

the highlands streams are ever and anon accelerated by mountain uplift and their valleys changed so fast that with them some topography, once inhabited, exists no more; while the plains, where habitable because of river water, must with that water receive its sediments, so that with them the horizons of antiquity lie buried.

Such are the problems to be faced in exploration for the oases of antiquity and interpretation of what remains of their culture depositions. And although so little of what once has been can still be found, there seem great chances in what is left, especially when one year's exploration has revealed thus much of the remote past.

If the caves of Central Asia were occupied by early man as in Europe, still more ancient records may be looked for in them.

THE ANCIENT ALAI VALLEY ROUTE FROM BACTRA TO KASHGAR.

After communication was established between oases, trade routes and their intersections must have had an influence so important that it becomes necessary to find out all we can about them. As a contribution, I may be able to give new light on one of the ancient ways between Bactria and China. This will be purely objective evidence from observations on a journey over that route from Hissar to Kashgar.

OBJECTIVE CRITERIA OF ANCIENT LONG-USED ROUTES.

The question arises, how is it to be decided which of several routes was the important one? Must it remain a purely theoretical discussion, based on maps, traditions and writings, or are there objective criteria by which the traveler may recognize an ancient, long-used route of trade? There is reason to believe that all important trails of antiquity were, where crossing mountains, well-engineered with bridges and embankments, long rock-cuttings in cliffs and declivities, and carefully drained fillings where intersected by gulches. We should expect that steep ascents were, if possible, avoided by zigzagging grades and otherwise eased by long flights of steps hewn in the rock, while certain passes and defiles as well as stopping-places were fortified. Moreover, any trail long used must have worn deep into loess steppes where they were crossed, and even into bare rock. Of all this there should remain a recognizable trace. It is hard for Nature to obliterate long trenches worn in her loess plateaus, and harder still to wear away hoof-worn paths in rock and long cuts hewn midway up high cliffs. Where crossing aggrading plains and deserts of sand, there would be no marks except for caravansaries or fortresses, clay structures that fast crumble to low mounds and are soon buried in drifting dunes or obliterated by the growth of plains. Fortunately the nature of Central Asia has been such that few important routes could have been wholly on aggrading ground or drifting dunes.

THE CONTROLLING FACTORS OF TRADE ROUTES.

Trade routes are determined by three controlling factors, (1) needs of trade, (2) natural conditions, and (3) attitude of intervening peoples; and not only were they determined by these three factors but they also depended on them