

systems involved, I will report more fully as to the results. A rough tracing already to hand shows that the whole series comprises remarkably well-conditioned triangles, and that over a large area the discrepancy in the summation of the angles in each triangle does not average 2 seconds, testifying to the care of the observer, who used a splendid 10 in. "Everest" by Troughton and Simms, but only reading to 5 seconds. The accuracy of the observations was doubtless due to some extent to the fact that for every change of zero corresponding changes on the verniers were insisted upon—a practice not sufficiently attended to by observers. The measurement of a base of verification on the Murimotu Plains is necessary to the satisfactory conclusion of the work. It is important to note that the western stations of Mr. Lowe's triangulation were planted on the summits of Ruapehu (9,175 ft.), Ngauruhoe (7,504 ft.), and Tongariro (6,458 ft.). Before leaving this subject for the present I wish to draw attention to the fact that the triangulation under review covers the central area of the North Island, and consequently corresponds to the keystone in an arch, as it completes and binds together the various series emanating from the coasts—each independent of the others, originating and founded upon its own base, and governed by ascertained astronomical elements. Hence the opportunity for comparison becomes deeply interesting.

*Topographical Survey for Selection Purposes.*—This class of work was limited to a small block inland of Carterton, and another at Hurupi, South Wairarapa.

*Rural and Suburban.*—The out-turn of work under this heading comprises Mr. James McKay's survey of Rangiwaea Block, all forest country, completed at a low cost; 9,630 acres at Kaiwhata, East Coast, subdivided into large sections by Mr. Strachan; Mr. Mountfort's Oraukura Block of 6,535 acres near Taihape, the cost of which was unduly increased by previous surveys which were incorporated; part of the Awarua Block, on the ranges near Mangaweka, surveyed by Mr. Morice at a reasonable rate; and other minor areas. Especial care has, as usual, been exercised in the determination of the road routes, and in their final location. The excellent results and precision obtainable by the use of the present-day 10-chain steel bands recall to the older generation of surveyors the tedious and agonising difficulties attending the use of the old-time chain constructed of bars, swivels, and a multitude of rings. It is interesting to note that Mr. C. A. Mountfort, Assistant Surveyor, failing the necessary trig. connections, has for years past checked and corrected his traverse bearings in dense forest country by sun azimuths. His field-books are replete with examples. The results have been most satisfactory, and prove that a 5-inch theodolite can be relied upon to furnish the true bearing by this method to within a few seconds. Its facility and convenience of application as compared with star observations at night in forest country are recommended to the profession. The late Mr. Alexander Dundas was the first in this district to commonly adopt this method.

*Town Sections.*—The principal areas under this head embrace Mr. Dalziell's Pongaroa town and village survey, and Mr. Reardon's contract survey of the proposed Native township at Potaka, on the North Island Main Trunk Railway, north of Mangaweka.

*Native Land Court Surveys.*—Though only five separate areas go to make up about 90,000 acres, it affords me much satisfaction to report that all but 5,000 acres in Rangitatau are situated in the Awarua Block; the titles to which have, most unfortunately, been unduly delayed. Mr. Maitland is credited with 6,697 acres, Mr. Mountfort with 17,400 acres, Mr. Morice with 8,775 acres, and Mr. Biggs with 51,451 acres, executed at a low rate. The cost of the Native surveys has been kept as low as possible, for the reason that in the past the Natives have incurred considerable outlay for the survey and resurvey of their claims. In addition to the foregoing area forty-two blocks, comprising 204 subdivisions and 30,009 acres, were surveyed by private licensed surveyors, the plans of which were examined, reduced, recorded in the office, and approved by the Chief Surveyor.

*Roads and Railways.*—Of the 155 miles returned, about 124 miles represent roads laid off and legalised through Native lands, and roads and tracks in use proposed to be dedicated as public highways. Though this class of survey is not immediately remunerative to the department, the value of the service rendered and the gain and advantage secured to the public can hardly be overestimated.

*Other Work.*—The sum of £985 8s. 4d. expended under this heading includes £76 incurred by the Inspecting Surveyor, Mr. Climie, making twelve inspections of surveyors' work; and repairs to trigonometrical stations, mainly in the Wellington and Rangitikei districts. A register of all the trigonometrical stations in the Wellington Land District is projected. Mr. Earle's survey of the lowlying lands on the east side of the Wairarapa Lake cost £129 18s. 7d.; and £84 16s. 2d. was spent on a retraverse of the coast and horse-track between Te Awaiti and the Whangamoana, South Wairarapa, and miscellaneous detached surveys and duties.

*Land Transfer Surveys.*—It is but seldom that the staff undertakes surveys of this nature. They are carried out by licensed surveyors, the plans being examined and passed by the local Land Transfer Branch of the Survey Department. These comprise 270 plans; and thirty-two plans were drawn or compiled. In addition the following duties were attended to: 1,503 deeds were passed, plans were placed on 2,010 certificates of title, the cost of the office being £901 10s.

*Inspections.*—As before stated, Mr. Inspector J. D. Climie examined and tested twelve distinct surveys. The deductions to be drawn therefrom are: That, taken as a whole, the work has been good, but in the cases of two surveyors defective surveys were disclosed. The results demonstrate the necessity of systematic inspection in order that the staff and authorised surveyors' work may conform with the regulations and departmental requirements. In consequence of arrears of mapping of surveys executed as District Surveyor, and miscellaneous small but urgent surveys and special duties placed upon him last season, Mr. Climie was prevented from pursuing his inspections of the staff and private surveyors' work, though he is now constantly engaged upon this duty. During the year I devoted 117 days to land and survey inspections, covering by railway, coach, on horseback and foot, nearly six thousand miles. The revaluation of holdings and Land Board