Emotions are conveyed largely by nonverbal means: they are notoriously difficult to talk about. Ask even the most articulate people to describe their emotional state and you are likely to see them become increasingly less articulate. It is not simply that the lexicon for emotions is inadequate, but that words alone don't seem to have immediacy and impact. An effective communication about emotion should be contagious, easily and quickly transmissible, and not totally under the control of the transmitter.

Darwin (1872) argued that communication about emotion had adaptive value for social species in that it helps to coordinate social behavior. Communication about emotion is important. It provides clues not only to internal feeling states but to intentions and actions (e.g., if something pleases you it is likely to lead to a different course of action than if it disgusts you). And it is often meant to impel others to take a course of action that may be needed or wanted.

Communication about emotion is so important that the human face may have evolved as it did in part to better serve as a source of emotional information. For example, the complex human facial musculature may have evolved largely to serve the communications about emotion.
cation of emotion (Andrew, 1963, 1965). Human eyebrows as a facial feature may have evolved in order to display more clearly the reactions of surprise and interest, which would be much more difficult to detect if their only visible signs were the raising of the skin above the eyes (Eibl-Eibesfeldt, 1972).

This chapter will discuss the neuropsychological literature on the two major vehicles of emotional communication: facial expression and speech prosody. These topics will be discussed in light of three questions. First, are the abilities to perceive and express emotions lateralized? More specifically, are these skills cortically represented in the right hemisphere? Traditionally, emotion has been viewed as a primitive function of the brain which was represented largely subcortically. However, the modulation, refinement, and elaboration of the skills involved in emotion communication may involve cortical mediation.

Second, are these "emotional" functions dissociable from more general perceptual and cognitive functions, thus meriting study as a separate domain? That is, are facial expressions recognized separably from the identity of a person; and is prosody conveying emotion processed separably from prosody conveying syntactic structure or meaning? Without such evidence, it would be difficult to support the hypothesis that the organization of these communicative functions reflects anything about the cortical organization of emotion in general. Evidence that such functions are independent of more general perceptual and motor functions would also be in line with recent cognitive theories which argue for separate cognitive faculties or modules rather than domain-independent cognitive abilities (e.g., Fodor, 1983; Chomsky, 1980; Marshall, 1984; Marr, 1976; Gardner, 1983).

Finally, what, if any, is the relation between the cerebral organization of the recognition and expression of emotion, on the one hand, and of moods and emotional behavior, on the other? For example, is there any relation between the regulation of complex emotional behaviors, such as the odd indifference behaviors of patients with right hemisphere lesions, and the perception of facial expression?

In this chapter, I discuss research on the recognition of emotion, and then research on the expression of emotion. Within each discussion, I separately present evidence for cerebral asymmetries, for emotional functions as modules separate from more general perceptual and cognitive functions, and for the relation between emotional expression and emotional behavior. Although many of the reviews of individual literatures have been telescoped, when possible the reader will be referred to more complete reviews of the various subjects.