

Where is Sequence Stratigraphy Going? Stratigraphy – Quo Vadis?

Taras Storey*

Stratigraphy Generalist, Calgary, Alberta, Canada
cchesson@shaw.ca

Abstract

Since World War II, these questions have been directed at sedimentologists and paleontologists posing as stratigraphers.

To wit: 1) ASPG/CSPG never recognized Stratigraphy division as with sedimentology and paleontology. 2) 1997 – CSPG conference abstracts: Salvador, ISSC chair 'Stratigraphy in universities replaced by sedimentology and/or paleontology'; Owen, NACSN chair, 'Code is basis for teaching stratigraphy'. Stratigraphers recognize also sub-disciplines paleogeography and paleotectonics, basis for significance of Stage, fundamental unit of stratigraphy = single sequence (conformable) of horizontal sedimentary strati-fication with basal transgressive unconformity = Walther's Law. Relation between successive Stages = structural/erosional/depositional/hialal contact, reflects successive Ages = Principle of Superposition.

Depositional profiles of each Stage in succession followed by successive Stages in contact reveals successive structural/erosional/depositional/hialal developments (Storey, 1955, 1959-1970). Clearly, shifts in global paleogeographies from Age to Age were affected by late-Age global paleotectonics causing Regressions long before Transgressions of next Ages. These shifts perhaps caused by changes in gravity of earth's core, (Storey, 1943, 1947), leading to collapsing and upwelling of ocean floors. These considerations suggest Stage represents one stage in organic and inorganic evolution of one Age. This forensic evidence, paleontology, geochemistry, diagenesis, hydrodynamics, mass-extinctions, magnetics, hydrocarbon genesis and later migrations, must be integrated to basal transgressive unconformity. This is basis for historical geology (not quite so in W.C.S.B., 1964).

Depositional profiles offer bases for natural Stratigraphic nomenclature, discrimination between horizontal synchronous, diachronous aggradational and progradational penecontemporaneous lithofacies shifts (not transgressive, regressive), major lithofacies tracts, and transgressive hialal unconformities as basis for age-discrimination, (not to cross unconformity age and formation designation).