In its first series, Epilepsia published few basic science papers. One of the earliest was by Bouché, a Belgian scientist, who wrote on the topic of the mechanisms of tonic seizures in 1914. However, after the second war, basic science research in epilepsy began to emerge strongly, and this was reflected in the ILAE congresses and particularly in Epilepsia. The ILAE conference in 1946 in New York included three basic research papers, on cerebral metabolism and metrazol convulsion in the dog, changes in the oxygen tension of the cerebral cortex of the cat in experimentally induced convulsions, and histochemical and action potential studies on epileptogenic areas of the cerebral cortex in man and the monkey (the latter by Pope, Morris, Jasper, Elliott and Penfield). The 1949 Paris congress included a presentation, in French, on the role of the diencephalo–hypophyso–cortical system in the pathogenesis of epilepsy by Stubbe Teglbjaerg. The 1953 congress in Lisbon was devoted to temporal lobe epilepsy, and Gastaut described, at the congress, the creation of experimentally induced psychomotor seizures using stimulation and aluminium oxide, noted the importance of involvement of limbic structures, specifically piriform cortex, amygdala and hippocampus, and discussed contemporary neuroanatomic data concerning the connections of mesial temporal structures that he believed to be the anatomic substrates for temporal lobe epilepsy. In the 3rd series of Epilepsia, an excellent report is published of a symposium on seizure mechanisms. This symposium, organised by Earl Walker and held during the 1952 meeting of the American League against Epilepsy in Louisville, shows the remarkable developments of the time. One of the first papers reporting the intracellular analysis of pyramidal neurons during hippocampal seizures was published in Epilepsia by Kandel and Spencer in 1961, and Kandel was subsequently awarded the Nobel Prize in Physiology or Medicine. He was one of only two Nobel prize winners to publish in Epilepsia (the other was JC Eccles).