

which Mr. Gladstone refers? Why should not the men of Cambridge say boldly that they wish their University to become again in the present what it was in the past? No government would dare to cripple such a noble work. As representing the then range of knowledge, and as seats of research centuries ago, our universities were unequalled; at present in both these respects they are ridiculous.

### COUES' AMERICAN BIRDS

*Key to North American Birds.* By Elliott Coues, M.D. (Salem, U.S.)

THIS by no means small volume is intended to give a concise account of every species of living and fossil bird at present known from the continent north of the Mexican and United States boundary. The reputation of the author, who is so well known by his works on the sea-birds, and for the anatomy of the loon, cannot but be increased by this production, which illustrates on every page the extent of his general information, and the soundness of his judgment. The subject is treated in a manner rather different from that usually adopted by systematic ornithologists; less stress is laid on specific peculiarities, and more on the elucidation of the characteristics of the genera, families, and orders. There is a freshness and boldness in the manner in which the facts are handled, which will be extremely acceptable to those who look upon ornithology as a branch of natural history rather than an all-absorbing study of itself. We know of no work of the size which gives such a fair and reliable description of the reasons that have led to the limitation of the ranges of the larger divisions which now obtain, and their inefficiency is in many cases rendered but too evident. The introduction, occupying nearly seventy pages, incorporates much of the work of the illustrious Nitzsch, which is daily becoming more fully appreciated, though neglected so long. We are surprised to find that the labours of Mr. Macgillivray have not been here done equal justice to, for there cannot be a doubt that the peculiarities of the viscera are of as great importance in the classification of birds, and yet they are scarcely mentioned; in one instance we find it incorrectly stated that the cæca of the *Cathartide* are very small, the term must be here understood in its extreme sense, as they are absent altogether.

The descriptions of the genera are clear and concise; many of the peculiarities of the beak and primaries especially, are made more evident by the liberal introduction of excellent line drawings, as in the account of the genus *Vireo*, which is discussed much in detail; and in most cases a picture of the whole bird, or the head, is given. A key is appended for discovering the genera with facility, constructed on the same principle as those employed by botanists. The paucity of the avian fauna in the region discussed, in comparison to that of the Southern Continent, is made most manifest, and the few stragglers which have thence made their way north, serve well as illustrations of the classes which, were it not for them, would not find a place in a work on North American Birds.

### FLAMMARION'S ATMOSPHERE

*The Atmosphere.* Translated from the French of Camille Flammarion, edited by James Glaisher, F.R.S., &c. (London: Sampson Low and Co., 1873.)

IN some respects the volume before us may be considered as the sequel to its equally sumptuous companion "The Forces of Nature." For the ordinary reader must have some acquaintance with physics intelligently to follow the disentanglement of the various forms of energy—the mingled play of which give rise to the phenomena of meteorology. Nevertheless, M. Flammarion writes so lucidly and pleasantly, that a totally unscientific person can read this work with enjoyment and instruction. On the other hand it contains much that will be of interest to the man of science, as well as to the mere *dilettante*.

The scope of the work is stated in the editor's preface. It treats of the form, dimensions, and movements of the earth, and of the influence exerted on meteorology by the physical conformation of our globe; of the figure, height, colour, weight, and chemical components of the atmosphere; of the meteorological phenomena induced by the action of light, and the optical appearances which objects present as seen through different atmospheric strata; of

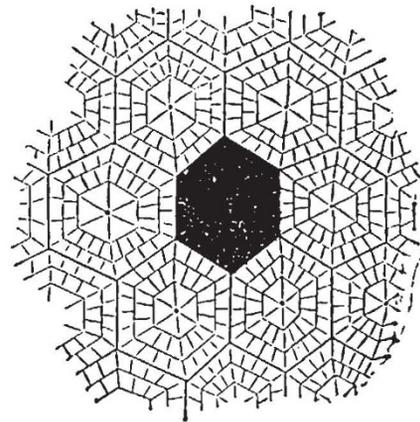


FIG. 1.—Section of a hailstone enlarged.

the phenomena connected with heat, wind, clouds, rain, electricity; and also of the laws of climate. These subjects are illustrated by ten admirable chromo-lithographs, and upwards of eighty woodcuts, but many of these latter we observe have already done duty in other French treatises. The coloured illustrations are quite works of art; especially noteworthy are the representations of a sunset, of sunrise as seen from the Righi, and of a solar and a lunar rainbow. Science has more often given than received aid from art, but the pages of this book show how much service art can render to science. The printing is remarkably well executed.

The translation has been done by Mr. E. B. Pitman, and the task has been well discharged. The value of the original work is considerably increased by the careful revision it has received from Mr. Glaisher, and the additions by him of many useful foot-notes. The tendency of M. Flammarion, like other popular French writers, to run into grandiloquent language, has been in general suppressed; though still a few cases remain that might well have been pruned.