future reference, it is hoped that the collection which has been made will have great value, as care has been taken to procure the most reliable and accurate information with respect to every article exhibited. This collection has been temporarily placed in the Colonial Museum, and a classified and descriptive catalogue has been compiled (App. No. VII). The following arrangement has been adopted to illustrate those points it was considered most desirable to bring prominently under observation :—

Machine dressed. An extensive series of specimens of manufactured fibre has been procured, and great pains taken to ensure the collection of *bona fide* samples of the ordinary produce of the mills, such as is turned out in bulk. Wherever mills have been visited, samples of the fibre, as prepared for sale, have been brought away. Hanks have also been obtained from various bales that have been sold in the Colony, and, as far as possible, from all large parcels that have been exported to England or America. The Canterbury Flax Association have also materially assisted the Commissioners, by furnishing an excellent collection from most of the mills of that Province.

Relative strength. The breaking strains of a large portion of the fibres thus exhibited have been determined, and show that the strength of the several descriptions at present exported varies from 53 to 84, with an average of 69, as compared with Manilla, which is taken as the standard at 100. On the other hand the samples of Native-dressed fibre ranged from 70 to 122, with an average of 91.

Method of testing. It should be stated that in all experiments undertaken to test the strength of the different samples of fibre, the breaking strain was determined by the same apparatus that was in use last year, which applies a gradually increasing strain to the strand that is being tested; one end being attached to a spring balance, and the other to a frame that is carried steadily down by a screw. The indication of the balance shows the strain on the fibre at the breaking point, while the extension of the cord can be observed. The ends of the cord are carried over a smooth metal bar, and attached to an iron peg in the same manner as the strings of a violin. The quantity of each sample to be tested was carefully obtained by the weight of two portions of well cleaned fibre, cut to a constant length; these weighed quantities were then carefully "laid" in a machine planned by Mr. Kebbell, which ensured exact uniformity of twist in each cord. The breaks are all reduced to a standard of Manilla, to obtain which a series of thirty strands of that fibre, of the uniform weight, viz., 20 grains to one foot, were broken, and gave an average breaking strain of 347lbs. From this the strength of all the other fibres has been centesimally calculated.

Degree of uniformity in quality. One of the chief uses of the comparison which has thus been instituted is the observation of the degree of uniformity which is obtained in the quality of fibre placed in the market by the various shippers; this uniformity is more evident among the samples procured from the Northern and Central Districts. Those from the South show a greater difference of quality, testifying that some of the manufacturers in this district do not perceive the necessity of scrupulous care in every process of preparation, are behindhand in availing themselves of the improvements that experience has suggested, or are adopting methods that do not produce the most desirable results. Nevertheless, it is observable that there has been a general approach towards that uniformity of quality, without which the fibre can never attain to a permanent position in the English or Foreign markets; and there is now a marked absence of those inferior qualities which were formerly sent home in such abundance, and which, more than anything else, conduced to create the unfavourable impression so prevalent in the home markets with regard to the *Phormium* fibre.

Special samples. With a view of ascertaining what the manufacturers themselves considered the best quality to produce, and to test the merits of every variety of process, they were invited by notice in the *Gazette*, and in many cases by special application, to send specimens of their fibre, and to furnish an account of the mode and cost of its preparation. Only a few, however, have responded to this invitation, as there is an unwillingness on the part of many mill-owners to furnish samples of their usual manufacture lest they should be brought into unfavourable comparison with specially prepared parcels from other mills. Those which have been thus furnished have been placed in the exhibition by themselves, and afford a very