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Situating Cognition through Conceptual Integration

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Traditional cognitive science treats cognition as internal computation: formal syntactic operations on internal symbols who acquire meaning only through reference to the external world or possible worlds. Proponents of situated cognition argue that cognition is more appropriately viewed as a coupling of internal and external in an interactive process. Such couplings can be mediated by many elements simultaneously: by internal plans or programs, by the functioning of bodies and the fit between body and environment, by artifacts and physical structure in the setting of activity, by the dynamics of events and of interactions with other embodied agents, etc. The situated view focuses interest on how cognitive activities are accomplished in the real world, on the dynamics of how they unfold, and—of special interest to cognitive linguists—on the meanings that participants construct in the course of activity.

Among the situated approaches, one in particular, the framework of Distributed Cognition advanced by Hutchins (1995, 2001), manages to preserve the notion of cognition as computation by viewing the computational process as distributed across the individual and the material environment, across multiple individuals in interaction, and across multiple scales of historical and local time. In Hutchins' view, drawing a line on a navigation chart executes a computation that depends on the cultural history of people and tools whose activity went into the making of the chart as well as on the activities of the navigation team that measured the bearing reproduced in the line. In his analysis, Hutchins dispenses with internal symbol processing as the fundamental architecture of cognition but maintains the view that cognitive processes are those that "act on representations to produce computational outcomes." He sees cognition as "computation carried out through the propagation of representational states across representational media (which may be internal or external to the actor)." The representational states are propagated by "bringing the media into coordination with one another," and it is human actors who coordinate these media in "cognitive functional systems" that generate computational outcomes.

In this paper I explore the relationship between computation and conceptual integration (Fauconnier & Turner 1998; 2002; Hutchins 2005). I argue that computation is accomplished through the coordination of media in cognitive functional systems, but the operation of these systems depends on two aspects of conceptualization: (1) imposing specific image-schematic structure, and (2) anchoring conceptual distinctions in blended mental spaces. Using examples drawn from studies of counting (Williams 2007) and time-telling (Williams 2008), I contrast cognitive functional systems with their situated instantiations, highlighting the role that conceptual integration plays in generating meaning in real-world cognitive activities.

References

Fauconnier, G. & Turner, M. (1998). Conceptual integration networks. *Cognitive Science*, *22*(2): 133-187.

Fauconnier, G. & Turner, M. (2002). *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books.

Hutchins, E. (1995). *Cognition in the Wild*. Cambridge, MA: MIT Press.

Hutchins, E. (2001). Distributed cognition. In N. J. Smelser & P. B. Baltes (eds.), *The International Encyclopedia of the Social and Behavioral Sciences*. New York: Elsevier.

Hutchins, E. (2005). Material anchors for conceptual blends. *Journal of Pragmatics*, 37(10): 1555-1577.

Williams, R. F. (2007). Counting and conceptual blending. *10th International Cognitive Linguistics Conference*, Krakow.

Williams, R. F. (2008). Gesture as a conceptual mapping tool. In A. Cienki & C. Müller (eds.), *Metaphor and Gesture [Gesture Studies 3]* (pp. 55-92). Amsterdam: John Benjamins.