reading and may have no connection whatever with a high area. There seems to be the utmost confusion in Dr. Hann's writings in which he uses barometer maxima and minima or the above indiscriminately. It is very certain that the whole meteorologic world has understood definite high and low areas, ordinarily called anticyclones and cyclones, in all these expressions.

Second, the point I made is by no means a trivial one, as the following figures from Dr. Hann show. I will take the two colder months, Feb. and March, from his table.

Temperature Fahr. at base of Sonnblick during high and low areas:

	HIGH AREA.	LOW AREA.
Feb.	33.8°	23.4°.
March	39.2°	22.8°.

I submit that temperatures 10.4° and 16.4° *higher* in a high area (anticyclone) than in a low area (cyclone) are not trivial.

Third, Dr. Hann himself shows that the usual law holds in the Alps, for in the latter part of this same paper there is a table giving the temperature in high areas 16°.5 F. and in low areas 35°.4, or a difference of 18°.9 in exactly the opposite direction from that previously demonstrated.

I am inclined to think that these serious contradictions throw a cloud over this investigation, and it is of the utmost consequence that this be explained, but if it is not, then the original contention, that temperature in the Alps is higher in high areas than in low areas, must be abandoned.

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Meandering Rivers in Missouri.

PROF. WM. B. DAVIS'S letter, in *Science* of November 19, contains much that it suggestive relating to the extent and phases of past denudations over the area of the Ozark uplift. In my letter of July 21, however, to which his is a reply, it was not so much my object to attempt to fix the age of the Osage River, or to define the changes of level that have taken place, as it was to raise the question whether a past base-levelling was necessary to explain the meander phenomena of this and the other rivers referred to. I there undertook to explain how the sinuosities of such streams might develop in a country which was not base-levelled. Mr. Davis, with characteristic candor, accepts this as an "important correction" to his explanation. Briefly, and expressed in general terms, the view advanced was: that, under certain conditions of declivity and stratigraphy, streams will acquire trenched meandering courses irrespective of whether the country be a flat plain or not, and irrespective of whether the lines of flow at the beginning of these conditions were decidedly sinuous or only gently curving. In any case, the radius of *developed* meanders will, of course, be proportional to the volume of the river.

This conclusion seems to follow logically from the premises that all rivers exert a sapping as well as a corrading action; or, in other words, that they tend to erode laterally as well as vertically. To produce these special results it is necessary that the declivity be not so great that lateral wear become altogether insignificant as compared with vertical wear; or that stratigraphic conditions be not such as to entirely thwart these tendencies