

NOTES.

SYNANTHY IN BELLIS.—In July of last year a gentleman in the north of England sent me a specimen of a 'new British plant.' The specimen did not arrive in very good condition, and the appearances it presented were so peculiar that it was no matter for surprise that the plant was not at first recognized as the common Daisy. Further examination, however, rendered it certain that the plant was none other than *Bellis perennis*. A note was taken of the structure of the flower, but as the sender was good enough to send also some plants, I decided to await the production of other flowers before publishing any account of their peculiarities. Some of the plants were grown throughout the winter by my friend Mr. Worthington Smith, in Bedfordshire, and others were grown by myself in Middlesex. This year both sets of plants have produced their flowers, and substantially of the same character as those formed last autumn in Northumberland. The flowers have been analysed both by Mr. Smith and myself, and Mr. Smith has kindly furnished me with the sketches which accompany this note.

The changes observed are first the production on the scape of a detached leafy bract with a distinct petiole and a narrow blade. This bract may be taken to be intermediate between the ordinary foliage-leaves and the bracts of the involucre. The young flower-head has an oblong rather than a spheroidal form; the bracts of the involucre are fewer in number (nine in two rows), and less widely spreading than customary. The ray-florets are of the usual colour, but much less numerous than is generally the case (only five)—some are spreading, others erect and more or less twisted, and enclosing a two-lobed style as usual. The florets of the disc are represented, not by separate corollas in great numbers, but by a single petatoid cup composed of several corollas, apparently flattened out as in the ligulate florets and united margin to margin. The free border of the tube shows lobes and other indications of its composite nature. Within this cup are the stamens, very numerous, completely detached and in a single row. The anthers are linear, apiculate, and longer than the filaments.

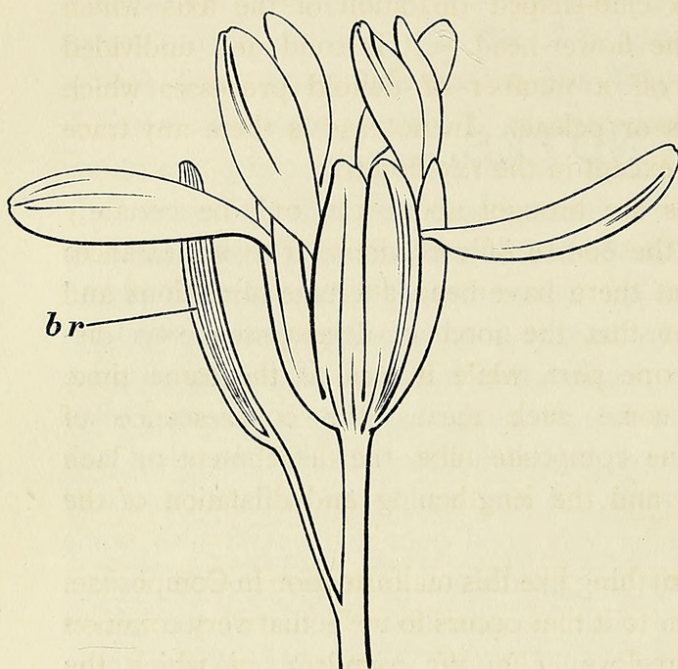


Fig. 1.

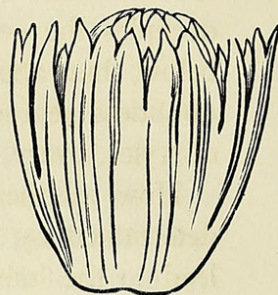


Fig. 3.

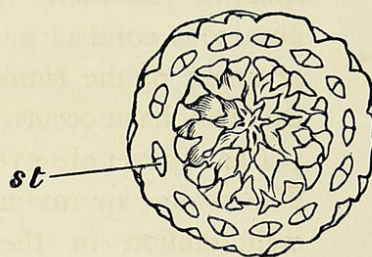


Fig. 4.

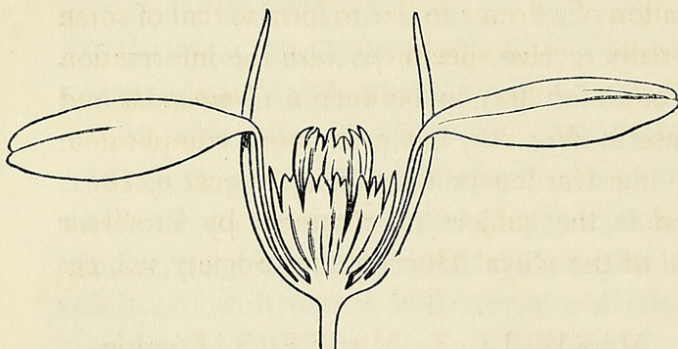


Fig. 2.

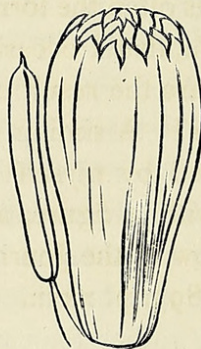


Fig. 5.

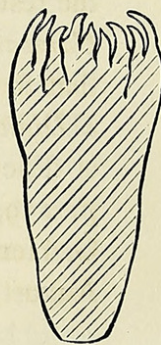


Fig. 6.

WOODCUT I.

Fig. 1. Flower-head, showing partially detached involucre bract *br*, the other bracts ascending; ligulate florets few in number, some spreading, others erect. $\times 4$.

Fig. 2. Longitudinal median section through flower-head, showing two involucre bracts, two ligulate florets, a cup consisting of conjoined tubular florets and a central club-shaped mass. $\times 4$.

Fig. 3. Cup formed of conjoined corollas, detached. $\times 8$.

Fig. 4. Transverse section (plan) showing the conjoined corollas, the stamens and the central axis. $\times 8$.

Fig. 5 shows one of the hypogynous stamens and the central club-shaped axis. $\times 8$.

Fig. 6. Longitudinal median section of central axis. (Drawn by Mr. W. G. Smith.)

The stamens surround a club-shaped dilatation of the axis which occupies the centre of the flower-head. It is solid and undivided below, but above gives off a number of deltoid processes which doubtless represent bracts or paleae. In no case is there any trace of styles, ovary, or ovule, except in the ray-floret.

How all these changes are brought about can only be certainly determined by following the course of evolution. The appearances lead to the inferences that there have been alternate accessions and arrests of growth, or even that the force of development was disproportionately great in one part, while it was, at the same time, small in another. By some such means the concrescence of numerous corollas into one composite tube, the detachment or lack of union of the stamens, and the lengthening and dilatation of the axis may have occurred.

I have never observed anything like this malformation in Compositae. The nearest approximation to it that occurs to me is that very common malformation in the Foxglove, *Digitalis purpurea*, in which the corollas at the upper part of the raceme are blended into one terminal cup. In these cases the axis is generally prolonged and thickened, and the result is often the formation of a flower so like in form to that of some *Campanula*, that I occasionally receive specimens with the information that they are the result of cross-fertilisation between a *Campanula* and a *Digitalis*! A similar case in *Myosotis*, but even more complicated, is described by myself in the Gardeners' Chronicle, August 8, 1891, p. 159, with a figure, and is the subject of comment by Professor G. Henslow in the Journal of the Royal Horticultural Society, vol. 15, August, 1893, p. xxvii.

MAXWELL T. MASTERS, London.

CHANGES IN THE RESERVE MATERIALS OF WHEAT ON KEEPING.—A sample of wheat which had been stacked for nearly thirty years, at Wingham near Canterbury, and recently thrashed, was given to me by the senior Bursar of St. John's College last March.

I made a complete analysis of this sample, the result of which seems to me interesting from a physiological standpoint, and is given in full compared with an analysis by exactly similar methods of a new sample grown last year on the same ground.

It is obvious that the two cases compared are not exactly parallel:



Masters, Maxwell T. 1893. "Synanthry in Bellis." *Annals of botany* 7, 381–383.
<https://doi.org/10.1093/aob/os-7.3.381>.

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