trigonometrical points, so as to settle their relative positions. Thus the positions of Native land surveys are known, though the dimensions may not be accurate.

At present all traverse surveys commence on one trigonometrical station and close on another, and wherein the actual work is reduced on the meridian and perpendicular, thus proving accuracy.

The major triangulations have no referring marks for the use of the section surveyors, who necessarily use small theodolites. But it is the practice only to employ such surveyors as are in the confidence of the Inspector. Still, at times the Natives will not allow of this, when such surveyors as are acceptable to them are employed. In Native surveys there are difficulties not attached to others; thus the Native Land Act requires the surveyor to follow where the Natives direct or point out, and the sinuosities of their claim boundaries are often most intricate, and subversive of correct survey.

In the Native Lands Survey Office I found the maps to be of all sizes, from 6 feet square down to 18 inches. They are kept in drawers flat, but are not in a fire-proof safe. They are registered in a large folio, numbered in a manner by which they can be found in their special drawer, 100 maps going to the drawer.

The field-books of the official staff belong to the Government, but of the contracting surveyors not so. The field-books are not registered, and are of all sizes.

The reference maps are kept in rolls, and placed on racks on the walls.

This office has nothing to do with Crown grant record, but in issuing certificates the section is numbered in red on the district maps; the boundaries are also tinted red. The provincial surveys are tinted yellow on the same maps, but not numbered.

There has been a great deal of trouble from the old provincial surveys, but this has been overcome since they have been draughted on the maps and brought into consistency—that is, put into relative position in a topographical sense.

Speaking generally of Crown lands and Native land surveys in this part of New Zealand, I noted that it is evident that these have until recently been in no way ameliorated by the superior standard or regulating processes, which here consist of major triangulation, all sections and claims having been measured without the test of mathematical reduction, and under no definite bearing. The system of fitting mechanically by humouring has thus been, perforce, had recourse to; hence much of the Auckland settlement surveys must take the rank of sketch or reconnaissance only, and the maps thus constructed can only be looked upon as application maps, not as correct working plans. These, therefore, cannot be recommended, without special investigation of each separate survey, as fitted for the responsibilities of the Land Transfer Act. But in regard to the revisal of unproven surveys, the same remarks here apply as I made on those of Canterbury, Marlborough, and Nelson.

It appears to me that, owing to the generally difficult nature of the surface of Auckland Province by reason of fern, scrub, and forest, the surveys to be properly executed must be very costly: hence the system of the Government bearing the cost, as in Canterbury and Otago, would not be advisable here. But to keep the surveys in the hands of the Government, a measure most necessary to reliableness, it would be desirable if the Land Regulations were framed so as to permit of the cost of each survey being estimated, the amount of which should be deposited by the applicant with the Receiver of Land Revenue. Balance, if any, to be returned on completion.

In looking over the maps of major triangulations, I observed that the true bearings and distances were not set forth on them, and was informed that these were registered in a volume. On this subject—one that so closely affects the convenience of all practising surveyors and the pockets of their employers—I would suggest that not only should all maps in the office set forth these data, but that they should also be lithographed and sold at moderate prices for the easy reference of all persons surveying or dealing in lands.

As the return of this office gives all the triangulations as *major*, it is necessary to point out that the operations of the staff should not rest here. Settlement and section survey, being the real and most pressing responsibility of the Survey Department, require referring points at distances four or five times more close than the stations of the major series. It must also be noticed that the major series, as executed, not being furnished with referring marks at each station, the actual surveyor is put to great expense and inconvenience from this cause. Thus, in order to fix a single section, he has to travel generally thirty miles, or else neglect his duty and send in work *unproven*. Referring stations would save this, and enable the section surveyor to get to his work at once with economy to his employer.

The returns sent in regarding this office show the following work:—

	Acres.	
Major triangulation	9,647,390	Partly broken down by minor elements reduced in books.
Native claim surveys	7,502,966	Mechanically plotted till lately.
Native claim and other surveys in hand	684,000	In nine localities, spread over three-quarters of North Island.

Taranaki Surveys.

On leaving Auckland I proceeded to Taranaki by sea, and visited the Survey Office there on the 17th November, when I received every information desired from the present Chief Surveyor, Mr. T. Humphries. This officer informed me that at the origin of the settlement there was no initial station fixed for the surveys of the settlement of New Plymouth; nor was true bearing determined. What is termed the Devon line, stretching from Pari to Waitara, distant about twelve miles, was the base of the surveys. All surveys were originally set off at right angles, and the sections marked on the plans in chess-board fashion. The ground marks of this survey are all lost, and where old fences remain the measurements do not agree with the plans. These plans are still in existence. The extent is 10,000 acres.

In the year 1875 true meridian was determined near Waitara by Mr. Humphries at a position