

# Obituary

Tribute to Amico Bignami  
(1930-1994)



Amico Bignami, neuropathologist and neuroscientist, professor of Neuropathology at Harvard Medical School, died on August 5, 1994.

He was born in Montreux, Switzerland on July 9, 1930. A brilliant student, he graduated *summa cum laude* from the Medical School of Rome University in 1954 one year ahead of his class. He developed an early interest in neuropathology and trained with Professor Dorothy Russel in Great Britain and with Professor Ludo Van Bogaert in Belgium. From the beginning, the volume and quality of his scientific work were striking. In collaboration with Giovanni Alema, he published a detailed and complete review of the spongiform encephalopathies in 1959. This review, which unfortunately was published only in Italian, described for the first time the myoclonic, amaurotic, dyskinetic and amyotrophic subtypes of Creutzfeldt-Jakob disease. A pioneer of experimental neuropathology, Amico Bignami, with one of us (GP), carried out and published in *Nature* in 1966 an experimental study of spongiform encephalopathy with myoclonus and EEG periodic complexes, produced with an inhibitor of membrane ATPase.

When, in the following year, he left Italy to join Professor Lucien Rubinstein at Stanford University, Amico Bignami was unquestionably the star of Italian Neuropathology and, for those budding neuropathologists like us, a unique role model and source of inspiration. He had a special combination of deep knowledge of classical histology and pathology and a keen understanding of biology and biochemistry. He was among the first in Europe at that time, to champion a multidisciplinary approach to neuropathology according to which morphologic studies were to be supported by histochemical and biochemical data.

These ideas were put to fruition in a series of studies at Stanford where in 1971, in collaboration with L.F. Eng, B. Gerstl and one of us (J.J.V.), Amico Bignami used gliotic brain tissue to demonstrate the astroglial origin of a brain acidic protein that he named glial fibrillary acidic protein or GFAP. In 1972, Amico Bignami co-authored the first study on the use of an antibody to GFAP. After he moved to Boston, working in collaboration with his wife Dr. Doris Dahl, he directed his research to the characterization of GFAP, neurofilaments and other cytoskeletal proteins and became an internationally re-

cognized authority in this field. More recently his research had shifted to another important field, the extracellular matrix. His approach to the study of the brain extracellular matrix was characteristically predicated on the assumption that the brain extracellular matrix has similarities with the extracellular matrix of the cartilage, one being that both tissues are not conducive to exogenous growth such as vessels in the cartilage and axons in the brain. The studies of the extracellular matrix led to the discovery of the glial hyaluronic acid-binding protein or GHAP and its subsequent characterization as a major protein of the extracellular matrix limiting cell motility and possibly axonal regeneration in the central nervous system. His last published paper dealt with the role of GHAP in Alzheimer disease. Amico Bignami was a man of keen intellect and exceptional talent but also of great modesty. He was born in a family with a tradition of scientific achievements in the medical field. His grandfather is well known for his classical work on malaria and the discovery in 1903 with Marchiafava of the entity known as Marchiafava-Bignami disease. His father was a prominent and well published pathologist in Rome. Amico Bignami could very well have rested on the laurels of an already illustrious and prominent family but he chose to explore his own horizons and to face the uncertainties of a career in a foreign country. Perhaps from this high family tradition came his propensity for the cool and rigorous intellectual analysis of facts, the refined but sharp sense of humor and most of all that unique elegant and reserved demeanor that made him one of the last gentlemen of neuropathology. Besides his wife Doris and his children Francesca and Adrian to whom he was profoundly devoted, his life was largely dedicated to research. He was not motivated by the monetary gain, the notoriety or the acquisition of power which could have derived from his accomplishments. But, he was very ambitious concerning the goals and the quality of his research. The uncompromising quest for the truth, the total lack of careerism, the great elegance and an ever present sense of humor allowed Amico Bignami to be a content man and to leave us a personal and scientific legacy that cannot be forgotten. For those who like us had the privilege of being his pupils and those whose lives were touched in other ways by him, it is difficult to think about Amico in the past tense when he is still so vividly present among us.

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