation in and emerging responsibility towards historically and socially valuable unfolding discourses and practices (see examples of such discourses in Berlyand, 2009b; Matusov, 2009): responding to the voices of important others, making valuable contributions, and raising new questions that might not necessarily become a part of the consciousness of others.

For both Vygotsky and Bakhtin, human consciousness was the central issue of their investigation. Vygotsky argued that 'the problem of consciousness' is the central problem of psychology (Vygotsky, 1987, 1997b, 1999). Vygotsky defined consciousness as a holistic – not just cognitive but also affective, motivational, volitional, and so on – system, process, and phenomenon of meaning-making. The meaning-making is based on tool and sign mediation. He insisted that human consciousness has a social origin. In his notes (1997b), entitled 'The Problem of Consciousness,' he played with two Russian morphemes constituting the Russian word 'сознание' ('soznanie' – 'consciousness'): 1) 'знание' ('znanie' – 'knowledge'); and 2) 'со-' ('social nature,' the Russian prefix 'со-' often referring to the collective nature of the signifier, as in the English word '*co*llaborator' – somebody who works together with others). In human consciousness, cognition (mediation by tools) meets discourse (social mediation by signs) (Vygotsky, 1987). Vygotsky argued that self-consciousness (i.e., 'knowing of oneself,' self-reflection) has a social origin – one relates to oneself as others would relate to him or her:

> We are conscious of ourselves because we are conscious of others; and in an analogous manner, we are conscious of others because in our relationship to ourselves we are the same as others in their relationship to us. I am aware of myself only to the extent that I am as another for myself, i.e., only to the extent that I can perceive anew my own reflexes as new irritants. (Vygotsky, 1999, p. 276)

According to Vygotsky, the key social nature of consciousness occurs through *mutual understanding* (Vygotsky, 1987) or, using Rommeveit's (1979) term, through 'intersubjectivity.' I would add '*intersubjectivity through agreement*' (in contrast to 'intersubjectivity without agreement,' see Matusov, 1996):

> Thus, the meanings of the child's words frequently coincide with those of the adult; the meanings of a given word for the child and the adult often intersect on the same concrete object. This allows mutual understanding between the adult and child. However, the mental paths or modes of thinking that lead to this point of intersection are completely different. Even where the meaning of the child's word corresponds partially with that of the adult's speech, it is derived from entirely different

mental operations. The meaning of the child's word is the product of the syncretic merging of images that stands behind it. (Vygotsky, 1987, p. 134)

For Vygotsky, the ontogenetic development of the child, which includes education, involves growing mutual understanding and growing intersubjectivity though agreement – overlapping meaning – between the educated adult in modern Western society and a child. I think that 'the educated Western modern adult' is an ideal concept for Vygotsky, meaning a person thinking scientifically: systematically, hierarchically, conceptually, decontextually, and on-demand (de-ontologically), prioritizing the letter over the word and the word over non-verbal communication (see Rogoff, 1990, for more critique of Vygtosky's ethnocentric biases). We deal here with a universal ideal of 'educated adults' – as Vygotsky pointed out many times, actual, even highly educated, adults sometimes 'regress' into non-scientific thinking. Needless to say, Vygotsky's perception of 'scientific thinking' was closer to positivistic ideas rather than to actual science practice (as studied, for example, by Latour, 1987) or the Hegelian-Marxist dialectics so valued by Vygotsky himself (in his lectures, Davydov often criticized Vygotsky for his lack of application of dialectics in his notion of 'scientific thinking,' see, for example, Davydov & Kilpatrick, 1990). In a child's development (and learning), mutual understanding has to be reached, not with a specific adult but with the universal consciousness, closely approximated by the Western educated adult. A lack of such mutual understanding between a child and the educated Western adult signals a developmental or educational deficit in the child. The deficit gap between the ideal scientific thinking and child's actual thinking sets a developmental goal ('the zone of proximal development' [ZPD]) and learning curriculum. Such lack of mutual understanding is viewed by Vygotsky as negative (i.e., undesirable) and temporary. Studying science lessons on electricity in middle school and applying Vygotsky's model of development, Tajima (2008) extracted four phases of scientific concept development in the students: full lack of mutual understanding between the student and the teacher (i.e., non-understanding and misunderstanding); full-blown and well-articulated disagreement between them; pseudo-agreement; and, finally, the full mutual agreement. This process is mediated by the teacher's instructional efforts of modeling and explanation and the student's study efforts of acceptance and imitation.

According to Vygotsky, in my interpretation of course, mutual understanding, along with successes in goal-directed activities, provides the objectivity of human consciousness. A fully developed person has high-level self-control, self-determination, and independence. People need each other to 1) achieve goals and 2) be fully understood. In the extreme, the perfectly developed person does not need other people at all (cf. Hegel's 'The Absolute Spirit' or Ilenkov's 'The World Reason' – *Мировой Разум*). People's social relations are essentially instrumental and that is why higher mental functions are a result of internalization of these social relations, or in Vygotsky's own words, 'genetically [i.e., developmentally], social relations, real relations of people, stand behind all the higher functions and their

relations ... [T]he mental nature of man represents the totality of social relations internalized' (cited in Daniels, Cole, & Wertsch, 2007, p. 54). People need each other because they by themselves are defective, limited, and incomplete with regard to accomplishing their goals.

Someone might counter-argue that my critique of Vygotsky is a bit unfair: Vygotsky studied development, i.e., *becoming* and *not being* – he studied incomplete, developing life rather than full life. I would agree with this point, but Vygotsky's *becoming* is still very instrumental and only half-alive. It is true that life has an instrumental aspect – we do try to accomplish our goals, solve problems, and reach mutual understanding with other people – at times we even prioritize this aspect. But life has other aspects (cf. Aristotle's discussion of instrumental vs. complete conceptions; Aristotle, 2000). Life, according to Vygotsky – a life of achieving goals, solving problems, and joining the universal consciousness through internalization – seems to be eventless. There is not a true meeting of two consciousnesses in Vygotsky's developmental paradigm.

One of Bakhtin's central research questions was about the relationship between two consciousnesses – usually the relationship between the author and the hero or between two heroes in artwork (Bakhtin, 1984, 1990, 1991, 1999). This relationship can be monological when one consciousness treats the other instrumentally as a means for accomplishing his or her own goals. Or, it can be dialogical when the other consciousness is treated as having equal rights with one's own consciousness (Bakhtin, 1999). For Bakhtin, in my interpretation of course, a gap in the mutual understanding between people is a necessary condition for dialogic, humane communication, and for the entire human relationship. This orientation to the gap in mutual understanding is both a precursor and an outcome of dialogue and dialogic meaning-making. A person expects not only that the other will say something that will surprise or will be new for him or her, but this gap in understanding and expectation of the surprise by the other will always continue. This dialogic orientation of the participants on expectation of their mutual surprise from each other, of their mutual wonder about each other, of their mutual interest in each other, of their mutual respect of one another's agency of decision-making – this interest and respect is not instrumental but rather goal- and value-defining – is what I call *dialogic interaddressivity*. Dialogic interaddressivity implies that people cannot, and even must not, fully know each other. Calculability of the other person (what this person knows, how he or she feels, what exactly he or she will do and why) is not only impossible (on a full scale) but immoral, exploitative, inhumane, and a killer of dialogue (cf. Butler, 2003). Unfortunately, as Bakhtin pointed out, this is exactly the relationship between the teacher and the student in a conventional classroom:

> In an environment of ... monologism the genuine interaction of consciousness is impossible and thus genuine dialogue is impossible as well. In essence ... [monologism] knows only a single mode of cognitive interaction among consciousnesses: someone who knows and possesses the truth instructs someone who is ignorant of it and in

error; that is, it is the interaction of a teacher and a pupil, which, it follows, can be only a pedagogical dialogue. (Bakhtin, 1999, p. 81)

Bakhtin insisted that this extreme monologism cannot be accomplished without literally killing another consciousness. Even in conventional school, dialogue is still alive but in a very distorted, oppressive, and painful form (Matusov, 2009). As Hegel (Hegl & Baillie, 1967) showed through his analysis of master–slave relations, even in slavery, dialogism of two consciousnesses is preserved, although, of course, in a very distorted form.

The participants' orientation of dialogic interaddressivity is a necessary but insufficient condition of dialogue. For dialogue to occur, the participants should not only expect to be surprised by each other (dialogic interaddressivity) but also have to share a focus on a common subject that is both interesting and problematic for all. The problematic aspect(s) of the common topic – a particular issue (i.e., subjectivity) – can be different for different participants. I call this second requirement *interproblematicity*. Interproblematicity involves the participants' genuine interest in the problem here and now (i.e., their ontological engagement; Matusov, 2009; cf. also 'questions of immediate concern,' Keenan & Schieffelin, 1983); genuine interest in what the other participants have to say about it (i.e., their dialogic interaddressivity); seriousness about their own contributions; readiness, if not desire, to hear other participants' judgments of them (i.e., their responsibility); persuasiveness based on the discourse rather than an authority, tradition or prejudice (i.e., internally persuasive discourse); and acknowledgement of equal rights for the participants to define the problem and engage in and disengage from the communication about it (i.e., mutual respect).

From Vygotsky's perspective, Bakhtin's dialogic approach is anti-developmental: Bakhtin starts with analysis of the communication of adults, where human ontogenetic development is already accomplished. From Bakhtin's perspective, Vygotsky's instrumental approach is monologic and inhumane. Children are seen as objects of pedagogical actions of educated adults and objects of psychological research by developmental psychologists, rather than being conscious and having equal rights.

Let me analyze these irreconcilable differences in details by considering the case of a museum discourse to see how Vygotsky's and Bakhtin's approaches would respond to it.

Discourse on 'the heaviest stone in the world' in a natural history museum

In the summer of 2007, together with two other people, I visited a museum of local natural history, Jostedalsbreen National Park Center, in Stryn, Norway (http://www.jostedalsbre.no), and we saw the following exhibit of a local stone:

The sign says in English, 'The heaviest stone in the world, 1 litre is 3.3 kilos. More than 400 millions years old. Lent by Torgeir T. Garmo' (the English
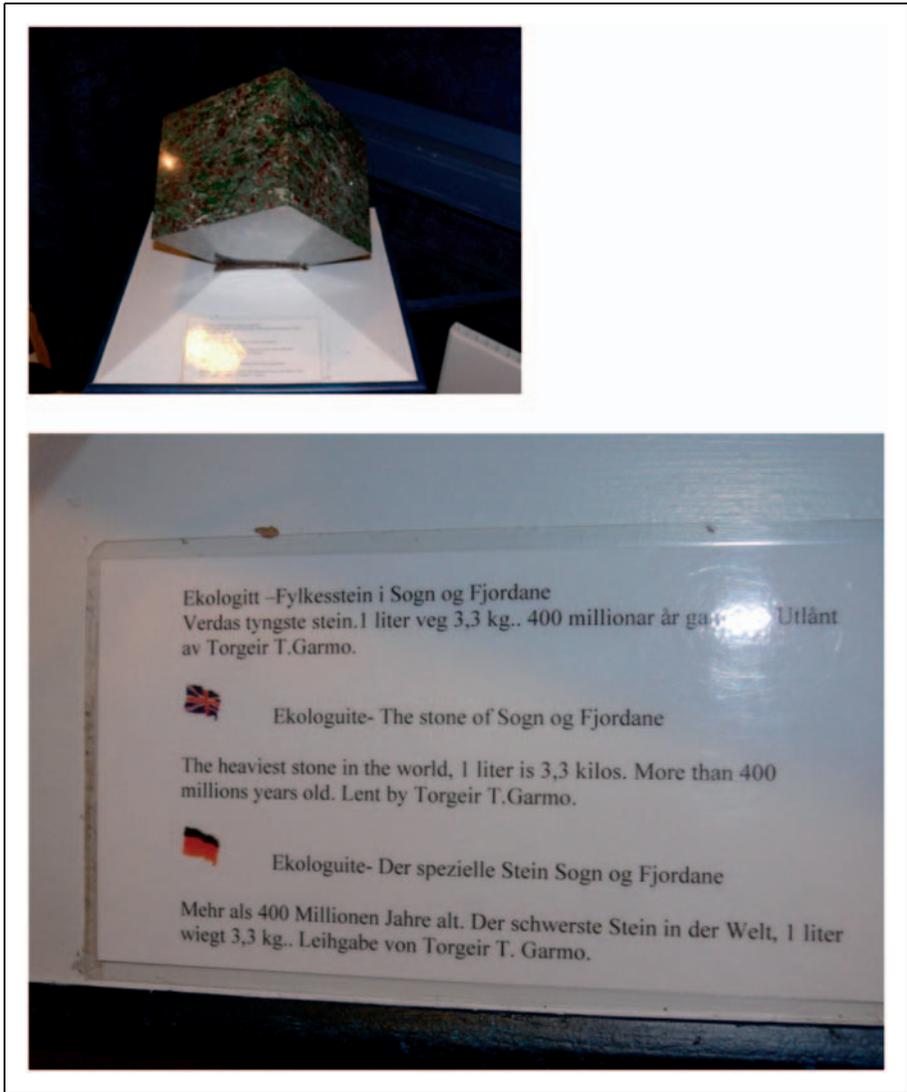
Figure 1. The exhibit of 'the heaviest stone in the world' in Jostedalsbreen National Park Center, in Stryn, Norway, photo by Eugene Matusov.

grammar is original). Aside from the problem of translating from Norwegian to English (although my Google translation of 'Verdas tyngste stein' was 'The world's heaviest stone'), I was thinking how Vygotsky and Bakhtin would react to this sign in a museum of the natural history.

Vygotsky: Teaching misconception and promoting 'thinking in complexes'

There is no such thing as 'the heaviest stone in the world,' because one can add more weight to it. However, even if this had existed (or can be imagined), its volume of 1 litre weighing 3.3 kilograms is not relevant. There is a confusion here between the physical variable of the weight (or even more exact, of the mass) of the stone and the physical variable of the density of the stone. The latter can be measured by the mass of the stone (i.e., 3.3 kg) in one unit of its volume (i.e., 1 liter). Therefore, there are at least three confusions here:

1. Confusion between the density and the weight;
2. Confusion between the weight and the mass;
3. Confusion between a unit of volume applied to liquids (i.e., litres) and a unit of volume that is usually applied to solid materials (e.g., cubical metres).

The latter confusion is the least serious because it is about a human convention for measurement of volume, and the first confusion is the most serious because it is not only substantive but also essential for understanding the physical phenomenon that the scientific exhibit is concerned with.

The density and the weight of objects do not correlate – they simply do not have any connection. A great amount of cotton can be heavier than a small amount of iron. This is the physical reality. However, psychologically, the density and the weight can perceptually correlate in our experience. There is an old children's puzzle, 'What is heavier: 1 kg of feathers or 1 kg of iron?'. Many children and some adults would fall into the trap and say that 1 kg of iron is heavier than 1 kg of feathers, while actually 1 kg of feathers and 1 kg of iron have the same weight, since their mass (and thus weight) is the same.

Vygotsky called such a type of thinking based on personal perception 'thinking in complexes' or 'complexive thinking' (Vygotsky, 1987, p. 136). He defined thinking in complexes in the following way:

> The foundation of the complex lies in empirical connections that emerge in the individual's immediate experience. A complex is first and foremost a concrete unification of a group of objects based on the empirical similarity of separate objects to one another. This is fundamental to all the characteristics of this mode of thinking. The most important characteristic of complexive thinking is that it occurs on the plane of concrete-thinking rather than on the plane of abstract-logical thinking. Therefore, the complex is not characterized by the underlying unity of connections which helped to establish it [as the real scientific concept is]. (Vygotsky, 1987, p. 137)

Based on his research of forming contrived conceptions of geometric forms in children, Vygotsky identified five developmental stages, following one after another in ontogenetic development of complexive thinking: associative, collection-like, chain-like, diffuse, and pseudo-concept. Without going into unnecessary details

here, Vygotsky probably would have considered the complex presented in the museum sign as 'a diffuse complex' grounded in a child's practical diffused generalizations of his or her experience (p. 141) – in this case, between weight and density. Indeed, in the child's (and adult's) everyday experience, high-density objects are often heavier while low-density objects are often lighter.

Vygotsky might argue that the museum tries to use reasoning familiar to many children and to some uneducated adults in the exhibit sign in order to make it easier for them to relate to the message and therefore the exclusivity of the local stone. However, this pedagogical approach does disservice to the visitors because instead of leading their development by providing a 'zone of proximal development' (Vygotsky, 1978), the instruction follows the existing status of their cognitive development. The museum's unscientific sign, 'the world's heaviest stone,' confuses the physical concepts of density and weight, and exploits 'complexive thinking' (Vygotsky, 1987) to communicate the message about the local stone's exclusiveness rather than challenging this thinking and promoting developmentally advanced scientific thinking concepts. Using Piaget's terminology, the museum sign helps to seamlessly assimilate the presented information into the child's (or uneducated adult's) already-known cognitive operations and schemes. If we view learning as increasing intersubjectivity between the educated middle-class Western adult and the child, the museum sign does not provide tools for such learning. There is very little challenge and education here and few opportunities for cognitive development. The exhibit sign has to be clean and purified of the numerous misconceptions in order to become educationally valuable. Thus, I argue, Vygotsky would disapprove of the exhibit.

Bakhtin: Heterodiscoursia promoting dialogue

In contrast to Vygotsky, Bakhtin might see *heterodiscoursia* in the exhibit sign. In Russian, Bakhtin used two terms: '*разноголосие*' ('*raznogolosie*') and '*разноречие*' ('*raznorechie*'). English translations usually use two terms: 'heteroglossia' and 'intertextuality.' The former is a rather good literal translation from Russian '*разноголосие*,' while the latter is Kristeva's term and invention that not only does not reflect Bakhtin's term '*разноречие*' (literally 'different speech-ness'), but arguably also distorts Bakhtin's theory, making it sound like structuralism (for more critical discussion, see Todorov, 1984). I want to offer the new term (and a new word) *heterodiscoursia* to translate the Russian term '*разноречие*' used by Bakhtin.[1] Also, the notion of 'discourse' has been nicely developed in Western literature (see, for example, Gee, 1996).

At least four distinct discourses could potentially be abstracted from the 'The heaviest stone in the world' exhibit:

1. Science discourse presented in:
   a. the organization of the entire museum, usually designed by museum educators (Falk & Dierking, 1992, 2000; Matusov & Rogoff, 1995);

    b. the presentation of the stone shaped as a perfect geometric form of cube;

    c. the sentences '1 liter is 3.3 kilos. More than 400 millions years old.'

2. Particular everyday discourse, presented in the sentence, 'The heaviest stone in the world' (cf. 'Phillies, the strongest baseball team in the world').

3. Philanthropy discourse, presented in the sentence, 'Lent by Torgeir T. Garmo'.

4. Immediate discourse of the museum visitors coming to the exhibit (Falk & Dierking, 1992, 2000; Matusov & Rogoff, 1995).

The collisions of these four discourses could generate diverse interproblematicities among the museum visitors attending the heaviest stone exhibit, such as: 'What does "the heaviest stone in the world" mean?'; 'How do the scientists know how old the stone is?'; 'Why is it in this shape?'; 'Who is Torgier T. Garmo?'; 'How did he find the stone?'; 'Did he charge the museum or is it his philanthropy?'; and so on.

Actually, my two fellow visitors and I stopped at the exhibit for quite a bit. I had gone to the Stryn museum of local natural history with my wife, Alla, and the husband of my colleague and friend, Kristin. My wife, Alla, is a computer programmer working for a financial company in the US, who is interested in photography and the arts. Kristin is a retired but still very active math professor from the University of Bergen, who, among many other things, works on math modeling tsunami waves. Kristin brought us to the museum as part of our tour of Stryn, a beautiful city located on shores of a fjord in central western Norway and the childhood place of his wife, Olga Dysthe. Olga could not join us, but we were supposed to meet immediately after the museum visit. Three of us had come to the museum after visiting a very beautiful fjord lake in nearby Stryn. Below I try to reconstruct our conversation.

When I started taking photos of the exhibit about 'the heaviest stone of the world,' my wife, Alla, asked me why I was taking pictures. I told her that I found the exhibit sign interesting and that I might use it in my classes for preservice teachers and graduate students of education. Kristin asked me what was so interesting about the sign. I told him that some science educators would find the sign confusing, misleading, and pedagogically wrong. I asked him whether it was confusing for him, and he told me that it was not at all. He said that the wording 'the heaviest stone in the world' invited conversation among visitors about what it meant for a stone to be the heaviest in the world. Kristin's statement gave me the idea to research whether, on average, visitors to this museum spent more time at this exhibit because of the sign – I shared this idea with Alla and Kristin. I told them about the methodologically clever museum research (Crowley & Callanan, 1998; Crowley, Callanan, Tenenbaum, & Allen, 2001) that was done by my colleague, Kevin Crowley, with whom I shared my postdoctoral office in Santa Cruz, California. Alla knew him as well.

Alla added that she was also puzzled by this statement. I asked her why, and she explained that she understood that of course there were heavier boulders than this stone, but that it meant something else. She said something like, 'I was never good

in physics at school but I remember the term in Russian ... what's it in English? Oh, yes, the density. It's about the stone's density, not its weight.' I asked, 'But is the sign confusing for you?'. She replied, 'Not really. High density things feel heavy [she made a gesture with her right hand as if weighing a high density object in her hand – I have reconstructed Alla's gesture in the photo below]. Of course, I know that the density is about the material and not about the thing. By the way, what makes this stone so dense?'. I shrugged my shoulder as if to say, 'I dunno.' But Kristin replied, 'I don't know its chemistry, but I'm sure it was done under high pressure. The stone looks greenish and reddish to me. I suspect iron and chrome, but I could be wrong.'

My wife asked us whether it was a precious stone – we did not know, but Kristin suggested asking at the museum store (if the store had jewelry made out of local stones exhibited in the museum). I asked Alla and Kristin whether they knew what made a stone precious or not. They did not know. At some point, Alla added, 'Another strange thing on this sign for me is "liters".' Kristin asked, 'Why? Is it because in the United States you use gallons? This is metric.' Alla replied, 'No, in Russia[2] we also use metric measurements, but usually we use liters for milk, not for stones.' Kristin agreed, 'Oh, yes, we do too. I wonder if this cube has the volume of

Figure 2. Alla shows how dense objects are felt heavy. Reconstruction of the gesture. Photo by Eugene Matusov.

a liter. They might cut exactly 1 liter of cube because 1 liter is the most familiar volume for people – at least in Europe, in the metric zone.' We all started assessing how much a liter would look like. I also remember Kristin talking about teaching his students and how he, like me, would notice things in everyday life to bring into his classes which could provoke good discussions among his students.

As we were talking, I was trying to take numerous digital photos of the stone and its exhibit sign, but I was not satisfied with my photography: when I used the flash, I always got an annoying reflection (see the photos above), but when I forced my camera not to use its flash, I got out-of-focus pictures because of my hand movements – it was too dark and the camera required a longer exposure. We had conversations about this problem while talking about the stone: both Kristin and Alla made suggestions to me (as you can see, my final pictures were far from perfect). Finally, we also discussed whether we should move because we had to meet with Olga at a certain time and Alla also wanted to take some artistic pictures of stones outside the museum pavilion. Checking the time and assessing how long the drive would take, we decided to move away from the exhibit.

I wish I had recorded our conversation! It definitely had many topical centers of interproblematicity, including: 1) discussion of what 'the heaviest stone in the world' meant; 2) the relationship between the density and the weight as features of the material versus the object; 3) what made the stone so dense; 4) educational issues of teaching through provocations and contradictions; 5) using liters to measure the volume of solid objects; 6) assessing the volume of the stone cube; 7) the difference in measurement systems between Europe and the US; 8) how to take a good photo of reflective objects in a dark room; 9) time management; 10) whether the stone was precious, and what defined preciousness in stones and why; 11) whether museum exhibits with provocative and controversial signs generated more discussions among visitors and therefore they would spend more time at them; 12) methodology of museum research, and probably further topics that I cannot remember. In many ways, the *multi-topic* discourse that occurred at the exhibit was similar to one that I described in an afterschool activity of the Robotics club where I studied the ecology of discourse (Matusov, 2009, Chapter 10).

Some of these topics represent a related family, while some do not connect much with each other. Some were sustained and continued, while some were short-lived (but they might re-emerge in different settings with different participants under different circumstances). Mostly our discussions involved building on each others' ideas (Matusov, Bell, & Rogoff, 2002) or dialogue-agreement (in contrast to 'dialogue-argument,' see Kurganov, 2009). The participants were genuinely interested in each other's contributions (there was dialogic interaddressivity) and in the discussed topics – i.e., there was ontological engagement (in contrast to non-ontological engagement, '2 + 2 = ?' – '4,' or ontological disengagement, '2 + 2 = ?' – 'leave me alone!', Matusov, 2009). The discourses were embodied in the general organization of the museum, the organization of the exhibit, the language genres of the signs and the participants, the participants' body orientation toward each other and to the exhibit and museum (there were very few other visitors), their body

gestures (see Figure 1), embodied conceptual orientations and metaphors (see Nunez, Edwards, & Matos, 1999), and the emotional-volitional and emotional-evaluative tone of the participants as Bakhtin described:

> Everything that pertains to me enters my consciousness, beginning with my name, from the external world through the mouths of others (my mother, and so forth), with their intonation, in their emotional value assigning tonality. I realize myself initially through others: from them I perceive words, forms, and tonalities for the formation of the initial idea of myself . . . Just as the body is formed initially in the mother's womb (body), a person's consciousness awakens wrapped in another's consciousness. (Bakhtin, 1986, p. 138)

Of course, the discussions among us, three highly educated adults, about the exhibit cannot be considered 'typical' (although I wonder if such a thing as 'typical' discussion exists at all). It is not clear how, let's say, a child and an adult visitor would interact around this exhibit, or whether they would interact at all. One could also argue that, although at the time I did not fully realize the pedagogical potential this heterodiscoursia exhibited, Bakhtin's approach guided me – so this might be considered a pedagogical artifact rather than a 'naturally' occurring event. All of this is true. However, my goal here was precisely to demonstrate the pedagogical potential of heterodiscoursia that *can* generate dialogic interaddressivity, interproblematicity, ontological engagement, and internally persuasive discourse among the participants. Of course, the event of heterodiscoursia cannot ever be guaranteed or designed, but it can be promoted or made more difficult (but never impossible).

Conclusions

In my judgment, Vygotsky's approach was mainly and essentially functional and instrumental. He viewed the social and the psychological as systems of mediated and unmediated mental functions (i.e., memory, planning, problem-solving, motivation, volition, emotion, awareness) to accomplish certain goals (Vygotsky, 1997a). The difference between the social and the psychological functions was not well articulated by Vygotsky beyond his claim that the social functions are distributed (including division of labor) and unfolded, while the psychological functions are concentrated, abbreviated, and integrated with other functions such as, for example, thinking and speech (Vygotsky, 1987). The individual is defined by achieving mastery of a task (in his research, this task was usually assigned by the experimenter, or in school by the teacher). The relationship between the social and the psychological was defined by Vygotsky in his so-called general genetic law:

> 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. (Vygotsky, 1981, p. 163)

The process of the transformation of the social into the individual ('psychological' in Vygotsky's term) was called *internalization* by Vygotsky (the term that he seemed to borrow from Freud, probably through Luria, the chairman of the Freudian society in the USSR; Matusov, 1998; van der Veer & Valsiner, 1991). Thus, for example, social speech becomes inner speech, although Vygotsky implied the opposite process of *externalization*, when the individual transforms into the social – when psychological functions contribute to development of qualitatively new social functions – apparently he was not interested in this as much as he was in internalization. For Vygotsky, the process of internalization defined both individual development and individual learning under instruction. Despite his introduction of the fruitful notion of 'the zone of proximal development' (Vygotsky, 1978), the process of the social becoming the individual remained vague (Valsiner, 1988; van der Veer & Valsiner, 1991). As I argue elsewhere (Matusov, 1998), this vagueness is a result of Vygotsky's unhelpful dualism.

Studying Vygotsky's theoretical and empirical legacy, I have come to the conclusion that Vygotsky's approach to the individual (and to the social) was outside of 1) practice and 2) discourse. Although he did point to their importance, Vygotsky did not empirically investigate specific cultural-historical practices, institutions, or circumstances of people's lives in any depth. He often accepted the institution of conventional schooling and the institution of conventional academic research uncritically, as if schooling provides education per se while academic research can provide windows into the research participants' minds, rather than both schooling and research representing particular socio-cultural-historical practices (Cole, Gay, Glick, & Sharp, 1971; Rogoff, 1990; Scribner, 1977; Scribner & Cole, 1981; Wertsch, 1985). For example, Vygotsky made the following remark:

> In the preschool age, the child is asked, 'Do you know what your name is?' and the child answers: 'Kolya.' He is not consciously aware of the fact that the focus of the question is not what he is called but whether or not he knows his name. He knows his name, but is not consciously aware of his capacity in this respect. (Vygotsky, 1987, p. 190)

Alternatively, Vygotsky 'was not consciously aware' that the child might not be familiar with the conventional school genre of quizzing – asking information-known questions. Also, Vygotsky did not seem to realize that meaning (e.g., of the adult's question) is not unilaterally rooted in the utterance (i.e., the adult question) but rather actively constructed by the listener (i.e., the child) in his response to the utterance (Bakhtin, 1986; Matusov, 2009). The child could focus on the pragmatics of the strange, unfamiliar adult asking about his name (i.e., 'What might a stranger be asking about, interested in, but my name?!') – it

is interesting that Vygotsky discussed the functional grammar in the same book but not in this example (Vygotsky, 1987). The genre of decontextualized testing common in conventional schools might not be familiar to the preschooler, Kolya. In my view, Zinchenko (1985) correctly points out that Vygotsky was stronger as a methodologist than as a psychologist. As a methodologist, Vygotsky criticized some contemporary scholars for viewing children as self-contained rather than as participants of sociocultural and historical practices. Let me provide just two examples of his methodological critique of Montessori and Piaget:

> [T]he teaching [of reading and writing to preschool children] should be organized in such a way that reading and writing are necessary for something. If they are used only to write official greetings to the staff or whatever the teacher thinks up (and clearly suggests to them), then the exercise will be purely mechanical and may soon bore the child ... Reading and writing must be something the child needs. Here we have the most vivid example of the basic contradiction that appears in teaching of writing not only in Montessori's school but in most other schools as well, namely, that writing is taught as a motor skill and not as complex cultural activity. (Vygotsky, 1978, pp. 117–118)

> When the [preschool] child is asked why the sun does not fall, he naturally gives a syncretic answer. Clearly, these answers are important symptoms of the tendencies that guide the child's thought in situations that have no links to his experience. However, if we ask the child about things that are accessible to his experience (the specific content of this class of things being determined of course by the education and upbringing of the particular child), we will probably not receive a syncretic answer. If a child is asked why he fell when he has stumbled on a rock and fallen, not even the youngest child will answer in the way that Piaget's children answered when they were asked why the moon doesn't fall to the earth. (Vygotsky, 1987, p. 89)

However, as a psychologist, Vygotsky did not apply this idea of considering practices and life ecologies in his own research, even in his and Luria's cross-cultural study (Vygotsky & Luria, 1993). As a psychologist, Vygotsky viewed the individual as a container of self-contained higher mental functions. I wish Vygotsky-the-psychologist had listened to Vygotsky-the-methodologist.

I argue that Vygotsky's approach to discourse was mono-topical, mono-consciousness, decontextualized, systematic, mono-logic, and hierarchical – in other words, using Bakhtin's term, it was monological. This type of discourse was the acme of cognitive development and was represented, according to Vygotsky, by scientific discourse involving scientific concepts:

> Scientific concepts have a different relationship to the child's personal experience than spontaneous concepts. In school instruction, concepts emerge and develop along an

entirely different path they do in the child's personal experience. The internal motives that move the child forward in the formation of scientific concepts are completely different than those that direct his thought in the formation of spontaneous concepts. When concepts are acquired in school, the child's thought is presented with different tasks than when his thought is left to itself.

Thus, the foundation of conscious awareness is the generalization or abstraction of the mental processes, which leads to their mastery. Instruction has a decisive role in this process. Scientific concepts have a unique relationship to the object. This relationship is mediated through other concepts that themselves have internal hierarchical system of [conceptual] interrelationships . . . *Thus, conscious awareness enters through the gate opened up by the scientific concept*. (Vygotsky, 1987, p. 191, italics in original)

For my discussion here, the most important point that differentiates Vygotsky from Bakhtin is the mono-consciousness of Vygotsky's approach to discourse. According to Vygotsky, the acme of human development (at least in terms of cognitive and linguistic developments) is when an individual masters self-control and problem-solving through inner speech equipped by scientific concepts (this, as we saw in the quote above, 'opens gate for one's conscious awareness'). Vygotsky did not raise the issue of dialogic interaddressivity between *I* and *me* in inner speech. Why would *I* and *me* address each other? What does *I* not know about *me* that *I* wants to know? What new thought can *me* tell *I* that *I* has not known in advance? In short, why do *I* and *me* need to talk? For Vygotsky, inner speech is a special type of mediation for better mastery of self-control (Vygotsky, 1987, 1997a) within one consciousness.

However, Bakhtin would argue that within one consciousness that is transparent to itself – when everything is visible and understandable, without any mystery or puzzlement – any speech (internal or external) is impossible: 'No human events are developed or resolved within the bounds of a single consciousness . . . No Nirvana is possible for a *single* consciousness. A single consciousness is *contradictio in adjecto*. Consciousness is in essence multiple. *Pluria tantum*' (Bakhtin, 1999, p. 288). It is difficult, if not impossible altogether, to play chess with oneself – at least, to play without cheating the other side – precisely because all strategic moves are transparent to both sides. There is no gap of understanding between two consciousnesses. *I* cannot split *I* and *me*. Of course, it is possible to consider each chess position in each move by each side as a task to solve, but in this case, the chess game will lose its communicative and relational aspect as a battle between two antagonistic sides (i.e., players) and will turn into a chain of chess tasks. Transparency and oneness of the consciousness preserves tasks and goals but kills communication and relationship.

I argue that Vygotsky's mono-consciousness approach continues Hegel's philosophy of activity, according to which through historical world development, all individual consciousness will be united and collapse in the Absolute Spirit as the

substance and the subject of history (Hegel & Baillie, 1967). Interestingly enough, Marxist Soviet philosopher Ilenkov came to this same conclusion, calling his version of the united consciousness the Universal Reason – *Мировой Разум* (Ilenkov, 1991). For Vygotsky, the Absolute Spirit or the Universal Reason was the inner speech of the educated Western (middle-class) adult equipped with the scientific concept. From this perspective, education (and development) involves achieving such absolute mono-consciousness. As Bakhtin pointed out, in this approach of extreme monologism any gap of understanding is seen as a temporary deviation from this absolute mono-consciousness – it is an error, a misconception, a flaw, and a deficit. Through the zone of proximal development with a more knowledgeable other or in an advanced activity, a child or a student joins the absolute mono-consciousness of scientific concept-based culture.

Bakhtin's vision of education was different, in my view. His poly-consciousness approach, in which 'selfhood is not a particular voice within, but a particular way of combining many voices within' (Morson & Emerson, 1990, p. 221), guides educators to design possibilities for interaddressivity and interproblematicity in the classroom. This means that any curriculum has to be dialogic – i.e., problematic for both the teacher and the students (Berlyand, 2009a; Matusov, 2009). The participants' orientation of dialogic interaddressivity – expecting that each participant contributes something new, interesting, and important – is necessary in dialogic pedagogy for deep learning as well as the participants' ontological engagement in the joint problem. Ontological engagement is achieved through attention to the participants' questions, interests, and needs, and through organizing special dialogic provocations (Berlyand, 2009b; Matusov, 2009; Miyazaki, 2006, 2007; Solomadin & Kurganov, 2009). The goal of education is not to make students have the same understanding as the teacher, but rather to engage them in historically valuable discourses, to become familiar with historically, culturally, and socially important voices, to learn how to address these voices, and to develop responsible replies to them without an expectation of an agreement or an emerging consensus.

Acknowledgments

Notes

1. I chose to apply the Greek prefix 'hetero' and ending 'ia' to the Latin word 'discourse,' to make it sounded more like 'heteroglossia.' The words *heteroglossia* and *heterodiscoursia* thereby sound similar, as in Russian: *разноголосие* (*raznogolosie*) and *разноречие* (*raznorechie*); notice the similarity in the prefixes and endings of the Russian words.
2. My wife and I immigrated to the US from the then USSR in 1988.

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