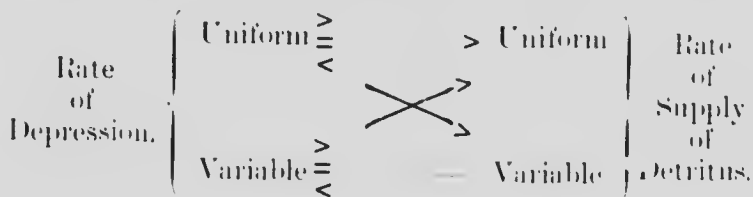


6. The uniform Rate of Depression may be less than the Rate of Supply of Detritus which is variable.

The remaining six relationships, when the Rate of Depression is not uniform but variable, may also be tabulated in a similar way; or all twelve relationships may be indicated graphically, thus:—



When there is uniform rate of depression and uniform rate of supply of detritus, the rate of the latter being less than the rate of depression, the seaward zones will gradually encroach upon the shoreward zones, the materials of the shale and sand zones will become commingled, and it may even happen that the limestone will be deposited directly upon what was the oldland surface. In this latter event the lower beds would be apt to become calcareous grits or conglomerates. Such conditions seem to have existed at one time in the vicinity of Kingston Mills, Ontario, where a calcareous conglomerate of Black River age, carrying angular quartz fragments, casts of a *Cameroceas*, and fragments of crinoid stems is found resting directly upon an Archean red granite.¹ Similar conditions seem to have existed in the Hudson Bay Basin during a portion of Devonian time. Parks describes the occurrence of certain Devonian corals in the basin of the Moose River with their bases attached to an Archean boss.² In the instance cited the boss of Laurentian gneiss probably formed an island in the Devonian sea at some distance from the shore of the oldland. The rate of depression was slow enough for the formation of a sandstone conglomerate near the shore.

¹ Wilson, *Phys. Geol., Central Ontario*, Can. Inst. Trans., vol. VII., p. 148.

² Parks in *Report of the Bureau of Mines, Ontario*, 1899, p. 188.