

100 INFLUENTIAL PAPERS – LONGER COMMENTARY

33 Poore, M. E. D. & McVean, D. N. (1957)

A new approach to Scottish mountain vegetation. *Journal of Ecology*, **45**, 401-439.

In this paper Poore and McVean set out not only to describe the patterns of variation in the vegetation of the Scottish Highlands, but also to relate them in a new way to the geographical and environmental factors involved. This was their 'new approach' which was so significant because it helped to give a new slant to regional accounts of vegetation, getting away from predominantly floristic classifications, to the task of setting the scene for ecological and environmental investigations. This was becoming the British approach, leading to better interplay between this and the Continental 'schools' of phytosociology. The paper was particularly significant because it was one of the first to tackle comprehensively the description of the vegetation throughout a whole region (previously somewhat neglected) by relating the floristics of its plant communities to the underlying determining environmental factors.

Earlier, Poore (1955a, b, c; 1956) had undertaken a critique of the methods and approach of the Continental phytosociologists and, while these had their merits, in his view they were all subject to difficulties and limitations, whether of procedure or interpretation, and none seemed to be universally applicable. However, they served him as a useful stepping stone upon which to elaborate what he could offer as a more widely acceptable approach. This could provide him and others with a foundation on which to base and test out a large-scale sample study of a selected region. For this he chose the mountainous region of Breadalbane in Perthshire, where he carried out a detailed and very thorough investigation using his new approach (Poore 1955c). This work, supplemented by applying the same methods in a number of other parts of the Scottish Highlands, provided the basis upon which, along with D.N.McVean, his major conclusions were reached in the 1957 paper here discussed.

The 'new approach' begins with the identification of five 'environmental factor complexes' which govern the main variations in the vegetation. These are listed as A. Altitudinal variation, B. Oceanity, C. Snow cover, D. Base status, E. Moisture, and in each case their impact on the vegetation is briefly discussed and comparisons drawn, where appropriate, with equivalent examples from Scandinavia. The effects of human occupation and land use are also discussed. The greater part of the paper, however, is devoted to the detailed descriptions of a number of communities, selected partly because of their 'intrinsic interest' and partly to show how the pattern of Scottish mountain vegetation can be fitted into the ecological framework. The methods of analysis and description follow those developed first by Poore (1955c) in the Breadalbane district of Perthshire and since then applied more widely to the mountain vegetation of Scotland. The following were the main types of community distinguished (each description is accompanied by a floristic table compiled from numerous samples): A. Dwarf shrub heaths, B. *Betula nana* bogs, C. Lichen heaths, D. Moss heaths, E. *Nardus* snow beds, F. *Vaccinium* snow beds, G. *Dryas* heaths. In the event, the greater part of the paper is devoted to detailed accounts of community types, mainly to show how the methods described can facilitate the task of analysing and describing the most important components of the vegetation of Scotland and accounting for their distribution both within and beyond the limits of the Scottish uplands.

The scheme outlined by Poore and McVean was described in their paper as "complete but tentative". It could not claim to be more than that, as it was the outcome of a very preliminary study and parts of it have already been modified or superseded. But it was sufficiently comprehensive to provide not only a new approach but also a firm basis to serve as a foundation on which to graft future studies. In itself a pioneer effort, its scope was wide enough both to stimulate further contributions on the same topic but also to serve as a pattern for a similar approach to other fairly large-scale regional complexes.

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Poore, M.E.D. (1955a) The use of phytosociological methods in ecological investigations. 1. The Braun-Blanquet system. *Journal of Ecology*, **43**, 226–244.

Poore, M.E.D. (1955b) *Ibid.* 2. Practical issues involved in an attempt to apply the Braun-Blanquet system. *Journal of Ecology*, **43**, 245-269.

Poore, M.E.D. (1955c) *Ibid.* 3. Practical application. *Journal of Ecology*, **43**, 606-651.

Poore, M.E.D. (1956) *Ibid.* 4. General discussion of phytosociological problems. *Journal of Ecology*, **44**, 28-50.