the tubule is situated near the duct as it enters the coil. Models from embryonic glands show that the coiled portion of the sudoriparous glands is developed by a folding and knuckling of the tubule, after the first loop is formed. In the circumanal region are found four quite distinct types of sweat glands: (1) Ordinary sudoriparous glands; (2) the large circumanal glands of Gay; (3) branched tubulo-alveolar glands; (4) a modification of type 3. A large axillary gland reconstructed consists of a single tubule measuring 30 mm. in length, much coiled and folded. In this region are also found branched tubule-alveolar sweat glands. The glands of Moll are tubulo-alveolar glands, with relatively short but large secreting tubules presenting quite regular alternate enlargements and constrictions, from which arise a relatively small number of short tubules ending in large saccular alveoli. The ceruminous glands are similar to the glands of Moll.

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DISCUSSION AND CORRESPONDENCE.

A QUESTION OF TERMINOLOGY.

IN his review in *Torreya* of the writer's recent university text-book, Professor L. M. Underwood criticizes severely the use of the termination 'ales' in class names, the special case cited being 'Anthocerotales,' which was used in conformity with the termination 'ales,' employed in the classes of the Pteridophytes, *e. g.*, 'Filicales.' Professor Underwood says: 'The name [Anthocerotes] is changed to *class* Anthocerotales, thus improperly using a termination reserved for a group of ordinal rank alone.'

Without referring to other botanists who have also sinned against Professor Underwood's rule, we should like to ask him to explain certain apparent inconsistencies of his own in this connection.

In the sixth edition (1900) of his little manual of the fern-allies, Professor Underwood uses (p. 65) the same names (Filicales, etc.) to indicate the primary divisions of the Pteridophytes that the writer does in the text-book criticized. Professor Underwood, however, calls these *orders* and not *classes* as they are usually considered to be. Looking for the corresponding class names, we find that Professor Underwood does not, apparently, recognize any classes of Pteridophytes, although he ranks the group as a whole as one of the four subkingdoms of plants. It certainly is not customary among either botanists or zoologists to consider the primary divisions of a subkingdom as of ordinal rank, and it is not quite plain how the employment of the termination 'ales' is sufficient to convert a recognized *class* into an *order*. All of the standard authorities consulted (*e. g.*, Coulter, Sachs, Scott, Warming, Van Tieghem, Vines) agree in calling the Filicales (or Filicinæ) a class; what reason Professor Underwood can give for reducing them to an order is not clear. He can scarcely claim that his 'order' Filicales is of equal rank with the order Marchantiales, for example.

Moreover, Professor Underwood is not as clear as he might be in distinguishing families and orders. Thus, on page 63 we find *order* Equisetaceæ, *order* Calamariaceæ; on page 65, *order* Equisetales; on page 126, *family* Equisetaceæ. A similar confusion is evident in the discussion of the classification of the other subkingdoms (pp. 56–58). Algæ and Fungi are divided into 'classes'; Bryophytes into 'groups'; Pteridophytes into 'orders'!

Perhaps Professor Underwood, as a professed systematist, will explain the principles upon which his classification is based.

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THE EXPANSION OF A GAS INTO A VACUUM AND THE KINETIC THEORY OF GASES.

IN number 406 of this journal (for October 10) Mr. R. W. Wood calls attention to the fact that the subject of a communication presented by me before the chemical section of the American Association for the Advancement of Science at the last meeting and of which communication an abstract* under the

* The abstract was made without my knowledge and, although it is not bad, there are some loose statements in it. The full article will shortly appear in the *Journal of Physical Chemistry.*