

collection. In 1862 he received a herbarium from the Rev. Canon J. Butler, father of Samuel Butler, in exchange for a collection of New Zealand plants (H. von Haast, 1948) and while he was in the field the work went on nearer home. Haast wrote (1868) "I may be here allowed to state, that for more than four years Mr Armstrong, and his son Mr J. B. Armstrong, have assisted me in collecting our indigenous vegetation, for the herbarium of our Museum, and for making exchange; and both have also given me great help in arranging the botanical collections belonging to the province. In fact, whilst I was collecting and investigating the alpine and sub-alpine Flora of New Zealand, my two botanical assistants did the same work in the neighbourhood of Christchurch, and contributed several complete sets of plants to the Museum, which, however, like the great bulk of our botanical collections, have hitherto been inaccessible to the public, for want of space to exhibit them in."

The Armstrongs had come to Canterbury in 1862 (Barnett, 1963) and played an important part in the development of Canterbury and New Zealand botany. The father, John Francis Armstrong (1820–1902) was appointed Government Gardener in succession to Mr Barker in 1867 and was assisted by his son Joseph Beattie Armstrong (1850–1926) who was in charge of nursery work (Herriot, 1919). Both resigned from the gardens in 1889.

We are indebted to the Armstrongs for the conversion of a sandy waste into a thriving botanic garden, and for bringing into cultivation a large assortment of native plants which they collected on their botanical excursions. On one of these J. F. Armstrong accompanied von Haast to the headwaters of the Waimakariri.

TABLE I.—Some Classifications of Canterbury Vegetation.

von Haast (1870)	J. B. Armstrong (1879)	L. Cockayne (1900b)
1. The Littoral Zone.	1. The Littoral District.	1. The Lowland Region (9 Formations).
2. The Lowland or Pine Zone.	2. The Banks Peninsula District.	2. The Lower Mountain Region (9 Formations).
3. The Mountain or Beech Zone.	3. The Lowland or Middle District.	3. The Subalpine Region (7 Formations).
4. The Subalpine or Dracophyllum Zone.	4. The Alpine District:	4. The Alpine Region (3 Formations).
5. The Alpine or Raoulia Zone.	(a) The Zone of Beeches.	
	(b) The Zone of Shrubby Compositae and Scrophulariaceae.	
	(c) The Zone of Herbaceous Plants.	
	(d) The Zone of Perpetual Snow.	

In 1870 J. F. Armstrong published a valuable paper "On the Vegetation of the Neighbourhood of Christchurch, including Riccarton, Dry Bush, etc.," and this was prefaced by a classification by von Haast of the vegetation zones of the Province of Canterbury, which then included Westland (Table I). The practised eye of the geologist used to classifying country into broad divisions could not fail to be impressed by the vegetation changes from east to west—more obvious here than elsewhere in New Zealand.

In 1872 J. F. Armstrong published the first list of the naturalised plants of Canterbury. In the same year a report appeared dealing with native and introduced grasses, prepared by a committee of the Philosophical Institute of Canterbury and to this J. F. Armstrong contributed a list of naturalised grasses growing in Canter-