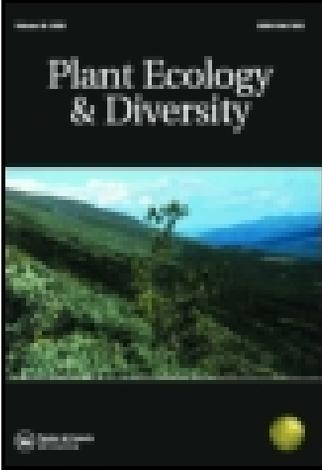


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IV. Notice of Algæ from the Faroe Islands

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of new cells to the extremities, and to parts already formed, while nothing is added to the upper part of the appendages, or, in other words, that they grow from the base, an assertion which is only partially correct, as the more recent researches of Trecul show.* While admitting the claim that the axis has to be considered as the primary organ in many, perhaps the majority of instances, we yet think that, in the present imperfect state of our knowledge, as just a claim might be raised for the leaf as a primary organ in other cases. Thus, in plants that still consist of a mere congeries of cells, we often find those cells multiplying in such a manner as to produce a leaf-like expansion, as in *Ulva* and other Thallogens. A similar tendency is manifested in higher cryptogamous plants, as in *Marchantia*, or in the pro-embryos that result from the germination of the spores of ferns, &c., where the leaf-form evidently precedes that of the axis.

In flowering plants the predominance of the primary leaf formation is shown in such cases as *Lemna*; and even in the embryo of dicotyledonous plants the cotyledons are but little in arrear of the axis in regard to their development, and may often be considered, at the period of germination, in advance even of the axis; as also in many monocotyledonous plants.†

Some of the foregoing instances may perhaps be cited as merely leaf-like modifications of the axis, and may thus be considered like the leaf-like branches of *Opuntia*, *Xylophylla*, *Ruscus*, &c., as instances of analogy rather than of homology. But before the truth of this objection can unreservedly be admitted, the difference between the axis and its appendages, must be more distinctly defined than it is at present. Neither can we unconditionally subscribe to the assertion of Turpin, that there are no intermediate stages between stem and leaf, after the evidence afforded by the leaves of *Guarea* and *Trichilia*, where the leaves after a time assume the condition of the branches, and develop young leaflets from their free extremities.‡ Many similar instances might be cited; but it is idle to attempt to define which of the two, leaf or axis, takes the greatest share in the metamorphosis. Rather may we not consider leaf and axis as parts of one and the same organ, that in most cases both parts are developed, and take part in the metamorphosis, while in other cases the one predominates over the other. Is not this view consistent with the absolute identity of original structure, and with what we know of cellular growth, in the vegetative organs of plants? Do not all these instances of nature's pliability, as manifested in the metamorphosis, afford a warning against those systematists who, relying upon some slight or inconstant variation in some one or more organs, found thereupon an unstable and unphilosophical assemblage of genera and species?

IV. *Notice of Algæ from the Faroe Islands.* By ROBERT BROWN of Campster.

V. *On the Timbers suited for Railway Sleepers in South India.*
By Dr CLEGHORN, Madras.

The author alluded to the enormous requirements of the Indian railways in the matter of timber for different purposes, especially sleepers.

* *Ann. des Sc. Nat.*, 3^e Ser. Bot., vol. xx. p. 211.

† This predominance of the leaf over the axis is particularly striking in certain of the *Cyrtandrea*, the germination of which has been described by Mr Crocker, in the *Journal of the Linnean Society*, vol. v. p. 65, 1860, and also by Dr Caspary of Königsberg. In these plants, says Mr Crocker, "there has not been the slightest attempt to produce a plumule."

‡ Dr Alexander, "*Proc. Linn. Soc.*," May 1852.