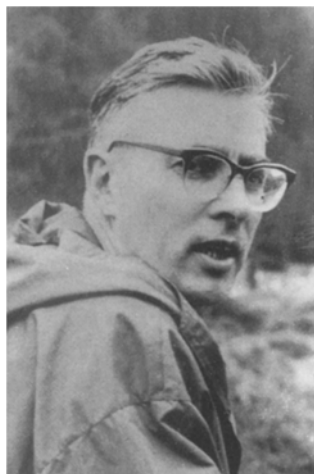


Die geologische Vereinigung verlieh im Jahre 1992 die **Gustav-Steinmann-Medaille** an



Professor Dr. Alfred G. Fischer

für wegweisende Erkenntnisse über die Rhythmen des Lebens und des Klimas der Erde.

In Alfred G. Fischer the Geologische Vereinigung honors an unusually creative scientist and a caring and noble man. Born to a German-American family whose members were equally at home on either side of the Atlantic, Al Fischer is a true representative of the circum-Atlantic culture that has dominated our century. He was born and raised in Germany but studied geology in the USA at the University of Wisconsin and Columbia University in New York. After several short terms of employments in academia and industry he joined Esso for a five-year assignment to Peru. This stay in Lima laid the foundation for a very special relationship with South America that Al and his wife Winnie have maintained ever since. In 1956, Al Fischer became professor at Princeton to work for nearly two decades in what was then one of the most fascinating geology departments in the world. Sabbatical years and other study leaves brought him back to Europe, as visiting professor at Innsbruck, Tübingen and Berlin. In 1984 the Fischers traded the harsh winters of the East Coast for the milder climes of the American southwest as Al accepted a position at the University of Southern California in Los Angeles.

Fischer's contributions cover such diverse topics as the shell structure of cephalopods and the origin and classification of sedimentary basins. However, there is a clear center of gravity in Fischer's work: life and the oceans of the past. Oceanic sediments were his archives, the pelagic cover of the deep-sea floor, as well as the reefs and carbonate platforms of the sunlit part of the sea. He encountered shoalwater carbonates early on through his work in Florida and subsequently as a member of N. Newell's team for the study of Permian reefs in Texas

and New Mexico. A few years later, Al Fischer led his own team to pioneering work in the Alpine Mesozoic. Landmark papers were the result: at the outset, the first sedimentologic documentation of a Triassic reef by H. Ohlen and Fischer, then Fischer's study of the Lofers cycles in the Alpine Triassic and their interpretation as externally dictated rhythms, and finally a trend-setting analysis of the Alpine Jurassic and its interpretation as bathyal and abyssal deposits by R. E. Garrison and Fischer. As sedimentologist and chief-scientist in the Deep Sea Drilling Project, Al Fischer soon recovered the equivalents of these Jurassic limestones and radiolarites from beneath the Atlantic and Pacific sea floors.

In the late 1970's, Al brought his vast knowledge of paleontology and oceanic sedimentation to bear on the rhythms of the ocean and the biosphere. With M. Arthur he introduced in 1977 the concept of a 32-million year rhythm of biodiversity in the marine realm – the oligotaxic-polytaxic cycles. In 1982 there followed an even bolder concept – the notion that the Earth slowly oscillates between a state of steep climatic gradients, the "icehouse" conditions of the late Precambrian, the Permo-Carboniferous and the Neogene, and state of equable climates, the "greenhouse" conditions of the middle Paleozoic and the late Mesozoic. The Icehouse-greenhouse concept soon became emancipated from geology and entered the world of environmental research. The icehouse-greenhouse extremes of the geologic record commonly serve as a reference scale to estimate man's future impact on the ocean-atmosphere system.

Intriguing as they were, the long rhythms did not prevent Fischer from returning to his old love, the

perturbations of the Earth's orbit and their expression in stratigraphy. Ten years after his visionary paper on the Lofer cycles and their likely orbital control, he and Walther Schwarzacher applied modern statistical analyses to the Triassic and other sections. Their results strengthened the case for the orbital connection and this time around the world was ready to listen. Milankovitch cycles had become a reality after the impressive successes in explaining Quaternary glaciations. Fischer was one of the leaders of the search for the orbital pulsebeat in the stratigraphic record. The limestone-marl couplets of the Cretaceous pelagic sections in Italy and the western USA were the starting points for a wave of intensive studies on oceanic oscillations in the Milankovitch frequency band. Al Fischer initiated "Albicores", a multinational effort to reconstruct a narrow time slice of the middle Cretaceous that would yield a glimpse of the greenhouse world, comparable in detail with the Quaternary record of the icehouse world. In both instances, the orbital rhythms provide global correlation and a time resolution that approaches that of human history, making earth history immediately relevant for the prediction of future environmental change.

Alfred Fischer impresses equally by what he has done as by how he did it. For one, there is his electrifying enthusiasm for science and discovery. Goethe once said of his own profession "Dichten ist ein Übermut ...". Well, anyone who has seen Al in hot pursuit of an idea, knows "Forschen ist auch ein Übermut." It's the highspirited mind, the playful mood that allows him to leave the trodden path, let his vision lead him into the unknown. Another hallmark of Fischer's approach is the deep appreciation for qualitative pattern recognition, for the

intuitive grasp of a relationship. He welcomed Fourier analysis in search of orbital rhythms, but he was quick to point out its shortcomings in a world of error-prone measurements and imperfect assumptions. It is this spirit that led Darwin to a better estimate of the age of the Earth than physicists who made their calculations in ignorance of radioactive heat; or Wegener to postulate continental drift at a time when the mechanics of plate tectonics was far beyond our grasp; or Steinmann to interpret the trinity of serpentinites, pillow basalts and radiolarites as vestiges of oceans long before the extant oceans were properly known.

The science community has recognized Al Fischer's truly outstanding contributions in numerous awards and honorable appointments. Among others, he holds the Leopold-von-Buch Medal of the Deutsche Geologische Gesellschaft, the Twenhofel Medal of the Society for Sedimentary Geology, the Lyell Medal of the Geological Society (London), an Honorary Doctorate of the University of Tübingen, and, by the time this goes to print, the Penrose Medal of the Geological Society of America.

Besides all this professional brilliance, Al Fischer remained a warm person and a gentleman, someone who sees and respects the human dimension behind the science, cares about the individual. For his students he always has been a fatherly friend, not just an academic advisor. Together, Al and Winnie Fischer kept an open house for friends and colleagues, a safe haven for many of us who ventured into their vast country. Many an idea was born in the warmth and comfort of their home and friendships established among earth scientists from all over the world.

W. Schlager