

proportion as we proceed from the centre they are turned outwards, being deflected to the right of the surface winds; in other words, they tend more and more to blow out from the area of low pressure. On the other hand, they converge upon the centre of the regions of high pressure, cutting the isobars nearly at right angles. This last point is interesting in connection with the circumstance pointed out some time ago by Hoffmeyer, that surface winds in blowing out of the areas of high pressure cut the isobars approximately at right angles. Charts XXV. to XXXII. are selected to represent instances in which Sweden lies between two storms, the one following the other with only a short interval between them. In these cases the behaviour of the upper currents from both storms and the manner in which they blend together at their contiguous margins are very instructive.

The winds on the surface of the earth, as compared with the upper currents, show, as is well known, inverse relations to areas of low and high pressure—blowing inwards upon areas of low pressure, and outwards from areas of high pressure. Consequently, as the author remarks, an area of low barometer is necessarily the region of an ascending current, which, when it has risen to a great height in the atmosphere, flows away from the central space of low pressure towards regions of high pressure, whence it sinks gradually down to the surface as a descending current, and in this manner a vertical circulation is constantly maintained between the surface of the earth and the higher limits of the atmosphere. We very strongly recommend that, as has been so successfully carried out in Sweden, a thorough and systematic observation of the cirrus cloud be generally inaugurated in other countries, so that it may be possible to chart the upper currents over a wide extent. Among the many points suggested by M. Hildebrandsson's charts is the question whether the extent and volume of the upper currents flowing outwards from storm areas be consistent with some of the views recently advanced on the theory of storms and circulation of the atmosphere. We hope meteorologists will soon take steps to occupy the important field of observation now opened up.

#### OUR BOOK SHELF

*The Zoological Record for 1873.* Edited by E. C. Rye, F.Z.S. (London: J. Van Voorst, 1875.)

IN the preface to the "Record" for 1872 Prof. Newton, the editor, announced that having intimated to the Zoological Record Association his intention to resign his post, the Council had appointed Mr. Rye, Librarian to the Royal Geographical Society, as his successor. From a glance into the present volume it is evident that it is Mr. Rye's intention to maintain the high standard of his predecessors, notwithstanding the difficulties he has had to encounter, especially in the loss of the services of Dr. Günther, whose increased duties, now that he has been promoted to the post of Keeper of the Natural History Department of the British Museum, prevent him from undertaking the *Mammalia*, *Reptilia*, and *Pisces*, as he has done for years. Mr. Rye has succeeded in obtaining the services of Mr. E. R. Alston, F.Z.S., on the Mammals, and of Mr. A. W. E. O'Shaughnessy on the Reptiles and Fishes; both which naturalists have most creditably performed their laborious tasks. Mr. R. B. Sharpe has undertaken the Birds as before, whilst Dr. Ed. von Martens, the Rev. O. Pickard-Cambridge, Mr. Rye, Mr.

Kirby, Mr. McLachlan, and Dr. Lütken, have devoted themselves to their special subjects. The editor acknowledges the grant of 100*l.* from the British Association, 50*l.* from the Zoological Society, and 100*l.* from the Government Grant Committee of the Royal Society (this being the first occasion that the Record Association has been so assisted), towards the expenses of publication. The increasing necessity for the production of the volume is yearly becoming more evident, at the same time that its contents are necessarily of such a nature that there can never be a demand for it which will enable it nearly to cover its expenses. The most important scientific results of the year include the investigations of Leidy, Marsh, and Cope on the fossil American Eocene Mammalia, and Prof. Marsh's discovery of a new sub-class of fossil toothed birds, respecting which all naturalists cannot but regret that so little opportunity is given them of seeing specimens or even drawings of the great number of species now known to them by short descriptions only.

#### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

##### Systems of Consanguinity

I AM sorry to find that on some points I have misunderstood the views of my friend Mr. Morgan (vol. xii. p. 86), and the more so as, after reading his letter very carefully, I am not sure that I quite comprehend them even now. Your reviewer is no doubt able to reply for himself: but it certainly seems to me not remarkable that both he and I should have been led into error. Indeed, I do not exactly understand whether Mr. Morgan intends to say that we have misapprehended his views in supposing that in his opinion one of the two great systems of classification of relationships is "arbitrary, artificial, and intentional." Mr. Morgan admits that he himself used these terms in several places. There are, he says, "three or four places, and perhaps more, in that volume in which I speak of the system of a particular people as 'artificial and complicated,' and as 'arbitrary and artificial,' without the qualification in each case which should, perhaps, have been inserted." Thus your reviewer and I were, as he himself allows, using his very own words, though I shall of course omit them if my book should reach a fourth edition.

Moreover, these descriptive epithets are not used casually, but form the very basis of his argument. For instance, in p. 469 he says:—

"It may be remarked, however, that if the system is to be regarded as exclusively natural and spontaneous, the argument for unity of origin would be without force; since, as such, it would be the form to which all nations must insensibly gravitate under the exercise of ordinary intelligence. But if to reach the descriptive system these families have struggled out of a previous system, altogether different, through a series of customs and institutions which existed antecedently to the attainment of the state of marriage between single pairs, then it becomes a result or ultimate consequence of customs and institutions of man's invention, rather than a system taught by nature."\*

But then, as I understand, he alleges that a different theory is given in his concluding chapter. So far, however, from finding in that chapter any indication of a change of opinions, I see that he reiterates the same view. After discussing the classificatory system, he says: "There would seem to be but four conceivable ways of accounting for the joint possession of this system of relationship by the Turanian and Ganowánian families; and they are the following:—First, by borrowing from each other; secondly, by accidental invention in disconnected areas; thirdly, by spontaneous growth in like disconnected areas, under the influence of suggestions springing from similar wants in similar conditions of society; and fourthly, by transmission with the blood from a common original source."†

After negating the two first hypotheses, he proceeds to discuss the third, namely, that of "spontaneous growth under the influence of suggestions springing from similar wants in similar

\* Morgan's "Systems of Consanguinity and Affinity of the Human Family," p. 469.  
† *Ibid.*, p. 500.