

generation of any of its appendages. The crushing or the toothed forceps, when severed at the 'breaking plane,' are replaced by their like in due time after one or more molts. How, then, are we to explain the anomaly of similar claws? It seems highly probable that the reversal, which regularly takes place in *Alpheus* when its great 'hammer' claw is cut off, does actually occur, though but rarely, in the lobster, or rather that it involves one side only, there being no immediate compensatory change to restore equilibrium of the system of which the great claws form a part. Thus, when a 'club' claw is 'shot' or amputated by the experimenter, a chela of similar crushing type is usually regenerated in its stead, but rarely a toothed claw appears. There is a reversal of the appendage, bringing about an abnormal condition of symmetry, but the process stops here, and we have as the result lobsters with similar toothed claws, like the specimen illustrated in my earlier work referred to above.

In like fashion the toothed claw of the lobster is usually replaced in regeneration by a limb of similar type, as is the rule with *Alpheus*, but in rare cases a reversal occurs here also; a 'club' claw appears, and we get a lobster with symmetrical crushing chelæ, like the specimen described by Dr. Calman. As this case is, for the present, essentially unique in the literature of the subject, we may be sure that it is much rarer than reversal from crushing to toothed claws. There is the possibility that these abnormal conditions of symmetry may be upset by a compensatory change in the appendage of the opposite side, but there is no evidence at present that this ever takes place.

In the first case the reversal from crushing to toothed claw happens to reproduce the primitive form of limb, but we see no reason for regarding this as a case of reversion to an ancestral stage, in the sense in which Stahr uses the phrase.

The explanation just offered is based on the assumption that regeneration, following loss, actually occurs in these cases. If there has been no regeneration, we must then fall back upon the view that as asymmetry in the great

forceps is normally produced by changes which take place in the egg, so the rare condition of symmetry in these appendages may be casually brought about in the same way.

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CURRENT NOTES ON METEOROLOGY

THE WEATHER OF SAXONY

THAT portion of the *Deutsches Meteorologisches Jahrbuch* for 1902 which relates to the kingdom of Saxony (Dresden, 1906) contains a discussion of the special observations made at the meteorological stations in that section with a view to furnishing information regarding the general weather conditions, for use in forecasting. In addition to the regular observations made thrice daily, the observers note the prevailing type of weather during the morning, afternoon and evening, according to a scale of ten. These types differ somewhat in summer and in winter. They are simple; are noted by means of symbols, and have been found to serve very well in giving the forecaster an excellent general view of the prevailing weather over the kingdom. Such a scheme might well be adopted among the volunteer observers in this country and elsewhere, and would often serve to give a clearer idea of the weather conditions than do the regular meteorological observations taken twice a day. A second paper, on the dependence of weather in Saxony on the prevailing weather conditions of Europe, will be found useful in detailed studies of European climatology.

RAILROAD BUILDING IN ARID REGIONS

THE climatic difficulties now being met with in the construction of the new railroad between Damascus and Mecca are naturally similar to those previously encountered in other arid regions. The main line is being built across a desert highland where for hundreds of miles there are no permanent human settlements within thirty to fifty miles of the track. The country from Damascus to Medina is inhabited only by small bands of nomadic Bedouins. The scarcity of water is giving serious trouble. Some new artesian wells

have been sunk, but all water for drinking and cooking purposes, and for preparing mortar, is carried in water cars. The expense of construction is thus greatly increased. All fuel has to be imported, but owing to the high temperatures little is required except for the locomotives and the repair shops.

METEOROLOGY IN EGYPT

CAPTAIN H. G. LYONS, Director General of the Survey Department of Egypt, gives an encouraging account of the present status of meteorological work in Egypt in his 'Report on the Work of the Survey Department in 1905' (Cairo, 1906). There are in Egypt ten stations and in the Sudan sixteen stations. The locations are shown on a map. There are also a number of river gauge stations. The central meteorological station at Helwan, of which a picture is given, is an attractive building, lighted by electricity, and equipped with standard instruments. Captain Lyons has already published several reports of unusual value on the meteorology of the Nile Basin, especially in connection with the Nile floods.

RAINFALL AND ALTITUDE

HANN calls attention (*Met. Zeitschr.*, Nov., 1906) to the results of rainfall measurements made in connection with the water supply of the city of Edinburgh, in the district of the upper tributaries of the Tweed. Under similar conditions of exposure, but at different altitudes, the rain-gauges show on the average an increase of 2.5 inches of rainfall in each 100 feet of increase of elevation.

THE 'SCOTIA' RESULTS

MENTION has several times been made in these notes of the meteorological results of the *Scotia* Antarctic expedition, these notes being based on short reports which have appeared in scientific journals. There has lately been published 'The Voyage of the *Scotia*,' by three of the staff (Edinburgh, Blackwood, 1906), which gives a popular account of the expedition, as well as a summary of the scientific results obtained.

R. DEC. WARD

MR. ROCKEFELLER'S GIFT TO THE GENERAL EDUCATION BOARD

MR. JOHN D. ROCKEFELLER has announced his intention to give, not later than April 1, securities valued at about \$32,000,000, to the General Education Board, which he had previously endowed with \$11,000,000. The letter announcing this gift, read at a meeting of the board on February 7, is as follows:

NEW YORK, Feb. 6, 1907.

General Education Board, 54 William Street,
New York City.

Gentlemen: My father authorizes me to say that on or before April 1, 1907, he will give to the General Education Board income-bearing securities, the present market value of which is about thirty-two million dollars (\$32,000,000), one third to be added to the permanent endowment of the board, two thirds to be applied to such specific objects within the corporate purposes of the board as either he or I may, from time to time, direct; any remainder not so designated at the death of the survivor to be added also to the permanent endowment of the board.

Very truly,

JOHN D. ROCKEFELLER, JR.

The board has acknowledged this great gift in the following terms:

The General Education Board acknowledges the receipt of the communication of February 6, 1907, from Mr. John D. Rockefeller, Jr., a member of this body, announcing your decision to give to the board for the purpose of its organization, securities of the current value of \$32,000,000. The General Education Board accepts this gift with a deep sense of gratitude to you and of responsibility to society. This sum, added to the \$11,000,000 which you have formerly given to this board, makes the General Education Board the guardian and administrator of a total trust fund of \$43,000,000.

This is the largest sum ever given by a man in the history of the race for any social or philanthropic purpose. The board congratulates you upon the high and wise impulse which has moved you to this deed, and desires to thank you, in behalf of all educational interests whose developments it will advance, in behalf of our country whose civilization for all time it should be made to strengthen and elevate, and in behalf of man-