

he at once entered on giving me all the information I sought, and which I noted to the following effect :—

MARLBOROUGH SURVEYS.

In this district the New Zealand Company's surveyors commenced their first operations in the year 1847, Marlborough being then a portion of the Province of Nelson. There was no initial station of surveys fixed, nor has latitude or longitude been observed. The surveys are all on magnetic meridian; nor has true meridian been observed lately. The original working plan of the delta of the Wairau Valley, of which the town of Blenheim is the centre, was made by W. Budge, in 1848. This plan is on the rectangular or chessboard system of section survey wherein the distances are given, but no bearings. It has, however, been found to be generally correct with one exception, where there has been an overlap in sections 49 and 50, Wairau West. The area of this generally correct work is 126,000 acres. There are no serious errors in these, though the Crown grants, in early days, were carelessly prepared; but these, if necessary, could be rectified. The sections were intended to be 150 acres each in size, but they are actually 154 acres, 4 acres having been thrown in to compensate for errors of survey.

Beyond this New Zealand Company's Block, the whole province was taken up in pastoral leases, which are always bounded by natural features, and within which applications to purchase were made. These applications could be made in any part of the province, and when made were surveyed so that the land comprised in them might be sold by auction. The surveys in various parts thus extended were connected with the road lines of the New Zealand Company's Block by traverses. The Wakefield Downs and District of Awatere were surveyed on the same principle, and the surrounding country was applied for and thus surveyed likewise.

Where applications were made far from any New Zealand Company's blocks, then their surveys were made on magnetic meridian.

Recently a minor triangulation has been executed on a block in Waihopai and Awatere, of about 20,000 acres. In this a base was measured 138 chains 36 links in length in the former district, from whence the triangulation was extended to two verification bases in the Awatere Valley—the first of which, by actual measurement, was found to be 3,108 links, and by calculation to be 3,110 links; the second, 3,881 and 3,882 links respectively. This work was done on magnetic meridian, and is not mathematically reduced. No altitudes were observed.

Mr. Clarke thinks that, when the separate surveys come to be put together, overlapping or contortions may be disclosed, but, owing to the many natural features, such as ridges and creeks, which confine them, no inconvenience has yet been felt. The Crown lands being in strips, well divided by features, no overlappings are (thought to be) possible where so divided; but the system of traverse survey, no doubt, creates an accumulation of error.

In this district surveyors are generally private and authorized—not official—and paid sometimes by the Government, sometimes by the applicants.

It will be already surmised that the land regulations admit of dispersive and isolated applications, though the sale of the land comprised in such applications, after they are surveyed, must go through the ordeal of public auction. Lately, also, land is being selected in lieu of cash payments for public works executed. There has never been a staff maintained that was competent to grasp or overtake the work on this system of application; in fact, practically, the Chief Surveyor was the only officer employed in the Government interest, and, as he could not be ubiquitous, he could not be responsible for imperfections.

The working plans are on a scale of 5 to 10 chains to the inch, and are of all sizes, the larger being kept in rolls, the smaller in drawers; all, however, neatly arranged. Some of the field-books and maps were damaged by the great flood of February, 1868, and, with this exception, all are generally in good condition. Some of the field-books are in pencil, but they are quite legible, so there would be no difficulty in referring to any section for its bearings and distances. Lately the field-books have had their contents registered: this has been brought about by the Chief Surveyor now having more control over the surveyors, so he has thus been able to introduce improvements.

In the system in this office of Crown land record, the portions of the plans for which grants have been prepared are coloured yellow. This is done on the application maps, and on this is also placed the grantee's name. In this office, owing to the limited quantity of the business transacted, the record of Crown titles on application maps, instead of index maps, specially provided, is not found objectionable, as they remain yet in a good state of preservation.

On considering the subject of the advisability of revisal of surveys in Marlborough, I noted the following remarks :—It appears that the New Zealand Company's old surveys may stand as they are, but all others must be controlled by minor triangulation, as errors must have largely accumulated. A minor triangulation cast over the surveyed districts would test the work. Connected with the minor triangulation, topographical maps should be made showing connections at each station by actual bearing and measurement. These connections should be to the corners of sections or roads, and to two separate pegs or corners, if obtainable. Skeleton working plans (10 chains to an inch) could thus be commenced, and the old work plotted in on them.

During my investigations, Mr. Dobson, C.E. and surveyor, voluntarily pointed out to me certain surveys of territory made by selectors wherein the practice was to indicate the spots selected, but not the connections, the intervening spaces unselected on the plans of surveys whereon the connections were draughted being held to be the private property of the selector. In assuming this position towards the Survey Office, I was informed that the selector complied with the law; but it is evident from an inspection that the plans were not sufficient for denoting the correct relative positions of the separate surveyed parts. This being a very general practice, it is evident that the Chief Surveyor was put in a professionally false position, in which he could not meet the responsibilities ultimately devolving on him, and expected of him by the public. Mr. Dobson informed me that it was held in Marlborough that the proof as to a survey's correctness lay with the Chief Surveyor to find out, not with