

Language and Cognition

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This review of the field is guided by a certain reading of the current situation, with which I therefore begin. Cognition by humans always appears in pedagogically cultivated forms. Normal questioning about such cognition thus always frames itself within the terms of some pedagogy. Asking questions about human cognition without reference to pedagogic frames is not an option available to us.

However, philosophers who take the primary responsibility for organizing our understanding of semantics and cognition have often tried to fashion such an option, acting on a logicalist impulse. This impulse seeks disengagement from the concrete sequentiality of pedagogy and its need to provide tentatively viable concepts and generalizations even though these ultimately have to be outgrown. The logicalist approach supposes that any subject, institutionally available as an academic discipline (a set of serious discourses), can be reduced to variously organized arrays of formally simple primes. It supposes also that these primes, through a rigorous axiomatic unpacking of their interrelations, can parsimoniously derive all the complex concepts and propositions that the discipline uses.

Scholars who believe in the usefulness of logicalism's restatement of a discipline's results see the activity of such redescribing as a matter of arranging the results in formal packages whose coherence and consistency represent what the best minds in the discipline can be said to know. The enterprise of formalizing such systems naturally elicits second order projects of metasystem building. The vision of a fully understood language of a unified science that will have brought all disciplines under maximally parsimonious reduction, and of a fully understood scientific language wherein coherence, consistency and economy can be visibly maximized, continues to serve as a telos guiding scientific formalization. In this sense the logicalist programme is alive and well, and is one of the major presences in the study of the language-cognition interface.

Given such a picture of the realities of what there is to know, a psychology that considers problems of learning takes as its point of departure the standard portrayal of the ultimate content of serious adult human

cognition, and asks how a child gets there. This relation between a logicalist account of the goal and a psychological account of the path places the burden of pedagogy entirely on the psychology. But such assumptions conceal from the view the important fact that the standard portrayal of the serious adult goal is tacitly framed in a pedagogic conceptualization. It has been necessary, in the remarks above, to refer to academic disciplines, and to the best minds in the field. These are allusions, if not to teaching, at least to watching people learn and evaluating their performances, which belong to the broader pedagogic enterprise.

But there are at least two reasons for not pressing for a simple pedagogic turn in the study of language and cognition. First, domains of language use are organized in one fashion in the world of work, another way in the world of media and public communication, and yet another way in pedagogy proper. These are three distinguishable phenomenal realms. To approach the study of how they co-articulate, we need to first have these distinct takes on cognition, and we have not yet been able to catch them.

The second, related point is that the easy and the difficult in pedagogy fail to match the simple primes and complex assemblies of the formalization in the stories sciences tell about themselves. Therefore we will achieve only limited success if we try to carry over the style of scientific concept packaging into our understanding of how the easy and the difficult play out in pedagogy. Issues of more opaque versus more transparent expositions in public communication present yet another domain into which one cannot usefully export the formalization style if advances in our understanding are the goal.

The differences just pointed out have long been obvious in practice to natural scientists, who tend to respond to this state of affairs by treating both the teaching of science and the technological application of scientific knowledge as atheoretical enterprises not integrable into its rigour. In contrast, science itself appears in their work as a body of bodies of theory. This appearance continues to shape our default conceptions of both language and cognition.

However, current work on the role of language and

translation in the practice and teaching of science (Sarukkai, 2002) speaks to classical work (Vygotsky, 1934/1986) on the way image-based precepts must, as the adolescent schoolchild grows into serious knowledge, turn into the abstractions operative in society's adult, industrial economy. Taking these matters on board means supplementing the logical derivation approach with pedagogic build-up perspectives on how various real learners converge on sharable knowledge. The task of such supplementing is cognate to inquiry focused on how a person acquiring language also learns what one might call paracognitive material that does not itself constitute knowledge but categorizes or frames the knowledge that the person acquires (Sperber, 1975). The present survey of where the field stands is built around Sarukkai's demonstration that formal abstract concepts are embedded in multiple semiotic systems and need to be placed in translation mediations that never settle down. On these assumptions, the formalism that officially explicates what scientific language codes are like is relativized to intercodal activities that Sarukkai places in a pedagogic framework. The methods of translation studies enable us to coarticulate our distinguishable questions about simple/ complex, easy/

difficult, transparent/ opaque. Given a translation studies approach, the domains of adult scientific practice, of science pedagogy, and of the media can be kept apart and yet brought into meaningful conceptual connection.

Sarukkai's emphasis on metaphor connects with Sperber's earlier work on the cognitive anthropology of the symbolism circumscribing what humans know, and ultimately with Vygotsky's work on how serious knowledge relates, and relates in the structure of language itself, to the not yet properly understood affective and imaginative coordinates that make human knowledge human.

References

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