

alternate in several layers. An anticlinal runs almost through the middle of their superficial extent. At the foot of Agaksugun it is caused by a low ridge of old dolomitic limestones on which the Artush clays and sandstones found a firm support. To the south of it the beds dip at angles of about 40° — 50° towards the Kashghar plain in remarkably regular and successive layers. North of the ridge, which has no doubt a considerable subterranean extent in an east to west direction, all the beds dip towards north by west at a similar angle. Approaching the higher range more recent diluvial gravels cover most of the slopes. The geological puzzle of finding strata of young beds as a rule dipping *towards* a high range composed of comparatively much older rocks seems to me to be due, at least in this special case, to the phenomenon that the atmospheric waters which descending on the crest flow down the slopes of the high ridge, gradually soften them, and if a subterranean outlet facilitate it, the softened beds are worn away. While this process is going on the more distant beds simply subside in order to fill the vacant spaces. In some cases a sinking or rising of the main range, or even an overturn of high and precipitous cliffs, seem to go hand in hand with the action of erosion, but it is not always the case. I hope to illustrate this idea by a few diagrams, partly derived from actual observation, on some future occasion.

A third series of entirely different rocks forms the main range of hills which are a continuation of the Koktau range, and in which, more to the westward, are situated the Terek and Chakmak forts. The average height of the range is here between 12 and 1,300 feet—single peaks rising to about 1,500 feet. The whole of its southern portion consists as far as I could see of carboniferous rocks, in which, however, there is a great variety of structure. The lowest beds are very often a peculiar breccia limestone passing into regular limestone conglomerate. Above this are beds of solid grey dolomitic limestone, partly massive, partly stratified. The former possessing the character of reef limestone, and portions of it are indeed full of reef, building corals, crinoid stems, and a large *spirifer*, the sections of which when seen on the surface have a striking resemblance to those of *megalodon*.

North of Tangitar and about Bashsugun I met in several places great numbers of fossils, but they were so firmly cemented in a calcareous matrix that only a few could be extracted. Among these I could recognize a small *belerophon*, *productus semi-reticulatus*, and an *athyris*. A new *terebratula* was also very common. Here about Bashsugun and Tugurmatti greenish shales occurred often interstratified with the limestones, beds of which were highly carbonaceous; the shales appeared to be unfossiliferous.

The limestone hills which, as already stated, are a continuation of the Koktau range, extend in a north-easterly direction the whole way to south of the Belauti Pass, where they are overlain by a particularly well bedded dark limestone, very similar to that containing *megalodon* north of Chungterek. On this limestone rest greenish and purplish sandstones and shales which occupy the pass and the adjoining hills to the north-west of it; mineralogically these last rocks are quite identical with what we understand under the name of "*Bunter sandstein*," and it is by no means improbable that the Belauti beds are also of triassic age, as they succeed in regular layers those of the carboniferous formation.

A peculiar feature in this part of these hills consists in the occurrence of extensive plains to which the name *Jilga* is generally applied. It means originally, I think, merely a water-course, and on a large scale these plains may be looked upon as water-courses of former watersheds. They occur at the base of the high range, and in some respects resemble the *doons* of the southern slopes of the Himalayas. North of Tangitar one of these large plains occurs within the limestone rocks, being surrounded by them on all sides. It must be about 30 miles long from east to west, and about 16 from north to south. Several isolated limestone hills and ridges occur in it, and it is drained off by the Bogos and Sugun rivers, the former rising in the south-west, the latter in the south-east corner. The average elevation is about 5,000 feet. The greater portion is covered with a low scrubby vegetation and, near the rivers, with high grass. The principal camping grounds are Bashsugun and Tugurmatti. The whole plain which affords a good pasturage ground is occupied by about 120 tents of Kirghiz during the summer.

The next *Jilga* is the *Jigda Jilga*. It differs considerably both in its physical situation and in its general character from the former. It stretches from west by south to east by north