Richard Jung, 1911–1986

On July 25, 1986, Richard Jung died, just after his 75th birthday, unexpectedly and quietly. He was one of the founders of this Journal and for many years its driving spirit and force. The members of the Editorial Board and the publishers will remember him with great respect.

Richard Jung was born on June 27, 1911, in the small town of Emden in Frisia, where he spent his childhood and school days. He grew up in a socially aware and puritan family and in a landscape with wide horizons. Here, the basis was laid for a broad education and his interest in science and philosophy. His quiet passion for art, which later developed into a profound and professional knowledge and let him become a dedicated collector of graphic arts, also had its roots in childhood. He remained loyally attached to the Menonite parish of his hometown throughout his life.

After a brilliant school career, Jung studied medicine in Vienna, Freiburg/Br., Paris and Munich from 1929–1934, attracted to these places probably not only because of their academic excellence, but also by their cultural heritage. His doctoral thesis on Lindau-tumors of the cerebellum, completed 1935 under the guidance of Hugo Spatz, was praised by Harvey W. Cushing as “the best paper on the subject” of which he knew. As a student, Jung became attracted by Berger’s discovery of the electroencephalogram, as it opened then, for the first time, at least a small window to look at physical events during the activity of the living brain. Also as a student, he heard W.R. Hess lecturing about his electrical stimulation experiments in the diencephalon of cats and O. Foerster on stimulation of the human cortex. He soon tried to combine these two approaches, recording and stimulation, in order to elucidate brain mechanisms of behavior and disease.

After completion of his medical training, he spent two years as a Rockefeller fellow at the Institute of Neurological Diseases in London with E.A. Carmichael (interrupted by frequent visits to Cambridge) and at the Physiological Institute of the University of Zürich with W.R. Hess. His greatly admired masters in experimental brain research remained E.D. Adrian and W.R. Hess. He then worked for a short time in Berlin at the Kaiser-Wilhelm-Institut für Hirnforschung where he met Jan-Friedrich Toennies, the physicist, engineer and inventor, who developed the electronic equipment for his work at a time before these techniques could be purchased on the market, and who himself was an original neuroscientist.

Since 1938, Richard Jung lived and worked at the University of Freiburg/Br., interrupted only by two years as army doctor during the war, spending a year with Karl Kleist in a hospital for brain injuries. He started his clinical training in the neuro-psychiatric department with K. Beringer and became Professor of Neurology and Clinical Neurophysiology in 1951. His Department of Neurology and Neurophysiology was unique in its combination. It always remained small, was located in a charming, unconventional building with continuous improvisations, but had an outstanding record of steady production of original scientific contributions. He created an influential school of neurology and neurophysiology and attracted famous and young neuroscientists alike from all over the world.

The Leitmotiv of Richard Jung’s scientific contributions was the attempt to integrate neurophysiology and clinical neurology. Through the application of physiological methods in humans he wanted to get an objective record of the physical events which underly brain functions in health and disease. Always on the frontier during their time, his contributions now represent the path of history of the brain sciences in the middle of this century, but always centered at function and related to humans. In 1937, he discovered with A.E. Kornmüller the characteristic activation pattern of the Ammonshorn, the hippocampal Theta-rhythm during sensory stimulation, and the slow-wave activity of the caudate nucleus. In 1939 he reported for the first time on polygraphic recordings including EEG, EKG, GSR, eye movements, finger plethysmography, respiration, EMG and CSF-pressure during epileptic seizures and sensory stimulation. In the same year he introduced and developed electronystagmography (ENG) as a diagnostic tool for brain stem disorders and discovered the characteristic EKG-changes during hypokalemic paroxysmal paralysis. He developed a feed-back model for the flexor reflex and recorded the EEG during ECT-seizures. He exploited the experiment of nature to learn more about brain functions by extensively analyzing epileptic auras and their semiology. Following an analysis of the coordination of tremor movements in Parkinson’s disease he suggested an analogy to the phenomenon of relative coordination in fishes, just described by E. von Holst (1941). 1949 he investigated in animals with depth electrodes, using the method he had learned from W.R. Hess, the spread of epileptic activity during generalized experimental seizures, and discovered the characteristic seizure activities of