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## The Western Watershed of the Upper Portion of Cape York Peninsula.

BY J. T. EMBLEY, Licensed Surveyor.

[Read at a Meeting of the Society. October 20, 1896.]

Seeing how little is known by the public about the western watershed of the upper portion of Cape York Peninsula, and being, to the best of my knowledge, the only person who has a fairly intimate acquaintance with this part of the Gulf, I have no doubt that the information contained in this paper will prove of some interest, and assist to make known the general character of the country.

Taking into consideration, first, the rivers discharging into the Gulf. It seems remarkable that the rivers north of the Archer should have such fine tidal courses—extending inland, and navigable for small craft drawing 5 feet, for a distance of thirty miles in a straight line. These rivers are the Watson, Embley, Mission, Batavia, and Ducie, and carry their flood waters throughout in one channel; whilst the Archer itself, and the rivers to the south of it, including the Mitchell, have very poor tidal courses, extending but a few miles. All of these rivers overflow their banks in flood time, and the overflow finds its way to the coast in various channels. As an instance, the Mitchell is about one mile wide 100 miles up from its mouth, and about 100 yards in width seventy miles lower down. The others change in a similar manner. The country south of the Archer is fairly level down the Gulf coast, extending inland for a distance of fifty or sixty miles, whence it becomes gently undulating, and generally maintains this character until meeting the dividing range. To the north of the Archer the conformation of the country almost from the coast is of an undulating nature, and the river channels in parts have been eroded through gravelly ridges, the gravel being obtained from the partial decomposition of a “pebbly conglomerate ironstone” formation, which covers the principal area in this particular part. This erosion has given the channels high, steep banks in some places. This is particularly noticeable along the

Watson River, which is the first one north of the Archer, and which discharges into that river about three miles up from its mouth. This, I think, is the channel that Captain Pennefather went up about fifteen years ago, and it was locally reported that he described the Archer as being a well-defined, navigable channel for some distance up from its mouth. From what I could see of the Archer whilst traversing it in 1884, this could not very well be the case.

Most of the country embraced between the navigable portions of these rivers is of an inferior quality, consisting of gravelly and sandy forest ridges, timbered with bloodwood, messmate, ironwood, gum, and tea-tree. From what you might call the head of navigation on the rivers, the country, although not of first quality, is, in my opinion, well suited for agriculture, consisting of undulating open forest of box, gum, bloodwood, and ironbark, with patches of tea-tree sandy forest. The soil on what is known locally as ironstone ridges, is of a red, loamy description (from the decomposed conglomerate), with a depth in places of 5 feet. Tropical fruits, &c., thrive remarkably well on this soil, and it is, I think, better suited for agriculture than the richer looking dark brown soil on the melon-hole country, which is of a friable, porous nature on the surface, with a stiff, clayey subsoil. I cannot form a decided opinion as to the origin of the soil which forms the melon-hole country. There are a few outliers of dark brown sandstone; in the central parts occur whitish nodules about the surface, containing a large amount of lime; whilst in the bed of some of the creeks are to be seen exposed surfaces of a whitish brown formation of rock of a soft, rounded nature, and apparently a mixture of lime and sand (the depth of soil showing in the creeks is from 8 to 12 feet.) In one creek near Mein Telegraph Station a section of fine bluish rotten slate is exposed, whilst within a few miles of it stones of a flaggy nature are to be seen, but this is approaching a part of the Geikie Range; whilst a few miles to the south of the Lukin River, which is the southern extremity of this description of country, there are outcropping a few clusters of granite rock. These, however, are not very distant from the boundary. The soil at all these places is of similar description in appearance, and it is not improbably due, to some extent, to metamorphic action.

The area over which this melon-hole country is interspersed—it occurs in frequent patches, the intervening areas being principally pebbly ironstone country—commences about lat. 12deg. 30min., long. 142deg. 20min., thence in a south-south-east direction to about lat. 14deg. 30min., long. 143deg., with an average width along the central part of about 30 miles. The only grazing settlement that has taken place is on this area. The soil is thickly grassed, retains moisture well, is lightly timbered with a kind of willow gum, and in parts box. The creeks hold water well, and generally have fine permanent lagoons along their banks.

The country to the south of this, and extending to the Palmer and Mitchell rivers, is very inferior, of a sandy character throughout, being chiefly a desert sandstone formation; mostly open forest of bloodwood, ironwood, and tea-tree, with messmate, black wattle, and quinine. There are patches of grassed country along the creeks and rivers, but limited in extent; sufficient, however, to answer the purposes of droving. This unoccupied country is about 15,000 square miles in extent, and sustains a fairly large number of natives, particularly along the coast, which, I suppose, is the only part of Queensland where the natives have not come into contact with whites. To the north of it is simply sandy desert to within a few miles of Cape York, what natives there are being simply along the coast.

The rainfall in these parts is fairly heavy, and, combined with a very regular and not too severe tropical climate, various tropical productions would no doubt do well.

I have been on the coast in various places north of the Mitchell River, and invariably found when approaching the coast raised beaches of sand and shells, running parallel with the coast, and distant perhaps a quarter of a mile from each other, apparently showing a gradual rising in this part of the coast.

It may be well here to state, in connection with the so-called "new rivers," that the creeks forming their heads have been known since 1864, and a portion of their tidal waterways were delineated on my maps of the district in 1885. It should have been stated that the Rev. Mr. Hey ascertained and navigated their mouths, the positions of which were, however, shewn on the Admiralty charts.

This particular part contains a great many natives, and an additional missionary station is about to be formed there. As I am in a position to speak from experience regarding the condition of the natives before the establishment of Mapoon Mission Station and their present condition, I am pleased to be able to say that the improved change in the young natives is very marked, and shows the result of patient work and kindness on the part of good Christian people.

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