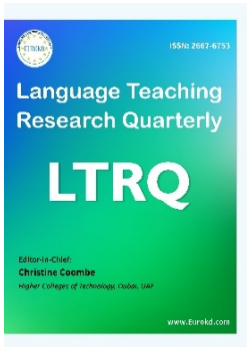

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Sociocultural Consciousness: A Once and Future Approach

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Abstract

Vygotsky chose consciousness as a foundation for his approach to psychology, although it took several iterations to arrive at his final conception of a dynamic, semantic system, which included not only thought and language, the subject of most of his work up to that point, but how we refract our experience of the world through personhood as well. However, he had simply run out of time, and it is likely that his thinking on the matter would have evolved, although what he accomplished is of value not only on its own terms, but as key to understanding his work as a whole. Today the neuroscientific approach to consciousness has resulted in numerous theories, experimental work, and other forms of investigation, and interestingly, the two most prominent theories at this time address the two areas of most concern to Vygotsky: functional and phenomenal consciousness.

Keywords: *Sociocultural Consciousness, Sociocultural Theory, Vygotsky, James Lantolf, Perezhivanie*

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[1]Introduction

The last sentence of *Thinking and Speech* (Vygotsky, 1987, p. 285), "The meaningful word is a microcosm of human consciousness," reflects the extent to which Vygotsky's thinking had changed, that it was not only the connection of language to thought that he now considered but the larger more inclusive domain of consciousness, and although he maintained a central focus on language in the final period of his work, he also broadened his view of psychology and psychological development to include how each of us as a "personality" refracts the events and environments that make up our lives through his concept of *Perezhivanie*, which he also

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designated as a unit of consciousness, and which emphasized "sense" (*smysl*) in association with phenomenal experience as opposed to "meaning" (*znachenie*).

Vygotsky had decided that consciousness constituted the cornerstone in his approach to human psychology in the early 1930s, having parted ways on this issue with A.N. Leontiev, his long-time colleague, who maintained in keeping with the establishment that activity should serve as the fundamental unit of psychology. However, Vygotsky had little chance to pursue consciousness in the manner he wanted to, running out of time, calling it the "promised land" in a last note we are aware of, written the night before he died.

My own interest in consciousness first derived from philosophy, literature, and Buddhism, keeping in mind that there was virtually no scientific work on the subject up until around the 1990s, science viewing consciousness as subjectivity and as such unknowable from a third-person, scientific perspective. However, after completing my master's degree in applied linguistics and while teaching in Japan a colleague steered me to the 1962 translation of *Thought and Language*. In that translation, although problematic in other respects, Vygotsky's view of consciousness as central to this theorizing did come through, and which I found very intriguing.

Later, as a doctoral student under the guidance of Vera John-Steiner, a Vygotskian scholar, I chose to focus on the production of second language (L2) private speech, and around the time I had completed my coursework, she informed me that Jim Lantolf, whose research on L2 private speech with Bill Frawley had helped to inspire my own, was seeking contributions for a Vygotskian L2 volume. Not too long after that I took a position in the same department at Cornell University where Jim was a professor, working there as a Lecturer for a few years, taking classes, contributing a study to the *Cornell Working Papers in Linguistics*, and interacting with Jim and his students on sociocultural theory and its application to applied linguistics.

Around 2010 I realized that neuroscientists were pursuing the study of consciousness and the brain and that this work also had spread to psychology and began to wonder how this research might relate to Vygotsky's views on consciousness, particularly at that time, in relation to private and inner speech. About five years later Jim and I began intermittently discussing theories and models of consciousness along with experimentation and other forms of investigation, particularly with an eye to how these efforts accorded with Vygotsky's thinking, for example, whether or not a materialist view of consciousness is viable or if the physical and the mental are two separate "substances," harkening back to Descartes and Spinoza, the latter having influenced Vygotsky since his teenage years growing up in Gomel. I am grateful to Jim for his insights and our on-going exchanges on such matters.

Below, I first address how Vygotsky's thinking on consciousness changed over time. Next, I consider the two most prominent theories of consciousness at this time and how they relate to Vygotsky's views. After that, I focus on some of the research on language and consciousness found in neuropsychology, again in relation to Vygotsky's thinking, which is then followed by a few concluding remarks. Also, I rely on my previous work on these topics (McCafferty, 2021; 2020; 2018).

Vygotsky's Perspectives on Consciousness

Vygotsky's overall conception of psychological development was heavily dependent on the view that we are born into a social, cultural-historical world which we come to understand and act in through imitating those around us (imitation in his sense involves agency, not blindly copying others) and includes, most importantly for Vygotsky, the development of language and eventually other forms of semiotic mediation, music, mathematics, and the fine arts, for example. Also, key to development for Vygotsky was the process of internalization as transformative, driven by our individual make up as we become ourselves, or how at first the world shapes us and then how we shape the world and as manifested both internally and externally.

In relation to consciousness and the dialectical relationship of the social and the psychological, Vygotsky, on the last page of *Thinking and Speech* uses Marx and Engles' view of the relationship between language and consciousness, that "Language is practical consciousness that exists also for other men, and for that reason alone it exists for me personally as well" (1974, pp. 50-51, cited in Eagleton, 2016, p. 19) to support his view of the interrelationship of thought, language, and consciousness in defining word: "If language is consciousness that exists in practice for other people, and therefore myself, then it is not only the development of thought but the development of consciousness as a whole that is connected with the development of the word". However, this conceptualization was already implicit in his dissertation, "The psychology of Art" (1971), in which he examined how different genres of creative writing evoke shared psychological sensibilities as formed within the frames of cultural activity that people experience, some of which are universally celebrated (Shakespeare's Hamlet) and some of which are more culturally specific.

Vygotsky's first paper presented in 1924, which was also to become his first publication, however, focused on consciousness through the Pavlovian lens of reflexology, the dominant form of psychology in Russia at the time. Despite the theory's behaviorist roots, Vygotsky believed that speech should be considered a "special system of reflexes" serving as "a transmission vehicle between any other systems of reflexes" and "unvoiced" for the most part in the mediation of consciousness (cited in Zavershneva, 2014, p. 67), which indicates that his real thinking on psychology lay elsewhere.

Vygotsky also presented a second paper in 1924, which although included reflexology, called for an end to the dualistic study of psychology, that is, either objectivist (behaviorist) or subjectivist (introspective) accounts, and in the 1925 publication that followed, "Consciousness in the study of Behavior," Vygotsky had begun to formulate cultural-historical theory in reference to the "doubling of experience" as connected both across generations (phylogenesis) and from the social to the psychological (sociogenesis).

By 1927, Vygotsky no longer accepted "reflex" as a valid unit of analysis for the study of human psychology, turning instead to sign and sign operations as mediating the higher psychological functions (logic, planning, problem-solving, and the like), but without making direct ties to consciousness. However, a few years later in 1930 he introduced a formal, three-tiered, dynamic, interfunctional system of consciousness that also included the higher mental functions. The first tier consisted of biological, innate influences; the second centered on sign-mediated operations, principally language, which, critically, he regarded as "human consciousness;" and the final tier was connected to voluntary control, self-reflection, and self-

consciousness (Zavershneva, 2014, p. 73). As with his earlier theorizing on the higher psychological functions, cognition remained the central feature of human consciousness in the system, although this was to change.

By 1932, Vygotsky had realized the shortcomings of his previous model, moving to an understanding of consciousness as a dynamic, semantic (semic) system as found in *Thinking and Sp*eech. Additionally, emotions had become "the core of personality" for him (Zvershneva, 2016, p. 137), and emotions and motive were now a part of the system with cognition and inseparable in consciousness as well. Also, during this last period of his theorizing, and mostly after the completion of *Thinking and Speech*, Vygotsky put forth his concept of *Perezhivanie*, the interrelationship of person and environment, or how a person ("personality") experiences the world as refracted through the psyche, which he also considered central to emotional development. *Perezhivanie* emphasizes the qualitative, phenomenal nature, of consciousness, including all forms of sense, not only as language related.

This new perspective, particularly as relates to language, and mostly as found on the final pages of Thinking *and Speech*, also included a consideration of "the communication of consciousness," that "thought is not only mediated externally by signs. It is mediated internally by meanings. In consciousness, meanings come first, then go to thought, and finally to words," so that "thought is never the direct equivalent of word meanings" (Vygotsky, 1987, p. 282). Consciousness also became the "motivating sphere" of thought, with "affect and emotions," "inclinations and needs," and "interests and impulses" leading to "the affective and volitional tendency" that "stands behind thought" and constituting "the final why in the analysis of thinking" (1987, p. 282).

Furthermore, Vygotsky argued that "Consciousness as a whole has a semantic structure. We judge consciousness by its semantic structure, for sense the structure of consciousness, is the relation to the external world" (Vygotsky, 1968, p. 183), underline and italics original). It is important to point out that sense includes both the interpersonal as well as the intrapersonal level of meaning-making, for example, age mates or people who share other circumstances typically share aspects of sense as well as meaning whether verbal or otherwise as found among family members, friends, and neighborhoods as captured in relation to language by Wittgenstein's 1953 concept of "forms of life."

Moreover, in illustrating "how feelings are composites" that include language, Koch (2024, p. 35) notes that the Portuguese word *saduade* represents the feeling of "longing for something irreversibly lost," which includes feelings of "regret, nostalgia, anxiety and dread," and furthermore, functions as a musical genre known as *fado*. The degree of shared sense in semantic consciousness can even reach the point where there is no longer the need to speak, each person knowing the other's thoughts, Vygotsky citing a "conversation" between the characters of Levin and Kitty in Tolstoy's *Anna Karenna* based only on the first written letter of each word (Vygotsky, 1987a, p. 275), an event that Tolstoy had borrowed from his own biography (p. 268).

Also, even at the early stages of language development a semantic orientation in consciousness is in place, Vygotsky noting that children's first questions to adults are about sense not meaning in preparing for objects and events, impressions or guesses as they become connected to activity in the world (Vygotsky Family Archive, cited in Zavershneva, 2016, p. 129). However, as children grow older and develop inner speech, *Perezhivanie* leads to

personal associations for a word depending on its appearance in different contexts and as refracted through experience. Overall, according to Vygotsky (1987, p. 279), inner speech is "incommensurable with the word's common meaning," closer to "pure thought" (p. 280).

In addition to his new formulations on language and consciousness and his work on *Perezhivanie*, Vygotsky also became interested in exceptional forms of consciousness. For example, in a notebook from October 1932, he wrote about the case of Shereshevskii, a patient of A.R. Luria, Vygotsky's closest colleague, who had a truly exceptional memory (see Luria's book, *The Mind of a Mnemonist: A Little Book about a Vast Memory*) based on "wordless consciousness," his thinking tied to "visual images," which also caused Shereshevskii to be unable to think in abstractions (Vygotsky Family Archive, cited in Zavershneva, 2016, p. 129). Vygotsky also investigated the use of language by patients with schizophrenia, Zavershneva (2016) citing a talk in 1932 given by Vygotsky in which he observed that these patients were no longer able to coherently interact with themselves owing to a "loss of the semantic structure of consciousness" (p. 129).

Vygotsky's view of language, thought, and consciousness also has been extended to nonverbal communication, particularly gesture. Vygotsky (1978, p. 56) recognized that how children first enter the world of semiotic mediation is through a caregiver bringing an object to a child who has reached for it, a proto-gesture, but did not take the study of gesture further. David McNeill (1992, p. 19) in keeping with the Vygotskian premise that "the role of linguistic signs is to *mediate* consciousness" (italics original), connected the imagistic meaning/sense of gesture to speech (co-speech gesture), arguing that the two modalities cohere in a dialectical synthesis, speech unfolding across time in a linear, sequential manner, gesture providing holistic and imagistic renderings to thought, each modality complementing the other.

In what can be seen as another extension of Vygotsky's work, although this time in relation to language and cultural-historical consciousness, Geosemiotics (Scollon & Scollon, 2003) is the study of language as it appears in the world around us, for example, public signs, and focuses on such features as font, letter size, text lay out, use of color, inscription (printed, painted, carved out, or embossed), where the sign appears (on a highway, wall, or almost hidden from view as found for store signs in high-end shopping malls). These and other such considerations are a part of social systems of interpretence, semiotic choices that either intentionally or unintentionally impact meaning/sense as well as being subject to the complex dynamics of *Perezhivanie*.

Moreover, O'Halloran (2008; 2005) points out that we generate meaning/sense through word choice, gestures, referencing things in the local or distal environment, mentioning book titles, films, and so on, which occurs in relation to different kinds of environmental settings and the kinds of people who frequent them. Buildings, parks, streets, and other spaces are social semiotic environments, that attract different kinds of discourses and experiences as affecting semantic consciousness.

Neuroscience, Consciousness, and Vygotsky

Towards the end of the last century a search for consciousness as produced by the brain began in earnest, Francis Crick (co-discoverer of DNA) together with Christof Koch eventually identifying what they called the "neurocorrelates of consciousness," defined as "the minimal neural mechanisms jointly sufficient for any one conscious precept" (Koch, 2012, p. 42). Koch

provides the example of a neurosurgeon who stimulates a memory through placing an electrode on the surface of a patient's brain, which dependent upon the location and intensity of the stimulation, can trigger the re-experiencing of an event, "a song last heard years before, the feeling of wanting to move a limb or the sensation of movement" (p. 44). The formation of neurocorrelates is studied in real time using a magnetic scanner to record brain activity through fMRI, for example, when a participant sees/hears/smells/feels/touches/says a given stimulus. Differences in the presentation of stimulus can also be tracked, for instance, seeing the ace of hearts (the playing card) with the ace visible and when masked (p. 46). However, fMRI only tracks blood flow in the brain and the neurocorrelates of consciousness are not the same thing as consciousness itself but rather, “footprints left by the mind” (Koch, 2024, p. 112), if still a valuable tool in better understanding consciousness and the brain experimentally as demonstrated by a recent challenge between the two leading theories of consciousness at this time, each of which is radically different from the other.

Among a number of functionalist theory of consciousness, the Global Neuronal Workspace Hypothesis (GNWH) is the most prominent, and although neurologically complex, the theory basically focuses on how effortful mental tasks are carried out in the brain through cognitive processors (neurons) that are both conscious and unconscious and activated through attention, what a person is focusing on at any one moment, and related cognitive functions. Executive functions select and “broadcast” relevant information in the workspace (see Mashour, et al., 2020 for a review). However, the theory has been criticized for being more about “conscious access” than consciousness itself, although the theory views the two as identical, and for focusing only on cognitive functions despite the supposed inclusion of phenomenal experience when it is part of what is accessed in attention. Furthermore, information in the model is based on Shannon’s definition of "bits" in the reduction of uncertainty or digital computation.

The other leading theory is Integrated Information Theory (IIT), which unlike GNWH did not arise from the study of neurological functions, but instead from five axioms centered on the first-person experience of consciousness, and as formulated on two basic assumptions: "A physical system has subjective experience to the extent that it is capable of integrating information" (Massimini & Tononi, 2018, p. 63) and "each conscious experience is integrated, that is, indivisible, irreducible to it parts" (pp. 70-71). As such, the theory is concerned with phenomenal experience, the moment-to-moment feeling of life itself. Moreover, unlike GNWH, information in the theory is defined as “a difference that makes a difference” (Tononi, 2012, pp. 346-347), which is qualitative, intrinsic to the system (person), has causal power (can operate as a source of change), and is not a function, process, or computation. Moreover, Koch (2024, p. 103) notes in relation to the theory that “all quality is a structure.”

Clinically, IIT has found some success neurologically in tracking the spread and integration of electrical activity in the brain (neurons) of coma patients, indicating that they are not brain dead, for example, despite appearances to the contrary (Massimini & Tononi, 2018). However, neuronally tracing an emotional experience, for instance, would be an extremely complex undertaking, although theoretically possible and mathematically calculatable within the theory. Criticisms of IIT are many, but most important is the charge that phenomenal consciousness is merely epiphenomenal, of little or no consequence to brain functions in consciousness as a whole (see Dennett, 1991).

Research on both these theories continues, and notably, in a unique approach called “adversarial cooperation,” each has been put to the test experimentally following agreed upon criteria for major areas of disagreement regarding where consciousness should reside in the brain in addition to other neurological concerns. Each theory has met with successes and failures, but overall, the object of the project is to further the study of consciousness beyond trying to determine which theory is “correct.”

For Vygotsky in relation to these two theories, a functional approach to consciousness undergirds his work on the higher mental functions and is the basis for his later, three-tiered, dynamic, interfunctional system, which however, was not to last as his theorizing progressed, moving to a dynamic, semantic system, concentrating on sense particularly at the individual level in the refraction of our experience of environments and events through personhood, although it also seems logical to assume that this would not have been the end of this theorizing on consciousness had he had more time. Furthermore, both Vygotsky’s functional and phenomenal approaches to consciousness fall under the larger umbrella of cultural-historical consciousness. For example, how we are expected to function within a given society and the particulars of any give context can be markedly different. Also, languages differ in how they render human experience, affecting how we refract the world both intermentally and intramentally as well.

Neuroscientific theories of consciousness also have spawned neuropsychological research on the study of language and consciousness, for example, researchers have conducted "hundreds of functional imagining studies” (Geva & Fernyhough, 2019, p. 2) on “inner speech,” although in this iteration the designation refers to “silent vocalizations” that occur during experimentally designed tasks, the focus of which is not meaning based but rather on what happens in the brain; findings suggesting that “inner speech processing” takes place through the interconnection of different areas of the brain that combine as the dorsal language stream. Qualitative assessment is also possible during such experiments through the use of questionnaires or experience sampling, that is, prompting participants at random intervals during magnetic imaging to report on subjective aspects of their inward verbalizations (see Alderson-Day & Fernyhough, 2015 for a review of such studies). It is also important to consider neurodiversity in relation to such research, that some people do not experience inner speech, for example. Furthermore, and in relation to gesture, complementary co-speech gestures have been found, neurologically, to increase other’s comprehension in comparison to a mismatch condition, reflecting the semantic integration of co-speech gesture in the brain (Kelly, Kravitz, & Hopkins, 2004).

The nexus between semantic theories and cognitive neuroscience is another area of research that involves tracking the neurocorrelates of consciousness, called the study of “semantic representation.” For example, reading the word "kick" was found to activate neurons in the motor area associated with the physical action (Pulvermüller, 2005), while listening to words such as "cinnamon" or "garlic" activated neurons in the olfactory cortex (González et al., 2006). Additionally, Rueschemeyer, Van Rooij, Lindemann, Willems, and Bekkering (2010) found that when participants read the word for a physical tool such as hammer activation included neurons in the motor area associated with the physical manipulation of the tool. However, how a person responds to the scent of garlic or what it feels like to wield a hammer may or may not affect word meaning/sense, although research in this area is of interest in trying to better

understand what semantic consciousness, particularly sense, might entail as viewed from a Vygotskian perspective.

The neuropsychological study of synesthesia is related to the study of semantic representations, and again, concerns tracking the neurocorrelates of consciousness. Synesthesia is the cross-modal phenomenon where "one attribute of a stimulus (e.g., its sound, shape, or meaning) leads to the conscious experience of an additional attribute." For example, "the word 'Philip' may taste of sour oranges, the letter A may be luminous red, a C# note on the violin may be a brown funny line extending from left to right in the lower left part of space" (Ward, 2013, p. 50). The qualia that synesthetes experience is highly individual, but at the same time, there are a number of impacts on word meaning, memory, numeracy, and personality, for example, that many share. Additionally, synesthetes are disproportionally creative thinkers, artists, and so on, which shines an interesting light on both imagination and creativity in reaching new heights, or as put by Vygotsky, how poets find “new paths from the thought to the word … and the expression of the inexpressible” (Vygotsky Family Archive, cited in Zavershneva, 2016, p. 130). Additionally, "synesthesia helps us to realize that semantics shape our experiences" (Van Leewen et al., 2015, p. 7).

Conclusion

The acceptance of consciousness as a legitimate object of scientific study came with advances in neuroscience towards the end of the twentieth century, and at this time, many researchers view the brain as the physical substrate of consciousness, believing that the “mystery of consciousness” will go the way of the “mystery of life.” However, given the immense complexity of the brain and that consciousness itself is not physical, this has proven to be a hard nut to crack, although a positive outcome for this connection is expected to be a matter of time.

However, from Vygotsky’s point of view human consciousness goes beyond the origins of consciousness in the brain, of course. Instead, he chose to concentrate on how we are able to navigate both ourselves and human society psychologically and to bring about cultural-historical change to better the lives of those around us and society as a whole. As of yet, consciousness science has not tried to tackle such issues, although Koch (2024), for example, considers inner speech, agency, free will, cultural-historical influence, and the use of language in society to be critical to both understanding and positively affecting consciousness. Perhaps the study of consciousness will blossom into what Vygotsky envisioned, at least it seems we might be getting closer.

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