

THURSDAY, MAY 8, 1873

## A VOICE FROM CAMBRIDGE

IT is known to all the world that science is all but dead in England. By science, of course, we mean that searching after new knowledge which is its own reward, a thing about as different as a thing can be from that other kind of science, which is now not only fashionable, but splendidly lucrative—that “science” which Mr. Gladstone and Mr. Lowe always appeal to with so much pride at the annual dinner of the Civil Engineers—and that other “science” prepared for Jury consumption and the like.

It is also known that science is perhaps dearest of all at our Universities. Let any one compare Cambridge, for instance, with any German university; nay, with even some provincial offshoots of the University in France. In the one case he will find a wealth of things that are not scientific, and not a laboratory to work in; in the other he will find science taking its proper place in the university teaching, and, in three cases out of four, men working in various properly appointed laboratories, which men are known by their works all over the world.

This, then, is the present position of Cambridge after a long self-administration of the enormous funds which have been so long accumulating there for the advancement of learning. Cambridge no longer holds the place which is hers by right in the van of English science, her workers are few, and to those few she is careful to afford no opportunity of work, such as it is the pride of scholastic bodies in other countries to provide for the men who bring the only lasting honour to a university.

We have in what has gone before instanced Cambridge specially, as we have to refer to a step which has been recently taken there; but if the state of things is to be condemned at Cambridge, it must be admitted that it is only too recently that an attempt has been made to correct, in one direction, a similar state of things at Oxford.

What then do the Universities do? They perform the functions, for too many of their students, of first-grade schools merely, and that in a manner about which opinions are divided; and superadded to these is an enormous examining engine, on the most approved Chinese model, always at work, and then there are fellowships.

Now the readers of NATURE do not need to be informed that at the present moment there are two Royal Commissions inquiring into matters connected with the Universities, and that not long ago, at a meeting at the Freemasons' Tavern, the actual absence of mature study and research at the Universities, the lack of opportunities and buildings for scientific purposes, the apotheosis of the examining system, and the wanton waste of funds in fellowships, were unhesitatingly condemned by some of the most distinguished men in the country, many of them residents in the Universities.

Within the last week a memorial has been presented to the Prime Minister by persons engaged in University education at Cambridge, which on one of the points above referred to contains a most important expression of opinion; but we had better give the memorial *in extenso* :—

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[Memorial.]

“We, the undersigned, being resident Fellows of Colleges and other resident members of the University of Cambridge engaged in educational work or holding offices in the University or the Colleges, thinking it of the greatest importance that the Universities should retain the position which they occupy as the centres of the highest education, are of opinion that the following reforms would increase the educational efficiency of the University, and at the same time promote the advancement of science and learning.

“1. No Fellowship should be tenable for life, except only when the original tenure is extended in consideration of services rendered to education, learning, or science, actively and directly, in connection with the University or the Colleges.

“2. A permanent professional career should be as far as possible secured to resident educators and students, whether married or not.

“3. Provision should be made for the association of the Colleges, or of some of them, for educational purposes, so as to secure more efficient teaching, and to allow to the teachers more leisure for private study.

“5. The pecuniary and other relations existing between the University and Colleges should be revised, and, if necessary, a representative Board of University Finance should be organised.

“We are of opinion that a scheme may be framed which shall deal with these questions in such a manner as to promote simultaneously the interests of education and of learning, and that any scheme by which those interests should be dissociated would be injurious to both.”

This memorial reflects great credit upon the two out of seventeen heads of Colleges, and the majority of Professors, Tutors, Assistant-Tutors, and Scholars who have signed it. The only wonder is that some action to remedy a state of things which has been considered a scandal by many, both in and out of the University, who have had the best opportunity of studying it, should not have been taken before. But we think the memorial fails in one point, and we believe that Mr. Gladstone has hit the blot, for his carefully worded reply reads to us most ominous. “The time has scarcely arrived for bringing into a working shape proposals for extending and invigorating the action of the Universities and Colleges in connection with the more effective application of their great endowments.” We see in the memorial too much reference to teaching, and too little to the advancement of learning.

Surely if the funds accumulated at our great Universities are to be merely applied to teaching purposes, the Government has the best possible argument for instantly requiring a very large proportion of the “great endowments” to be handed over, in order to endow other teaching bodies at present crippled for want of funds, and to create other teaching centres where now no teaching exists.

Might not the memorialists have taken a higher line, in which they would have been supported by all the culture of the country? Might they not have pointed out that the universities were once the seats of learning, and that the fact that they are now merely seats of teaching has arisen from a misapplication of the “great endowments” to.

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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

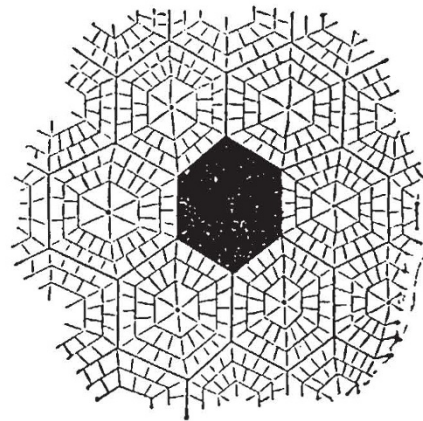


FIG. 1.—Section of a hailstone enlarged.

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.