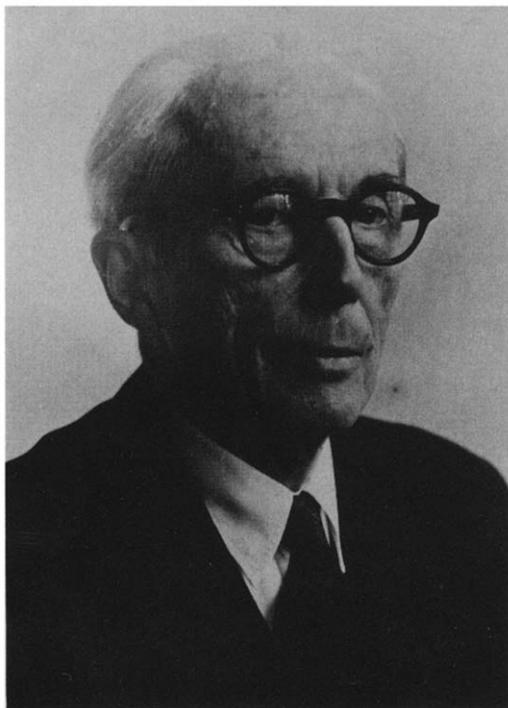


Tribute



FRÉDÉRIC BREMER
1892–1982

It is a privilege to be able to pay tribute to one of the most distinguished and beloved neuroscientists of our century, Professor Frédéric Bremer, who died recently at nearly 90 years of age. For over 50 years, since the end of the first World War, Prof. Bremer continued to make outstanding contributions to our experimental and conceptual understanding of the integrative functions of the central nervous system. He provided intellectual stimulation and inspiration to many students, friends and colleagues throughout the world.

After serving with distinction in the Medical Corps of the Belgian Army during World War I, Bremer studied clinical neurology with Pierre Marie at the Salpêtrière in Paris in 1919. He then went to Harvard University to study with Harvey Cushing where he also became associated with Walter Cannon and Alexander Forbes in the Department of Physiology. He also carried out research with Percival Bailey on thirst centers of the hypothalamus.

Returning to England, Bremer continued his studies with Charles Sherrington at Oxford where he began his research on the cerebellum. He returned to Brussels in 1922 to continue his research in the Department of Physiology and to begin his long teaching career in the Medical Faculty of the Université Libre de Bruxelles. In 1934 he was appointed Professor of General Pathology in this Faculty, a position he held for 30 years, lecturing to succeeding generations of medical students and being actively engaged in neurophysiological research and part-time clinical practice. Among his distinguished graduate students were Mlle. Bonnet with whom he collaborated for many years, Paul Martin, Jean Titeca, Joseph Moldaver, Jean

Govaerts, Lucien Wybauw, Marcel van der Ghinst, Jean-Edward Desmedt, Lucien Franken and Nicolas Stoupel. Many colleagues were attracted to his laboratories for a period of collaborative research, including Drs. Moruzzi, Dow, Marx, Terzuolo and LaGrutta.

Frédéric Bremer was distinguished and respected throughout the world for his critical clarity of thought and imaginative originality of experimental design in neurophysiology. In many respects he resembled his lifelong friend Lord Adrian in this regard. It was Adrian who wrote the tribute to Bremer on the occasion of the Symposium of the International Brain Research Organization (IBRO) held in Pisa in 1961, dedicated to Bremer on his 70th birthday.

Bremer made many important pioneering contributions to the rapid development of neurophysiology in the 1930's and during the years following the second World War. These included studies of the hypothalamus, inhibitory and excitatory mechanisms of the spinal cord, postural control and afferent supply of the cerebellum, and evoked potential studies of auditory and visual cortex. He carried out a series of electrophysiological studies of the corpus callosum clarifying its role in the integrative activity of the two hemispheres and its role in the synchronization of their spontaneous electrical activity. He is best known, however, for his classical studies of the importance of the brain stem in the control of evoked and spontaneous electrical activity of the cerebral cortex in relation to brain mechanisms underlying states of consciousness in sleep or coma, and in vigilance and attention.

One of Bremer's most important contributions was his introduction of the 'encéphale isolé' and 'cerveau isolé' experimental preparations in 1935 which made possible the study of the electrical activity of the brain without general anesthesia and demonstrated the importance of the brain stem for the control of states of consciousness or 'tonus corticale.' The 'encéphale isolé' preparation, by transection of the brain stem at its junction with the spinal cord (also a spinal preparation) served to immobilize the animal as well as to eliminate painful and other afferent impulses from the body. The EEG and the eyes showed characteristic signs of sleep and waking, and sensory and motor functions of cranial nerves could be studied without anesthesia. The 'cerveau isolé' or decerebrate preparation, with a transection of the brain stem at the level of the superior colliculus, produced an animal who seemed to be continuously asleep (or comatose) even though auditory, visual and olfactory sensory pathways were intact. This laid the groundwork for the later demonstration of the importance of the reticular activating system in the mechanism of control of the EEG and states of consciousness formulated by Moruzzi and Magoun in 1949.

Prof. Bremer received many honors and tributes from his Belgian colleagues and from many other countries. He was honorary member of the Société de Biologie of Paris, the American Academy of Arts and Sciences, the Société Française de Neurochirurgie, Electroencephalographic Societies of France and England as well as of Neurological Societies of France, Spain, Switzerland, Uruguay, the American Neurological Association and the Academy of Neurology of the United States, and he was honorary member of the American Physiological Society. He also received many prizes and honorary degrees.

Through his scholarship and participation in international symposia and congresses Prof. Bremer contributed much to the rapid development of neuroscience and to the formation of several generations of neuroscientists, many of whom have become leaders in the revolutionary developments of neuroscience in recent years. For those of us who have had the privilege of knowing him personally we feel the loss of a devoted friend as well as a thoroughly dedicated and distinguished colleague.

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