

Where the latter condition exists, the surface above the subterranean passage may subside by solution, producing a ravine of solution. Thousands of such exist over the limestone region of northern Arkansas and southern Missouri, known in geological literature as the Boone chert area.

These ravines have been discussed by the writer under "Valleys of Solution in Northern Arkansas."¹ Wide observation since the time of writing the above article has confirmed the belief that the ravines have their origin from solution, but has modified the opinion therein expressed as to their method of development. Instead of beginning at the mouth and developing backward, the usual method was that of starting with sink-holes, well up on the hillside. The drainage from these sink-holes was along subterranean, tubular passages, to the bases of the hills. The gradual subsidence from solution, of the rocks above the subterranean drainage lines, resulted in the numerous striking ravines that form such a conspicuous topographic feature of the region mentioned.

A. H. PURDUE

UNIVERSITY OF ARKANSAS,
FAYETTEVILLE, ARK.

QUOTATIONS

THE FUTURE OF THE TROPICS

WHAT the comparatively new science of bacteriology has accomplished for mankind could never have been foreseen a few years back, and even now we probably have a very inadequate idea of its possibilities. The recently expressed opinion of Colonel W. T. Gorgas, that within the next two or three centuries the tropical countries, which offer a much greater return for man's labor than do the temperate zones, will be settled by the white races, and that the centers of population and civilization be transferred to the equatorial regions, may not prove a strictly correct prophecy, but its possibility can not be denied, *a priori*, as once it would have been. The discovery of the malaria germ and of the transmission of it and of that of yellow fever

¹ *Journal of Geology*, Vol. IX., No. 1, January-February, 1901, pp. 47-50.

by mosquitoes has abolished the principal drawbacks to the habitability of these regions by the white races to a very great extent, and opened for the use of civilized man large portions of the earth's surface that were formerly practically forbidden to him. The question, of course, still remains to be settled whether the white man can retain his physical stamina and energy through residence in the tropics for many generations, and whether the mere conquest of pathologic germs is all that is required. The productiveness of tropical regions is of itself a drawback. The average man works only from necessity, and what renders mere existence the easier does not necessarily tend to the higher development of the race. It was Sir Charles Dilke, we believe, who once called the banana the curse of the tropics, and held that where it abounded human progress and ambition disappeared. There is some truth in this, but it may not be an absolute truth. It is not likely, however, that the tropics will be the leading centers of civilization in the future. The temperate zones, where the struggle for existence brings out the higher abilities of man, will always dominate, and it is not improbable that the tropics will be the recourse of the pervasive yellow races rather than of the white. There is every prospect that with our almost certain conquest of the pathologic conditions that exist in those regions their utility to mankind will be vastly increased and that higher civilizations than now occupy those lands will be developed. We may not be able to look on the tropics as a permanent home for the best of the ruling white races, even two or three centuries hence, but there is hardly any question but that they will be much more habitable and useful than they have been in the past.—*Journal of the American Medical Association*.

CURRENT NOTES ON METEOROLOGY AND CLIMATOLOGY

ROYAL METEOROLOGICAL SOCIETY'S LECTURES

THE Council of the Royal Meteorological Society in 1905 appointed a lecturer "to give information on meteorological subjects to