Distributed Cognition and Gesture: Propagating a Functional System Through Impromptu Teaching

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ABSTRACT
On a beach in France, a lifeguard makes three attempts to teach a colleague how to find south using a wristwatch and the sun. In these attempts, the lifeguard constructs and coordinates representations in multiple spaces: in the sand, in the surroundings, over his digital watch, and in the air (in gesture space). He uses his hands, eyes, and body to build and link these conceptual elements and to enact their coordination in a distributed cognitive functional system.

FIRST ATTEMPT
In the first attempt, the lifeguard constructs a diagram in the sand, gestures over the diagram, and gestures toward the surrounding geography (Williams & Harrison 2012).

SECOND ATTEMPT
In the second attempt, the lifeguard draws in the sand, gestures over his diagram, gestures over his watch, and gestures in the air in front of him (gesture space).

THIRD ATTEMPT
In the third attempt, the lifeguard gestures toward the sky, enacts the process with his upper body, removes his digital watch and gestures over the watch and toward the sky.

CONCLUSIONS
Distributed cognition: Human cognition is characterized by functional systems that coordinate material and conceptual elements through bodily action and perception.

Situated instruction: Though the elements of a functional system (and ways of representing those elements) may be conventional, instructional discourse must be fitted to the present purpose, addressee, and available resources.

Embodied teaching: When we teach, we use our bodies to create, highlight, and link representations in multiple media (which may include the body itself) and to enact the processes through which these representations are coordinated to produce functional outcomes.

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SELECTED REFERENCES


