

Language in Cognitive Development: Emergence of the Mediated Mind, by K. Nelson, New York: Cambridge, 1996, xiv + 403 pp., \$49.95 (cloth); \$21.95 (paper).

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GENUINELY SOCIAL COGNITION

Social cognition has become a popular term, but most work under this banner applies individualistic psychology to "social" content. In contrast, Katherine Nelson's new book reframes cognition from a sociocentric perspective. Nelson presents a largely Vygotskian theory of early childhood cognitive development, describing how sociocultural context mediates cognition. But this brief characterization does not capture the breadth and complexity of the book. While presenting a largely Vygotskian account, Nelson also integrates insights from Piagetian theory, information-processing cognitive psychology, cultural psychology, and evolutionary biology. And while presenting a theory of early childhood cognitive development, she also helps reframe larger issues in cognitive and cultural psychology.

How do children represent experience? How do they develop general concepts based on that experience? Nelson does not give empiricist answers to these central questions, as she allows for some biological predispositions, and her theory is not nativist, as she disagrees with contemporary claims about full-blown innate theories and argues against genetic determinism. Despite the emphasis she places on language and culture, Nelson is not a social determinist, as she intends to explain the unique representations and developmental trajectories of individuals. Nelson claims to go beyond these traditional positions and beyond simple interactionism. She argues that individual minds cannot be separated from the dynamic biological and sociocultural systems those minds develop within. By presenting biology, psychology, and culture as interwoven, Nelson attempts to overcome traditional oppositions between biology and culture, body and mind, activity and ideation.

Most theories of cognitive development presuppose the traditional epistemological situation: the lone child attempting to represent and conceptualize the world, using innate categories, induced categories, or both. Nelson rejects this presupposition. She presents children as participants in social activities, not as decontextualized reasoners trying primarily to map the world. To understand individual cognition, we must study how it takes shape within cultural practices and through communication with others. Nelson criticizes theories that abstract concepts and skills from adult literate practice and then posit analogous proto-categories in the child (e.g., Carey & Gelman, 1991). Instead, she argues, a truly developmental theory will explain the emergence of adult literate categories from the event-based representations and concepts of early childhood.

Toward such an explanation, she proposes four phases of cognitive development. I use *phases* because Nelson denies that they are “stages” in the traditional sense. She does argue for qualitative transitions, catalyzed by the developing child’s use of language and participation in verbal activities. But she claims that aspects of all four phases overlap from the beginning and are interwoven more than traditional stage theories would allow. In the first phase, from birth to about age 2, children develop “mental event representations” of common routines like bathing and eating. In developing these representations infants depend on some innate resources, like the ability to represent objects in three dimensions and to recognize faces. They also tend to use basic-level categories, which are supported more robustly by the environment. But in Nelson’s view these biological and empirical givens provide resources, but they do not determine particular representations. She also emphasizes that children represent objects and events for functional reasons—that is, in order to understand habitual activities, not to form abstract pictures of the world.

The second phase (from about 2 to 4 years) begins when children form shared representations of social activities, like imitation games, symbolic play, and songs. These social activities help children create and hold in mind representations of imagined sequences of acts. Children group together experientially derived categories into scripts, because regular participation with others provides a scaffold for their representations. Language also appears in this phase, when children begin to use words as markers for various aspects of their social activities. Such words become mental as well as communicative tools, because they help children slow down and mentally stabilize their experience. Note that in Phase 2, as in Phase 1, mental representations of activities compose part of the child’s participation in an activity, not decontextualized pictures of it.

The third phase runs from about age 4 into the early school years. Here children speak to represent experiences and communicate representations to others. As part of activities—including activities like “memory talk,” telling stories about past experiences—children communicate their representations of events to others. The use of language to do this provides crucial practice in using words as both representations for others and representations for oneself. This sort of communication starts well before age 4, but around then it crystallizes into the ability to use language as a tool for systematic internal representation, which provides substantially more cognitive power.

In relying on language and verbal practices as the catalysts for cognitive development, Nelson must explain how individual children acquire language. Individualistic psychology would demand an explanation of how the psychological system acquires new words and new concepts. Nelson responds, again, that the psychological system is not closed. The appropriate unit of analysis is the child participating in and representing cultural activities, and cognitive structure comes as easily from outside as in. The child learns words, for instance, not by abstracting features from objects and inducing semantic rules. Words are more complex, involving not only criteria but also theoretical stereotypes and particular contextual features that support correct usage. She presents evidence that children acquire word meaning piecemeal, in particular contexts, and that they cannot produce general semantic rules until later in development. Nelson also insists that concepts do not generally develop before words for those concepts. Instead, the development of concepts and language moves back and forth, dialectically, with thought and speech facilitating each other.

Nelson discusses the fourth phase, which begins in the early school years, less than the first three, as she focuses on preschool development. In this phase children acquire Vygotsky’s “scientific concepts,” generally in school. These concepts make available abstract cultural knowledge systems, which the child can internalize and use to organize her or his own representations. Only at this point does the child organize knowledge into the domains of adult literate discourse.

Before this, Nelson argues, representations are focused around events and activity types, and they often blur boundaries between, for example, inanimate and animate objects. She does nonetheless acknowledge some broad domains. The book has separate chapters on memory, narrative, taxonomy, time, and folk psychology. But she insists that such domains have fluid boundaries, and that events (not domains) provide the basic structure for cognition in childhood. On this view, various "strands" of representations and language use are associated with particular event types, and these strands influence each other enough such that new levels of organization do emerge across domains. Thus Nelson denies the existence of one central processor at the core of cognitive development but also rejects independent modules.

In this regard and others, Nelson's view is hybrid. She herself uses this term to describe her theory of the "hybrid mind," which as we have seen incorporates biological predispositions, cultural and linguistic organization, individual representations, and the four types of representations described by the phases. But her theory itself is also hybrid. She refuses to be pushed to any extreme and carefully sifts all relevant perspectives for insights. This hybrid character can be illustrated through her complex reactions to Piaget and Vygotsky. With Piaget, she argues against modularity and specific innate knowledge; with him she argues for qualitative transformations in cognitive development and for the child's active construction of cognitive models. She also agrees with Piaget that cognitive development must explain how individuals come to represent the world. *Despite all the important constraints and facilitation cultural activity provides, cognitive development must not make psychology a "puppet" of social-level processes.* But against Piaget, Nelson emphasizes the centrality of language in catalyzing development and argues for a functional, event-based (not "logical") model of cognition. With Vygotsky she emphasizes the importance of language and the fact that cognitive development often moves from the outside in. She elaborates Vygotsky's insights into how language serves thought, particularly in her descriptions of how early speech in shared social activities facilitates cognitive development. Nelson argues against Vygotsky that developmental phases overlap substantially, claiming that language is salient in the infant's environment from birth, and that language plays different roles in different phases (there is no one jump to linguistic mediation).

Perhaps Nelson's most important contribution to Vygotskian theory is her concrete description of how to move beyond "word meaning" as the mediator through which social life shapes the mind. Wertsch (1985), Zinchenko (1985), and others have argued that word meaning is too narrow a unit and that "tool-mediated action" would be more adequate. With her descriptions of how verbal activities facilitate cognitive development in different ways at different phases, Nelson moves us toward such a broader unit of analysis. In her discussion of verbal activities, however, she focuses most often on the denotational value of talk—on how speech picks out and characterizes objects and events and how speakers communicate representations through denotation. She presents linguistic representation as too unproblematic, apparently without appreciating that denotation is contingently accomplished within particular contexts (Hanks, 1990; Silverstein, 1992). Just as there is no decontextualized mind, there is no denotation independent of particular relational events. We need a further reframing of mediated cognitive development, one which attends more to indexical and relational patterns in particular verbal practices. But then we could not expect Nelson to integrate all relevant theories in one book. By articulating a convincing, genuinely social perspective on cognitive development, she has provided an important step forward for our understanding of minds in context.

REFERENCES

- Carey, S., & Gelman, R. (1991). *The epigenesis of mind: Essays on biology and cognition*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Hanks, W. (1990). *Referential practice*. Chicago: University of Chicago.
- Silverstein, M. (1992). The indeterminacy of contextualization: When is enough enough? In A. DiLuzio & P. Auer (Eds.), *The contextualization of language* (pp. 55-75). Amsterdam: Benjamins.
- Wertsch, J. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.
- Zinchenko, V. (1985). Vygotsky's ideas about units for the analysis of mind. In J. Wertsch (Ed.), *Culture, communication, and cognition* (pp. 94-118). New York: Cambridge University Press.

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