

(Bower, 1938: 50–52). In the seventies and eighties this branch of science was progressing at a more rapid pace on the Continent, and German botanists had a strong influence on Cockayne.

The Cockayne period in New Zealand may be said to have begun in 1896 when Diels of Berlin published his 100-page account of the Vegetations-Biologie von Neu-Seeland. Cockayne had at that time published no botanical work, but he supplied Diels (who had not then been to New Zealand) with lively descriptions of plants of the shingle slips and other parts of the montane, subalpine and alpine regions. In 1898 Professor Karl Ritter von Goebel of Munich visited New Zealand and Cockayne looked back on the weeks spent with him as the most influential of his life. The two friends saw something of New Zealand's vegetation together, and Goebel was therefore able to assess at first hand the value of the work Cockayne was doing, and to give him heartening encouragement. It was Goebel who, in 1903, proposed to the Munich University to confer the degree of Doctor of Philosophy *honoris causa* upon him, a rare distinction which Dr Cockayne was the first scholar in Australasia to receive, and one which he greatly prized. Goebel's whole approach must have endeared him to Cockayne, especially his insistence on "grappling with the facts, often obscure and insignificant, of the relationships of configuration of the plants around us. It appears to me" he wrote (1900: v) "that to recognise the factors which bring about the development of say a leaf with one side larger than the other is infinitely more important than to construct a phylogenetic hypothesis unsupported by facts." The correlation of form and function figures largely in Goebel's work, and this is reflected plainly in Cockayne's earlier papers.

How much and what kind of botanical work had been done in New Zealand before Cockayne? Primary interest had been, quite naturally, in the kinds of plants, and where new ones were to be found. Hooker's *Handbook*, published in 1864, was still the only consolidated species list, though Kirk for a long time, and Petrie and Cheeseman to increasing extents, had found that it recorded the character of the whole flora very incompletely. It was early in Cockayne's botanical career that Kirk's *Forest Flora* (1889) appeared with its wealth of detailed first-hand observations, but the alpine plants were still very poorly known.

The broad outlines of New Zealand plant geography had been sketched out in a remarkable series of papers in the early numbers of the *Transactions* of the New Zealand Institute, and these outlines were being confirmed or corrected. Botanical papers for the most part either dealt with individual genera or families (e.g., the long series by Kirk in preparation for his *Student's Flora*) or recorded the species to be found in limited areas, many of them remote and only then being explored. Some of these papers gave, more or less incidentally, some idea of the vegetation types (e.g., Adams, 1889), and Petrie's classical account of "Some effects of the Rabbit Pest" (1883) had been published.

EARLY PAPERS

Cockayne's work was inevitably affected by what was afoot locally and in the botanical world as a whole, but he was by no means dependent on outside influence. His progress followed naturally from his own experience. His innate love of growing plants and his insatiable curiosity about them led him to make a garden at each of the several houses he occupied, and his experiments were endless.

His first important work grew directly out of his garden "An Enquiry into the Seedling Forms of New Zealand Phanerogams and their Development". Here we see, as in all later papers, his ability to "grapple with the facts", his infinite patience in recording, and his good judgment in selecting what to present, though he had then not quite the lively style that he developed later. He was constantly probing for plausible explanations, but tried to maintain strict honesty in keeping speculation