

presented. This latter, called the 'partition process,' occurs when for any reason the swiftest current of a stream is withdrawn from a bank of erosion, with the resulting formation of a sandbar or island not continuous with the eroded bank, and therefore parting the stream. The deeper channel eventually acquires the entire stream, the deserted channel and former island are added to the floodplain, and the stream has thus moved laterally a certain distance.

It is shown that West River, swinging laterally by the various processes just noted, and at the same time slowly degrading its previously aggraded valley, has in its down-cutting discovered numerous rock ledges, which have exerted a distinct control upon the extent and character of the lateral swinging, and hence upon the erosion which has produced the terraces. The paper is abundantly illustrated by diagrams and plates as well as by maps and sections based on original surveys, and furnishes an important contribution to the theory that river terraces are not necessarily connected with change in stream volume, or with successive uplifts of the region involved.

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FAULT BLOCKS IN THE SIERRA NEVADA

'The Geomorphic Features of the Middle Kern,' by A. C. Lawson (*Bull. Dept. Geol. Univ. Cal.*, IV., 1906, 397-409), deals with a district of subrecent faulting in the southern Sierra Nevada of California. The case appears to be as follows: A great mountain mass, hereabouts reduced to moderate relief, though hardly smooth enough to deserve the name of peneplain, was raised in the huge fault block of the Sierra Nevada, with a gentle descent to the west; it was subsequently more or less dissected. A local fault in the southern part of the mass, bearing north-northeast, with relative uplift on the west and depression on the east, broke the general westward descent of the range and therefore disturbed the westward flow of the rivers, deflecting some of them to new courses along the fault line, and causing all to aggrade their valleys as they approach the escarpment of the uplift. Breckenbridge mountain is the name given to the uplifted and

now dissected block, west of the fault line; Walker, Havilah and Hot Springs valleys are aggraded basins lying at the base of the maturely dissected fault scarp. The basins are separated by 'spurs' which come down from the mountains on the east; the spurs appear to be either residual reliefs of pre-faulting form (modified by subsequent erosion), or indications of inequality of faulting, or both. Breckenbridge mountain is described as "an asymmetrical ridge * * * its western slope is exceedingly gentle and descends uniformly towards the great valley [of California]. * * * Its eastern side is a very precipitous mountain front. * * * The mere inspection of the profile suggests immediately that the mountain is a tilted orographic block and that its eastern front is a fault scarp." This vivid description seems to underrate the part played by erosion; for the front of the block as shown in a photograph slopes only about 25°, and is much scored by large ravines. It would, therefore, seem better to describe the front as 'determined by a fault scarp originally, but now much battered and dissected.' It was the neglect of such specific statement of the work of erosion on the fault-block ranges of the Great Basin that contributed to the misunderstanding of their origin by some observers.

'The Geomorphogeny of the Tehachapi Valley System' is another paper by the same author (*ibid.*, 431-462) on a similar problem of greater area and complication. It is of special value because it considers in some detail the pre-faulting topography of its district—a point that has been too generally neglected in studies of this kind.

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TECHNIQUE OF PHYSIOGRAPHIC DESCRIPTIONS

It is a matter of common experience to find difficulty in the appreciation of an article, such as the one outlined in the foregoing note, in which various physiographic features are located with respect to villages like Kernville, Havilah and Vaughn, without the aid of even an outline map. Unimportant villages, presumably unknown outside of their own state—and probably not known all through so large a state as California—have no guiding value to