

A thickness of 2,000 feet separates the *Glossopteris* from the *Spirifer* beds. From the bone beds associated with the latter, a good series of the Saurian bones was also collected, some of the vertebral centra having enormous proportions, being 18 inches in diameter, and $3\frac{1}{2}$ inches in length.

Besides vertebra, rib and limb bones were also obtained, and what appears to have been dermal plates; but the large blocks in which these interesting remains are embedded are not yet worked out sufficiently.

A further discovery of great interest, is the determination by Mr. McKay of the age of the Maitai calcareous slates near Nelson. These underlie, unconformably, the whole of the beds that are developed in the Hokanui section, and contain the true *Spirifer bisulcatus* and *Productus punctatus* of the Middle Coal measures of New South Wales.

The discovery of Graptolites in the strata of the Collingwood district during the past year, is also an important advance in New Zealand palæontology.

In Upper Mesozoic formations, the most interesting novelty is the discovery by Mr. Cox of an extension of the West Coast Coal measures towards the limit of the Te Anau lake, while the heavy bedded grits and conglomerates enter into the structure of lofty mountain ranges.

The additions to the tertiary fossils have chiefly been from the East Coast of Wellington, while the evidence of the relative position of the Greensands and Chalk marls to the Miocene strata of the Taipos and the Pliocene Tertiaries of the Wairarapa, have received support by ample collections.

The New Zealand Fossils now accumulated in the course of the Geological Survey, represent collections from 450 different localities, and comprise about 6,200 trays, which have been thoroughly classified, and 1,200 specific types withdrawn into a separate collection for publication. A large number of types have been figured and their publication will be proceeded with as rapidly as the other work of the Department will permit.

PUBLICATIONS.

The volume of Geological Reports for the past year, is now in the press and will contain the progress reports of the Survey, and in addition descriptions and figures of the most important of the Lower Mesozoic fossils.

METEOROLOGY.

The number of Meteorological Stations is now 14, namely:—Mongonui, Auckland, Taranaki, Napier, Wanganui, Wellington, Nelson, Cape Campbell, Christchurch, Bealey, Hokitika, Dunedin, Queenstown, Southland.

The returns made by the Observers are published in the usual form, but it is very desirable that the re-organization of this branch should be effected, with the view of reducing the present number of stations, and substituting a few thoroughly equipped observatories, and a large number of stations where only rainfall, direction of wind, and temperature would be observed. By this means the same expenditure would give more valuable results.

TIME BALL OBSERVATORY.

The necessity for certain additions and repairs to the Observatory have been represented to Government, and, in particular, the desirability of having a second rating clock, as at present, when the single astronomical clock is under adjustment, intervals occur during which the time-ball cannot be dropped with accuracy.

LABORATORY.

The following is a summary of analyses performed in the Colonial Laboratory during the past year:—

1. Coals	...	...	...	...	15
2. Rocks and Minerals	...	...	...	...	46
3. Metals and Ores	...	...	...	...	53
4. Examination for Gold and Silver	...	...	...	...	70
5. Waters	...	...	...	...	22
6. Miscellaneous	...	...	...	...	25
Total	...	...	...	...	231

A full account of these analyses will be found in the Annual Report on the work performed in the Laboratory, published separately.

ACCOUNTS OF NEW ZEALAND INSTITUTE, 1877-8.

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Balance in hand, 23rd August, 1877	...	123 9 4	Expense of printing Proceedings of Vol. IX., of Index, and Binding	...	91 16 11
Vote for 1877-8	...	500 0 0	Expenses of printing Vol. X.	...	510 8 6
Contribution from Wellington Philosophical Society	...	31 10 0	Miscellaneous items	...	21 18 1
Sale of Volumes	...	6 6 0	Balance	...	37 1 10
	£661	5 4		£661	5 4

September 4th, 1878.

ARTHUR STOCK,
Hon. Treasurer.