

PLAN OF REPORT.

Although the main purpose of the reconnaissance was the study of the physiography and Quaternary geology of the country, some attention was given to the records of earlier times. Accordingly, it is proposed to discuss first the Paleozoic geology very briefly, then the Mesozoic and Tertiary geology more at length and with some mention of their relation to formations of similar dates in southwestern United States, and lastly the Quaternary geology, which will be taken up with considerable fullness. Under the last head will be included a discussion of the physiographic provinces into which the region is naturally divided and of the processes which have been instrumental in producing the present land forms. In conclusion, some attention will be devoted to a consideration of the evidence of changes of climate during recent geological times and to an attempt to subdivide the Quaternary era on the basis of these changes.

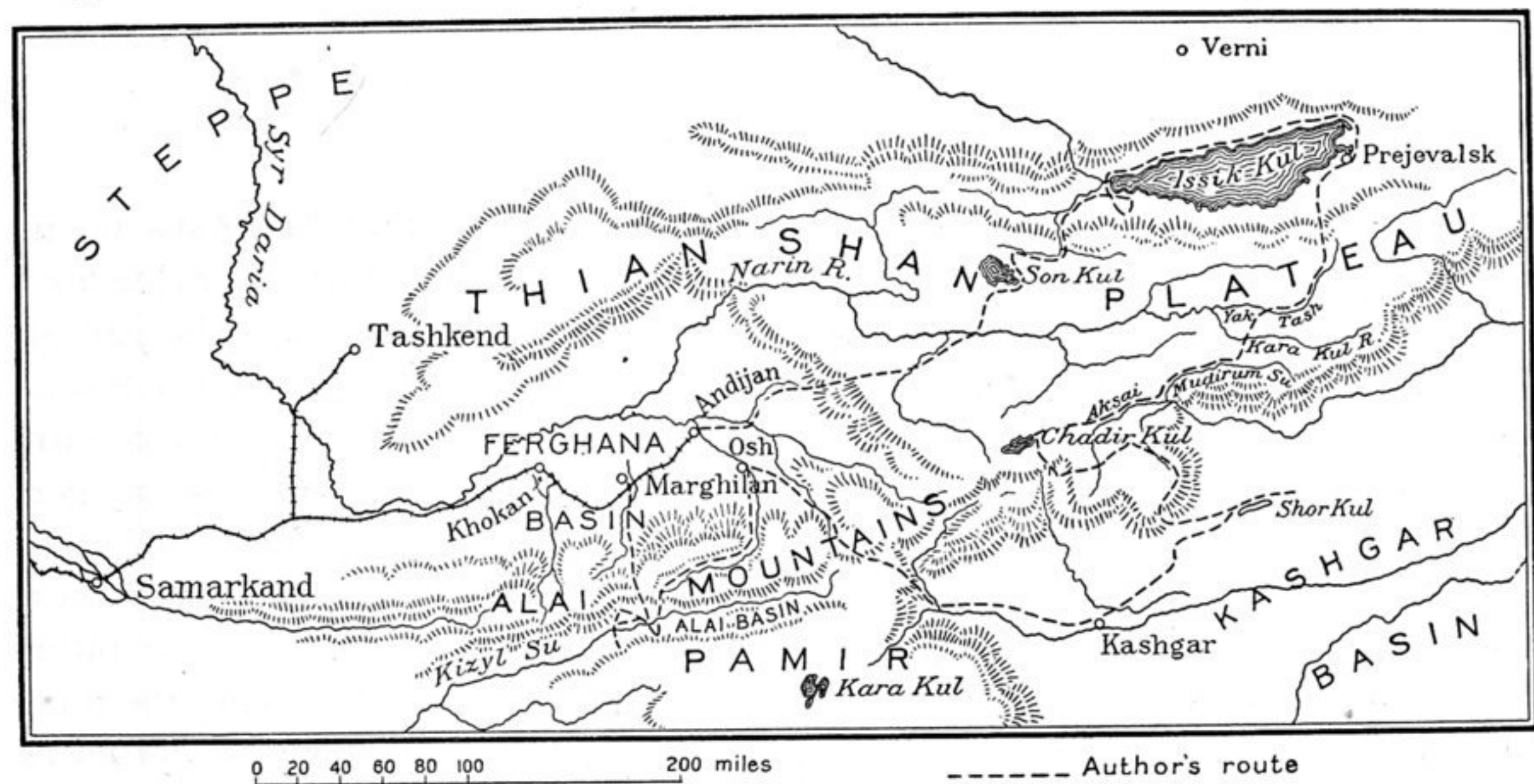


Fig. 120.—Sketch map of Central Turkestan.

THE PALEOZOIC SERIES.

In Central Turkestan a single succession of strata is repeated again and again, with only slight local modifications. The oldest observed formation is an ancient white marble, shot through and through with intrusions of granite. It was noticed only in the Alai Mountains in the neighborhood of Kok Su and Karategin. Its junction with the overlying formation was not seen, but the contact presumably shows an unconformity, as a conglomerate near the base of the covering strata contains pebbles of the marble. The granite which is intruded into the marble is of much later date, for it occurs abundantly in the Paleozoic series in the ridges of the Tian Shan plateau and along the north side of the Alai range. The main body of the Paleozoic series is a great thickness of limestones, many of them slaty, which are stated by Tchernachef to be of Devonian and Carboniferous age. They are greatly folded and have been penetrated not only by granite intrusions, but also by