
Concepts of Stratigraphic Correlation—Applied Imagination: Comprehending and Expanding the Vision of Infinite Geologic Detail with Limited Data

Randy Bissell

Department of Physical and Environmental Sciences, Texas A&M University at Corpus Christi,
253 Circle Dr., Corpus Christi, Texas 78411

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ABSTRACT

Longstanding and traditional concepts of ‘stratigraphy,’ which is defined here as the correlation of sedimentary rock units, are inadequate to explain observations made using the native resolution of well logs and seismic. There are deficiencies in practical applications and exceptions to the principles of original horizontality, superposition, and uniformitarianism, often regarded as the sacred foundations of geology. Correlations must be guided by an expanded and imaginative vision of these fundamental principles simultaneously incorporating the modern dynamic concepts of Walther's Law, recognizable systems tracts, sea level eustacy, and plate tectonics. ‘Sequence Stratigraphy’ is a reinvention to inject the understanding of depositional processes and to project infinite detail of earth systems conceived in the geologist’s mind to the strata analyzed.

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