Lesion-symptom models: where we are and what’s next
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Lesion-symptom models relate the brain damage that (often stroke) patients have suffered to measures of consequent cognitive impairment. These models are used to predict those consequent impairments as accurately as possible, and/or to draw inferences about the functional roles of damaged brain regions in the undamaged brain. After briefly surveying the rapid progress that has been made toward both goals in recent years, I will describe the enduring challenges that we still face, as well as some recent and ongoing work to address those challenges. In particular, I will address: (a) emerging evidence that post-stroke impairments are progressive, with symptoms continuing to evolve over years after onset; (b) the challenge of deriving stable, credible inferences from lesion-symptom models to the functional organisation of the brain; and (c) the key, remaining barriers to exploiting lesion-symptom models in clinical stroke medicine.