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CYCLIC AND NON-CYCLIC ASPECTS OF EROSION¹

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GEOLOGY has always centered around an effort to decipher records. Until fifty years ago these records were almost exclusively those of the constructional processes, conspicuously those made by sedimentation. Erosion has always been a great destroyer of records. Down to the last half century it was scarcely thought of as offering any compensation by recording a history of its own.

Within that time its records have been analyzed with increasing insight. They are made rapidly and in great abundance but always at the surface. Hence they are much like characters written on wax tablets, always destroyed to make way for newer letters. Only occasionally is a tablet discarded and buried and the writing thus preserved. Such a record is an unconformity. Erosional history mentions relatively

few large facts of early geologic date, but of recent events the account is very full, even more so than the parallel account written in the language of deposition. The study and interpretation of the records left by erosion constitute the larger part of the science of geomorphology.

These records begin to have value when erosion is seen as a series of events and not as a continuous process without beginning or end or variation. It is true that erosional events had long been used to chapter, paragraph and punctuate the sedimentary record, but the post-sedimentary record was a kind of unsystematic epilogue, without plot, added merely to tell what became of the characters. From a human standpoint it contained some things of news value, but the whole was rather less orderly than a morning paper. Items of significance were not yet organized into a science.

With Powell's concept of the "base level of erosion"

¹ Address by the retiring president of the Geological Society of America at its New York meeting, December 26, 1935.