

# EPILEPSY SURGERY AFTER 1950 – TEMPORAL LOBECTOMY AND LESIONAL SURGERY



Prior to the employment of clinical EEG, most epilepsy surgery was focused on discovering and resecting neocortical lesions and especially on post-traumatic epilepsy. In 1948, Gibbs confirmed the temporal lobe onset of psychomotor seizures with EEG, and surgery (and indeed epileptology generally) began to be focused on the temporal lobe. Temporal lobe resection had been carried out earlier, but systematic surgical programmes began only in this post-war period. The first operations were lateral resections, and for instance in 1949, Penfield and Bailey reviewed 68 temporal lobectomies carried out in Montreal, of which only 2 included a hippocampal resection. Attention then swung to the mesial structures. In the 1950s the modern temporal lobectomy, with its extensive mesial resection, was popularised, and surgeons all over the world started to carry out *en bloc* and other forms of temporal lobectomies. Over the next 50 years, the fundamental basis of the operation has remained unchanged although with variations in technique. The selective amygdalo-hippocampectomy was devised initially in the 1960s by Niemeyer, but became fashionable only in the 1980s following the work of Yasargil in Zurich using the operating microscope. More recently, the pendulum has swung back and a combined mesial and neocortical resection, although more restricted than in the classical *en bloc* operation, is now most commonly employed. Stereo-EEG was pioneered by Talairach and Bancaud and colleagues in the early 1960s, and with improved stereotactic facilities is now also widely used around the world. The widespread adoption of MRI in the 1990s stimulated renewed interest in hippocampal surgery as the direct visualisation of sclerotic areas provides a secure and obvious surgical target. MRI also has facilitated lesionectomy, both temporal and extratemporal, as a treatment for epilepsy, and operations to remove such lesions as cavernomas, benign tumours, DNET and focal cortical dysplasias are now commonplace. In the last 20 years new investigatory techniques have been introduced, including PET, SPECT, MEG as well as new EEG and MRI methodologies, and these may further improve the selection of patients for surgery.