Berger, 1973

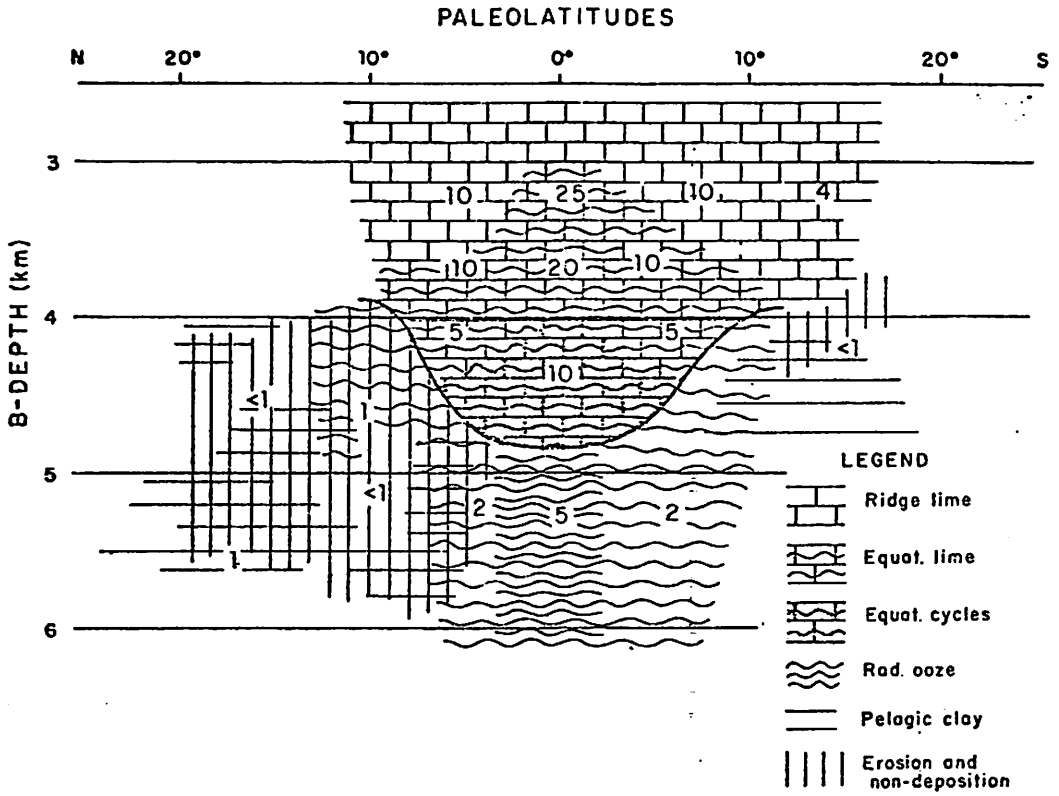

Figure 11. Model of post-Eocene facies domains in a paleo-depth versus paleo-latitude frame, highly generalized. Numbers are rates of sedimentation in m/m.y. Equatorial lime/silica cycles appear to be well developed in Miocene time and later.

SCLATER, ANDERSON, AND BELL

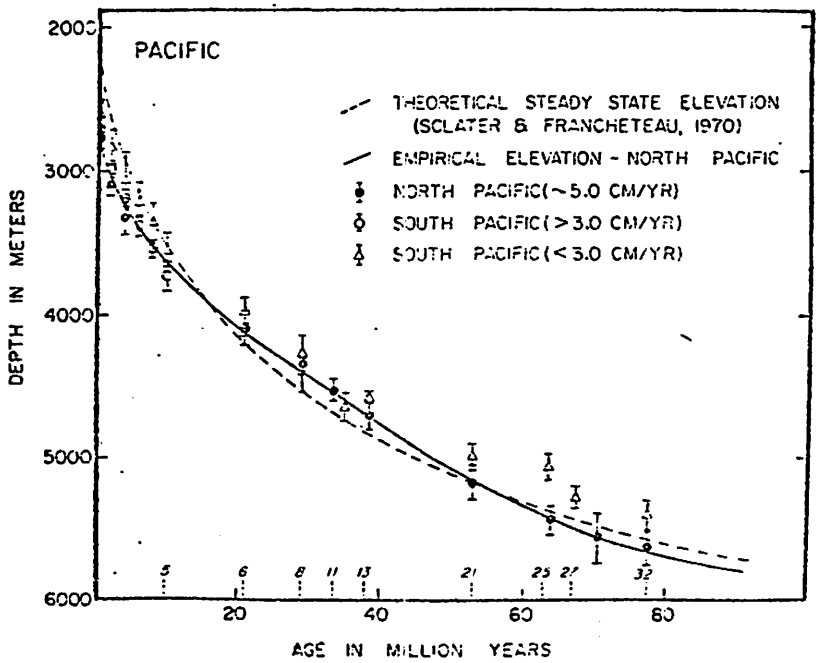

Fig. 2a. Average depth in the North and South Pacific plotted against age of the oceanic crust. The theoretical profile (dashed line) is for a lithosphere 100 km thick with a base temperature of 1475°C and thermal conductivity 0.75×10^{-3} cal/cm sec °C [*Sclater and Francheteau*, 1970]. The thick black line is a curve drawn by eye through the North Pacific data.

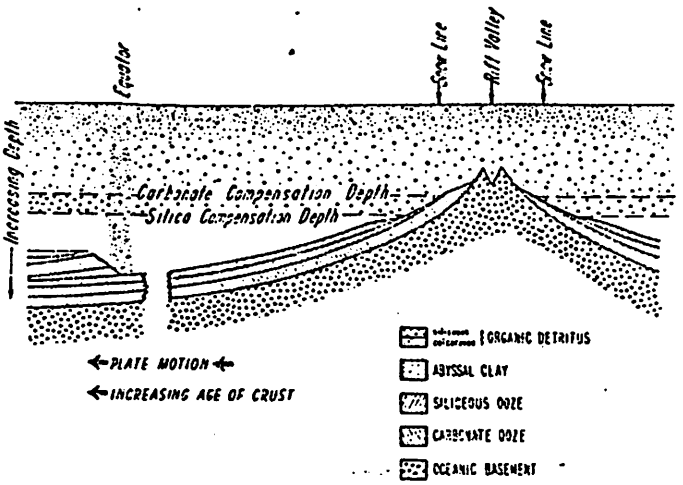

Fig. 1 Axially accreting model of oceanic sedimentation.

should have accumulated some 300 m of sediments consisting of 200 m of basal chalk and 100 m of overlying abyssal clay. Because the floor of the western Pacific is at least Early Cretaceous in age[3-5] we may compare the drilling results with the simple model.

Sediment Sequences in the Western Pacific

The sea floor of the western Pacific is covered by 5 stratigraphic units: a wedge shaped layer of Quaternary to Late Tertiary silty clay primarily of volcanic origin, thinning away from the Asiatic volcanic-arc source; a ~100 m thick layer of Tertiary to Cretaceous abyssal zeolitic clay; a sequence (±100 m) of Tertiary to Cretaceous cherts and chalks; an inferred earlier, thin abyssal clay a few tens of metres thick; and basal chalks, cherts, limestones and marls of Cretaceous age over 200 m thick (Fig. 2). Variations of this stratigraphy

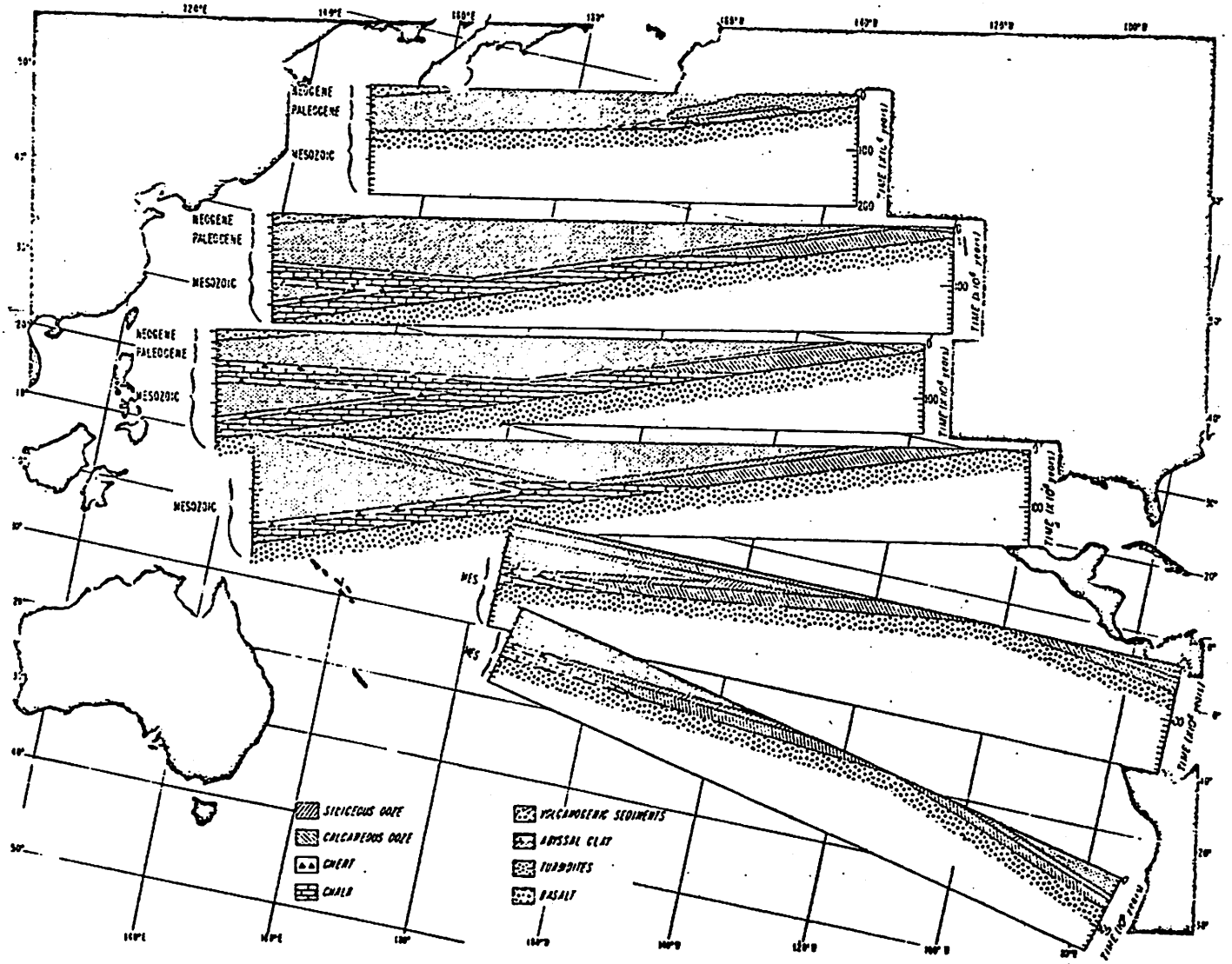

Fig. 6 Interpreted cross-sections showing sedimentary history of Pacific crust.

units can be applied to acoustic stratigraphy as well as to lithostratigraphy.

Magnetic Data

The Pacific crust is divided into two regions, one formed before and a second after the equatorial crossing. The boundary between the two is the "magnetic quiet" zone (Fig. 7). Similarly, the restriction of thick opaque layers to the western Pacific results in the correlation of this region with that portion