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Functional neuroimaging of cerebral laterality

After centuries of cerebral laterality research based on inference from brain damage and behavioral testing, functional neuroimaging promised to provide more direct measures of hemispheric specialization. However, the rise of functional imaging has instead coincided with a waning interest in laterality. Contributing to this phenomenon is a lack of consensus on how to deal with several methodological issues involved in comparing left and right hemisphere brain activity. Here I discuss some of these issues, including the effect of thresholding on the computation of asymmetry indices, and show how various analysis choices can affect neuroimaging results with respect to laterality. Progress in this area may lead to increased reliability of asymmetry results in neuroimaging and ultimately to renewed interest.