

also in overall scale by being copied and prepared for printing. Barnicoat copied Rakiraki's map in his journal and the map in the typescript measures 6×7 cm. This is probably much smaller than the map Rakiraki drew. It is not clear whether the lithographed illustrations of the maps drawn by Huruhuru and Tuhawaiki were made direct from the maps these Maoris drew or whether they were copied by Godfrey and Shortland and then prepared for printing. There is the possibility of two modifications to the maps and a consequent double reduction of the scale. The printer or publisher could have edited the maps before printing to conform with publisher's style or for the convenience of the reader. Hochstetter copied the map the Maori drew for him in sand and it appears as a sketch 5×3 cm in his book. The original Maori map has undergone two modifications, first the sketch by Hochstetter and second the preparation of Hochstetter's sketch for an illustration in his book. It would be an interesting exercise to compare the original of Huruhuru's map with the illustration in Shortland's book but regrettably the original map has not been traced.

The shapes of physical features on the maps have varying degrees of distortion when compared with a modern map. These distortions are due to the fluidity of the scales of the maps and the degree of knowledge of the Maoris who drew them.

The descriptions of the maps which have not survived suggest that only the outlines of the coast, lakes and rivers were shown. Relief and other detail were not depicted. On all the maps natural features are given the greatest emphasis. The only non-natural features depicted (with the exception of Tuki Tuhua's) are dwellings, campsites and tracks. It should be borne in mind that nearly all of these maps were drawn for a special purpose, to indicate routes, and there was no need to show the entire body of geographical knowledge possessed by the cartographer. Modern aeronautical and hydrographic charts likewise show the bare minimum of detail.

In Tuhawaiki's and Halswell's maps rivers are shown by a single line where they enter the sea, and are probably so represented as reference points for coastal navigation. Only the Waiau and the Clutha, with double lines, are shown as having length, which may be an indication that they were considered as being navigable for some distance inland. Rivers are shown on Halswell's map (with one exception) as single lines, but on Huruhuru's and Rakiraki's maps they are mostly double lines. It is suggested that Halswell's map is designed for coastal travellers and the rivers thus expressed as reference points only, while the other two maps express the topography encountered during inland travel where wide, turbulent rivers like the Clutha are a major impediment to progress.