

Although the author accounts for many of the other surface features and changes as recorded on the Martian disc, he is unable to suggest any satisfactory explanation of the doubling of the canals.

Enough, perhaps, has been said to indicate that in these pages we have some very original ideas on a subject of all-absorbing interest. It must nevertheless be left to the reader to form his own judgment as to the probability of the views put forward when he has carefully read the book.

We can unhesitatingly recommend this book to a very large circle of our readers, and more especially to those who have followed the previous publications relating to this subject. The last word on this difficult question has not been said yet, and the present issue will very likely re-kindle the flame.

WILLIAM J. S. LOCKYER.

AGRICULTURE IN FRANCE.

- (1) *Races bovinæ. France—Étranger.* Pp. 426. Price 5 francs. (2) *Races chevalines.* Pp. viii + 467. Price 5 francs. By Prof. Paul Diffloth. Encyclopédie agricole. Zootechnie. (Paris: J. B. Baillière et Fils, 1908.)

IN the first of these volumes of the Encyclopedia Prof. Diffloth claims that special attention has been paid to varieties, to methods of selection and to breeding, and the author is to be congratulated on the success of his efforts. The book is a very valuable contribution to our knowledge of domesticated cattle; it treats, with commendable breadth and sufficient detail, not only of the characteristics of a great number of breeds and varieties of those breeds, but of certain of the physical conditions under which they thrive and of their geographical distribution.

Part i., which occupies thirty-four pages, begins with a short description of external features, head, body, limbs, teeth, horns, coat and colour, followed by brief notes on some of the anatomical variations which are specially marked in different races.

Part ii. fills the remainder of the book. The classification adopted by the author is based partly on Sanson's scheme of skull measurement, by which all species are divided into two main groups in accordance with the angle formed by a line drawn across the forehead at the base of the horns and a line from the base of one horn to the outer edge of the eye of the same side. When the angle so formed is a right angle, the type is recognised as brachycephalic, when it is obtuse as dolicocephalic. It is pointed out, however, that such classification is by no means a sufficient guide, and that various other external features, such as the form of the crest between the horns, the curve of the horns themselves, &c., must also be taken into account for practical purposes.

Twelve main races are recognised, and these are again subdivided into eighty-five varieties, as follows:—

- (1) Low countries, with fifteen varieties; (2) German, three varieties; (3) Irish, five varieties; (4) Alpine, eight varieties; (5) Aquitaine, eight varieties;

- (6) Scythian, eight varieties; (7) Vendéenne, seven varieties; (8) Auvergnate, three varieties; (9) Jurassic, fourteen varieties; (10) Ibérique, six varieties; (11) Asiatic, seven varieties; (12) Scotch, represented only by the breed of that country.

Each variety is described; its origin, relation to other breeds, and the effects of crossing are discussed; its special capabilities are examined; the physical conditions of the geographical area it inhabits are generally noted, and their possible effect upon the breed is referred to.

A series of seven maps is of special interest. They are designed to show the areas over which certain races and varieties range, and in some cases their special breeding area is further distinguished. With two exceptions these maps refer to French breeds, the Dutch and Austro-Hungarian races being the only others so treated. This scheme is a most suggestive one, and if consistently carried out would be a very valuable aid both to the student and the practical breeder.

The text is full of valuable information concisely and clearly presented, especially valuable to English readers where it treats of French breeds. Besides figures in the text, many of which leave very much to be desired, there are forty plates, photogravures of selected animals.

The space at our disposal allows of only a very brief notice of the second volume. This book is equally carefully compiled, and is a valuable aid to the student, especially in relation to the natural conditions under which the various races and varieties of the horse thrive.

The author's classification scheme will not, perhaps, satisfy many authorities, but his descriptions of the characteristics of the very numerous varieties he recognises are clear and unbiased, and the figures and plates are good.

His statistics regarding the horse population of the world are no doubt open to criticism, but they cannot be questioned in relation to the conclusion he draws that the advent of the motor-car and agricultural machinery has been followed by an increase both in the numbers and value of horses. The view that Government aid is necessary for the breeding of certain classes of horses in this country receives substantial support from the author's description of the results gained by the care given and the large sums expended by his own Government for this purpose. Short chapters on the ass and the mules conclude the volume.

CHEMISTRY IN THE SEVENTEENTH CENTURY.

Medico-Physical Works of John Mayow (1674). Pp. xxiii + 331; with 6 plates. (Edinburgh: The Alembic Club, 1907.)

ALTHOUGH the name of John Mayow is well known to chemists, there are few who are acquainted with his works. Even the majority of the historians of chemistry have been content to acquire