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BERND BECKER, 1940–1994

Prof. Bernd Becker died on 14 February 1994 at the age of 53 after a yearlong battle with cancer.

To the radiocarbon community, Bernd Becker is best known for the world's longest tree-ring chronology, now ranging back almost 11,600 years BP. This calendar continues to provide the basis for the calibration of the ^{14}C time scale back to the Pleistocene/Holocene boundary.

Yet, in 1968, when he started his scientific career with Bruno Huber, Munich, and Burkhard Frenzel, Stuttgart, the challenge to build long chronologies was considerable. These chronologies had to be based on subfossil oak trunks, dredged out of gravel deposits in major river valleys of southern Germany. Individual oak cross-sections from these deposits contain only a few hundred rings, and the imprint of a mild climate on tree-ring patterns is limited. This may explain why Becker had to cut and synchronize more than 5000 sections of oak to establish a continuous tree-ring chronology back to 9970 BP, the point in time when oaks re-emigrated into central Europe.

Becker was uniquely equipped for this task. As a youth, while living with his uncle, a forester in the Danube River Valley, he learned about subfossil trees found in gravel pits; it was there that his interest in working with trees arose. Not only did he enjoy forestry, cutting huge oak logs under challenging conditions in gravel pits, but, at the same time, he developed great skill in handling the puzzle of fitting short cross-sections into millennia-long chronologies. Becker's chronologies soon became central to dating historical events when he established a dendrochronological time frame for the Neolithic and Early Bronze Age dwelling sites in southern Germany and Switzerland, and, above all, when the radiocarbon community began using a virtually unlimited supply of wood for high-precision, high-resolution calibration analyses.

Mebus Geyh, Hannover, and Hans Suess (also recently deceased), La Jolla, knew Becker in his early years in Munich, and assisted him in the task of locating, through ^{14}C dates, the general placement of floating sections. Soon afterward, Becker started a collaboration with ^{14}C laboratories of Groningen, Heidelberg, Pretoria and Seattle to stimulate studies of atmospheric ^{14}C variations for geochemistry, solar activity and the carbon cycle. In these joint research projects, Becker went far beyond merely providing absolutely dated wood samples; he participated in and encouraged interpretations of isotopic data. He played an active role during ^{14}C conferences, where he will be remembered for his vivid and captivating lectures, and in numerous publications. In October 1993, his contribution to the calibration of the ^{14}C time scale was honored with the Pomerance Award of the Archaeological Institute of America.

While working on the German oak chronology, Becker found, in the same gravel pits, pine trees with ^{14}C ages older than those of oak. Pines then became the focus of the Heidelberg-Hohenheim cooperative project for the past ten years, resulting in a 1921-yr pine chronology. On the basis of only a few overlapping oak and pine sections, Becker found a dendrochronological match between the two chronologies, thus creating an absolutely dated tree-ring calendar back to 11,597 BP.

Over the past few years, Bernd Becker knew about his cancer. For him, this was a signal to work even harder on increasing the scientific yield of his chronologies, now predominant in the field of paleoclimatology. He initiated a study of stable isotopes in the pine series that provided strong evidence for a Younger Dryas/Preboreal boundary within the age range of the series. At the same time, he pushed the search for early pines even farther, and, despite all physical pain, directed the field work until a few weeks before his death. In this difficult time, he became a source of strength to his friends and colleagues.

We lost an outstanding scientist, a great colleague and a close friend.

Bernd Kromer

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