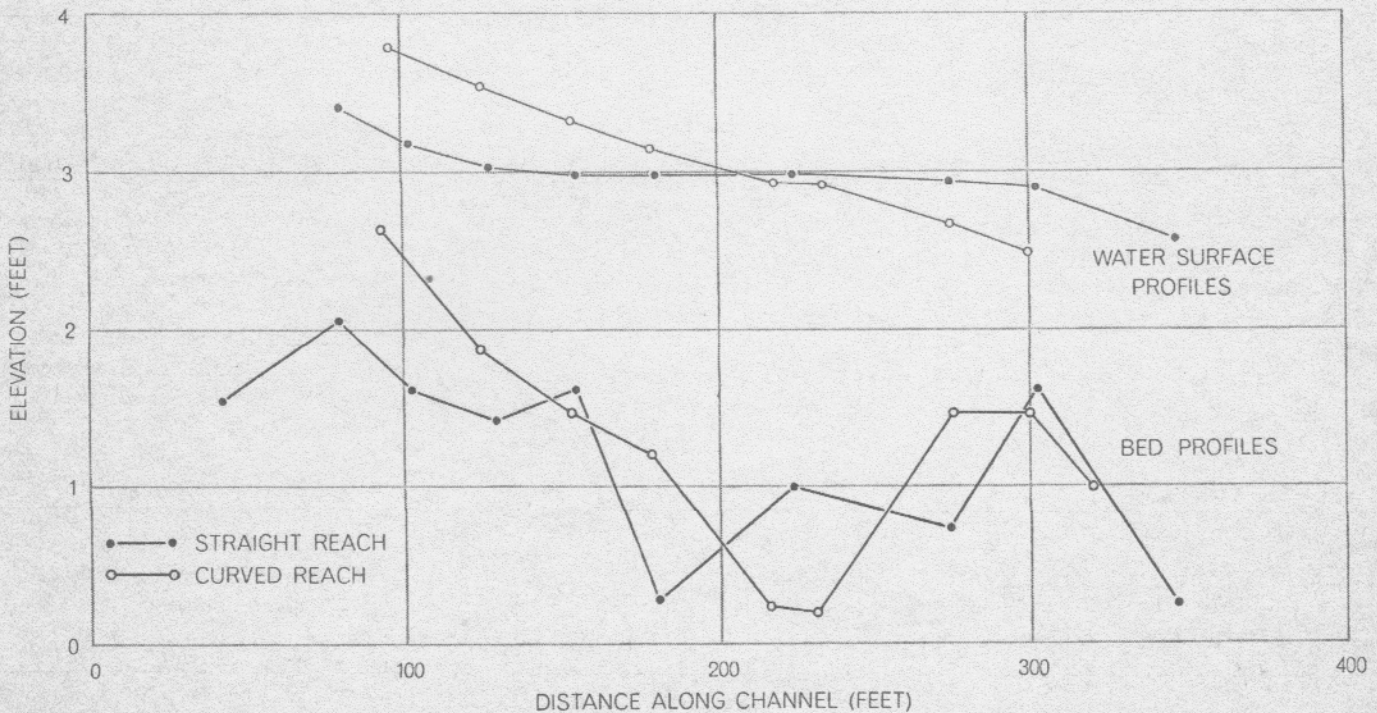
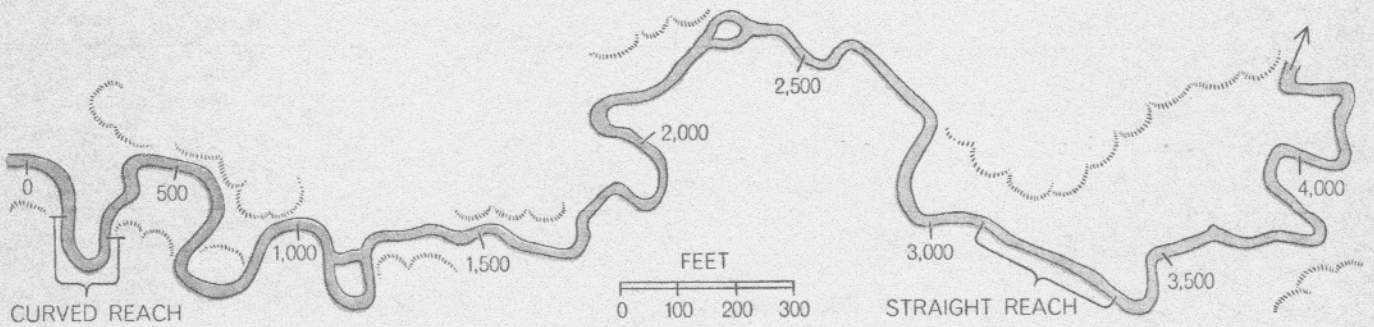


STRAIGHT REACH of a river has a more or less uneven bed that consists of alternating deeps and shallows, known to trout fishermen as riffles and pools. The humps in the stream bed that give rise to the riffles tend to be located alternately on each side of

the stream at intervals roughly equal to five to seven times the local stream width. As a consequence the stream at low flow seems to follow a course that wanders from one side of the channel to the other, in a manner having an obvious similarity to meandering.



PROFILES of the water surface and bed of a small stream in Wyoming named Baldwin Creek were obtained by one of the authors (Leopold) and a colleague in 1959 during a period of maximum runoff from melting snow. Measurements were made in two places, a meandering reach and a straight reach, that were comparable in all outward aspects except sinuosity (*map at top*). What emerged

was a quite unexpected contrast between the two reaches (*bottom*). The slope of the water surface in the meandering reach was clearly steeper than that in the straight reach; moreover, the water-surface profile of the meandering reach was nearly a straight sloping line, whereas the straight reach had a stepped profile, steep over the riffle bars and comparatively flat over the intervening pools.