Chapter 16

Controversies and Discussions 4

Hallucinations and the cerebral hemispheres

In his thought-provoking commentary, Dr. Sher (J Psychiatry Neurosci 2000;25:239-240) draws attention to the recent suggestion by Olin (1999) that neuroimaging studies would confirm the hypothesis of hallucinations arising from a bicameral mind. More specifically, according to Olin two recent studies on the neuroanatomical basis of hallucinations in schizophrenia revive Julian Janes’ theories, who in his 1976 book *The origin of consciousness in the breakdown of the bicameral mind* hypothesized that human beings had no consciousness until 1000 BC. Instead, their behavior was controlled by a “bicameral mind”, with the left hemisphere as the site for speech, and hallucinations (voices of gods and demons) arising from the right hemisphere. However, of the two studies (Lennox et al. 1999; Dierks et al. 1999) cited by Olin, only one concluded that auditory hallucinations are associated with right hemisphere activation. This was the study by Lennox and colleagues which concerned one patient. The study by Dierks and co-workers concerned 3 patients, two of which showed predominantly left activation of the transverse temporal gyrus (these patients were right-handed), whereas the third showed right activation of this gyrus (this patient was left-handed). Dierks et al. indicate that “this result is suggestive of a particular role for the language-dominant hemisphere in the generation of auditory hallucinations” (p. 618), although they caution that the small sample size does not permit strong conclusions. Thus, the results of this particular study appear to be in contradiction with Janes’ hypothesis of distinct roles of both hemispheres in language vs. hallucinations, rather than supporting it. In addition, a number of other neuroimaging studies concerning auditory hallucinations, which are not taken into account by Olin, did not reveal a special role for the right hemisphere in auditory hallucinations (Silbersweig et al. 1995; McGuire et al. 1993).

On the basis of the available evidence it must be concluded that the intriguing theories of Janes lack convincing support. Research on hallucinations should therefore focus on more “down-to-earth” hypotheses, for example, concerning cognitive processes like reality monitoring and mental imagery (e.g., Johns & McGuire, 1999).
References