Regions deep within the brain control alertness in humans. The midbrain reticular formation and the intralaminar thalamic nuclei are activated (red and yellow) in normal individuals when they change from a relaxed awake state into a state of high alertness and attention, demonstrating that these structures are active in changing levels of consciousness in the awake state. Lower right: brain structure data from 10 individuals. See page 512. [Image: P. E. Roland]