

A Study of the Tactual Perception of Motor Input Sequences

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This paper describes a set of experiments designed to provide insight into the extent to which being adept at motor output sequences provides an advantage for learning the same sequences as tactual (cutaneous + kinesthetic) input streams. Specifically, we are studying the tactual reception of Morse Code in subjects who are either highly skilled or naive in the sending/receiving of Morse Code. Computer-generated sequences of Morse Code are delivered through a 1 degree-of-freedom stimulator to the fingertip. Reception ability is being studied as a function of length of the stimulus stream and rate of presentation. Learning curves will be compared for the two types of subjects (i.e., experienced and non-experienced users of Morse Code) to determine the extent to which motor output experience facilitates the perception of input motor sequences. The implications of the results for the tactual reception of stimulus streams at rates comparable to those achieved for speech will be discussed.