

2010 MEDALS & AWARDS

LAURENCE L. SLOSS AWARD

Presented to
Hugh C. Jenkyns



Hugh C. Jenkyns
University of Oxford

Citation by Edward L. Winterer

Hugh Jenkyns' long-term record of achievement places him in the highest ranks of earth scientists at the international level and firmly in the tradition of Lawrence Sloss in pursuing problems of wide, even global geographic and stratigraphic interest. Hugh is an exceptionally creative and versatile scientist, combining many disciplines, including sedimentology, paleoceanography, cyclostratigraphy and sequence stratigraphy as well as inorganic, organic and stable-isotope geochemistry. Yet, in spite of this diversity of directions, his work has always been clearly focused on how to read the paleotectonic, paleoceanographic and paleoclimatic signals in pelagic sediments.

As a doctoral student at the University of Leicester he worked on the highly condensed pelagic strata of the Jurassic of western Sicily. This early landmark work had a strong influence on people trying to identify and understand pelagic sediments embedded in the continents, in terms of what was just then starting to be recovered by the Deep Sea Drilling Project (DSDP), a project in which he later took an active role. Jenkyns' early work was concerned with the sedimentary and paleotectonic evolution of the western Tethys. His set of publications on the Mesozoic of western Sicily was a forceful exercise in sedimentology and paleotectonics, reconstructing the tectonic and sedimentary history of Jurassic carbonate platforms

evolving into non-volcanic seamounts that were finally covered by pelagic sediments deposited in steadily increasing water depth. With this work, he laid the ground for the understanding of the paleotectonic evolution of the area. Following this study, he extended his work to other parts of Italy and elsewhere in the Alpine-mediterranean region where records of the Tethys Ocean and its margins are exposed.

Stimulated by the discovery of Cretaceous organic-rich shales drilled by DSDP in the Pacific Ocean, Jenkyns returned to the Tethyan region, using it as a natural paleoceanographic laboratory for the study of anoxic sedimentary environments. Working closely with organic and isotopic geochemists, he has documented a detailed near-global record of relatively brief intervals resulting from acute anoxia in an expanded oxygen-minimum zone, typically accompanied by abnormally high near-surface ocean temperatures. From this work, we now have a growing understanding of the relations of black shales to ocean paleocirculation, paleogeography and fertility patterns. He has established the global synchronicity of black-shale development in several short (< 1Ma) time intervals in the Mesozoic, in both pelagic and shelf-sea environments, using both carbon- and strontium-isotope ratios as chemostratigraphic indices. These phenomena have become known as Oceanic Anoxic Events and a considerable literature on this topic now exists. He has recently begun to use novel isotope systems to understand the changing marine redox conditions during such events. In sum, Hugh Jenkyns now nearly owns the black-shale problem.

Dr. Jenkyns' long record of distinguished research in sedimentary geology in the tradition of Sloss, plus his service to GSA as Editor of *Geology*, make him superbly qualified to receive the Sloss Award of our Society.

Response by Hugh C. Jenkyns

I am surprised, flattered and honoured to have received the Laurence Sloss Award and deeply grateful to those who nominated me and to those in the Sedimentary Geology Division in GSA who saw fit to support my nomination. So, what do I know of Larry Sloss? Did I meet him? Yes—twice: once at the University of Durham, north-east England, at a conference on sedimentation and tectonics in, I would guess, about 1974; and a second time when I visited Northwestern University, sometime in the 1980s. I remember writing

the minutes of an ODP meeting I had just attended one morning in Sy Schlanger's Office and seeing Larry walk past the open door several times—and recall having a brief chat a little later in the day. Sy later told me that Larry had hesitated to interrupt me because I seemed to be working so hard. My mistake! If memory serves, I remember an infectious grin and an acute sense of humour. More importantly, I had as an undergraduate in the 1960s, and indeed still have to this day, that influential tome, jointly authored with W.C. Krumbein, *Stratigraphy and Sedimentation*.

Since this award comes from the United States, and yet most of my work has been in Europe, I would like to touch upon the impact that American science has had upon my scientific career. With my graduate work in Sicily behind me, I had begun working in Spain on Jurassic pelagic sediments until I was deflected by an all-important long-distance telephone call from California that I received while holding my first teaching job at Cambridge University in 1973. As I unreliably remember it now, an American voice—it was Sy Schlanger's—asked me whether I would be interested in participating in a cruise from Hawaii to Tahiti. Looking out of the window at horizontal rain, my answer was not slow in coming. And so it was, some months later, that I found myself working as a sedimentologist on Leg 33 of the Deep Sea Drilling Project in the middle of the Pacific Ocean—in the company of Harry Cook, Kerry Kelts and Jerry Winterer. Sy later told me that Jerry had suggested me as a participant on the cruise, so my thanks go to him (Jerry) for that support, as well as being my citationist for this award. DSDP in those days was funded only by NSF so it was an immense privilege for someone working outside the U.S. to be able to participate.

DSDP Leg 33 changed my life. The discovery of organic-rich black shales atop the volcanic edifice of the Manihiki Plateau, part of a Large Igneous Province, led me into a totally new field from which I have never escaped. Because I was aware of black shales cropping out in Europe of apparently identical age to those in the Pacific Ocean, DSDP LEG 33 taught me to think globally when considering environmental change. DSDP Leg 33 changed me from a sedimentologist to a stratigrapher and palaeoceanographer. DSDP Leg 33 taught me the value of integrating *Stratigraphy and Sedimentation*. But, of course, I was not the first to realize the importance of melding those diverse disciplines of soft-rock geology. Someone

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else, of course, had already written the book on that subject!

My thanks go also to those geologists dwelling to the west of the mid-Atlantic Ridge, particularly those of the Al Fischer school—Mike Arthur and Bob Garrison—with whom I have shared enjoyable days in the field in California and Europe as well as

imbibing the results of successful experiments involving red and white grapes. Returning to Europe, I would like to record my debt to John Hudson (Leicester University) and Daniel Bernoulli (Basel/Zürich Universities) for their invaluable help and advice in the early days of my career. Finally, I would like to thank my colleagues and students at Oxford

for providing a relentlessly stimulating environment in which to work (like Larry Sloss I have spent decades in the same department), and to my wife, Evelyn, for support in numerous ways.