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style and seem to reproduce the spirit of the original as well as could be expected of narratives not based directly on Indian texts. The practise adopted by Mr. Merriam, as before him by Curtin, of speaking of the animal, or better, pre-animal, characters by their Indian names instead of by the English translations of these names is hardly to be commended. Nothing is gained thereby. The Indian names are not really proper nouns, but merely the ordinary words for the animals referred to, so that their use not only taxes the memory of the reader, but, to some extent, gives him a mistaken idea of the character of the mythology. Yet it would be mere carping to dwell on so small a matter. It is to be hoped that this contribution to California folk-lore will be followed by others from the pen of Mr. Merriam.

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The Simple Carbohydrates and the Glucosides. By E. Frankland Armstrong, D.Sc., Ph.D., Associate of the City and Guilds of London Institute. Pp. ix + 112. New York, Longmans, Green and Co. 1910.

This monograph, one of the series on Biochemistry, edited by R. H. Aders Plimmer and F. G. Hopkins, presents an up-to-date summary of the chemistry of the subject, particular emphasis being placed upon those carbohydrates which have a biochemical significance. It would be a matter of no little labor for a physiologist to acquire from the scattered literature a conception of the present status of the subject comparable in any degree with Dr. Armstrong's excellent review. As an illustration of the interesting incidental suggestions which have been introduced appropriately, the following paragraph may be quoted:

> From the biological point of view, the fact that glucose exists in solution not as a single substance but as an equilibrated mixture of stereoisomeric γ-oxidic forms, readily convertible into one another, is of fundamental and far-reaching importance. If one of the stereoismerides is preferably metabolized in the plant or animal, in the course of either synthetic or analytic processes, the possibility of controlling the equilibrium in the one or other direction, so as to increase or limit the supply of this form, places a very delicate directive mechanism at the disposal of the organism. This question is undoubtedly one which demands the close attention of physiologists (p. 20).

The recent views regarding the structure of sugars are introduced in a way that is logical rather than dogmatic, and without rehearsing all the details of the evidence bearing on the points involved. The mono- and disaccharides are considered at some length, glucose being selected as the typical sugar for discussion. There are further included chapters on The Relation between Configuration and Properties, Hydrolysis and Synthesis, and The Natural and Synthetic Glucosides. The attempt of the author to present the subject by a stimulating method has resulted in a commendable success. A useful bibliography of 17 pages is appended.

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Mineralogie de la France et de ses Colonies. Tome Quatrième, 1ᵉ partie. A. Lacroix. Librarie Polytechnique, Ch. Béranger, Editeur. Paris, Rue des Saints-Pères, 15. 1910.

The fourth and last volume of Lacroix's "Mineralogie de la France" is now being published, the first part having just appeared and the second, or final part, being promised before the year is out. The second part of the third volume, which appeared in 1909, was reviewed in Science, Vol. 32, No. 816, August 19. The present part starts in with the manganites and plumbites, braunite, hausmannite and minium. Under the psilomelane group, romanéchite is described as a distinct species with the formula $H_2(Mn, Ba)Mn_3O_8$ or $(Mn, Ba)O \cdot 3MnO_2 + H_2O$. It is near hollandite in composition, but differs from it in that hollandite is much richer in iron, and has all the H replaced by metals. Romanéchite forms compact or concretionary masses with fibrous structure. Psilomelane is described

under the formula $xRO \cdot yMnO_2 \cdot zH_2O$, of which the cobalt bearing variety, asbolite, has an important economic value as a cobalt ore. Rancieite is a calcium-bearing variety of psilomelane. Under anhydrous sulphates and chromates are descriptions of mascagnite, thenardite and metathenardite, which is the name given to a polymorphic form of Na_2SO_4 stable above 235° and differing in its crystalline and optical properties from thenardite. It was found at a secondary fumarole (temp. 500–590°) of Mt. Pelée and had evidently formed from fusion. There are then described glauberite, anhydrite, the barite group with many photographs and crystal drawings, the alunite group in which an occurrence of natroalunite from Martinique may be noted, lanarkite, brochantite and linarite. Caledonite and leadhillite are the two sulfates with carbonates. The list of hydrous sulphates is an extensive one and includes mirabilite, gypsum (nearly 50 pages) and most of the vitriols, namely, epsomite, goslarite, morenosite, melanterite, pisanite, boothite, bieberite and chalcanthite. Further alunogen, connellite, coquimbite, fibroferrite, aluminite with which felsöbanyite and paraluminite may be identical, being only aluminite in a somewhat altered condition. Apatélite $(Fe, Al)_3(OH)_4 \cdot SO_4 + H_2O$ is a definite mineral species, its composition as here given being deduced from a new analysis of original material, the results obtained differing very much from the original analysis.[1] The remaining sulphates described are copiapite, glockerite, polyhalite, kalinite, halotrichite, pickeringite, metavoltite, roemerite, botryogen and cyanotrichite. Of the molybdates and tungstates there are wulfenite, scheelite and the wolframite group composed of ferberite $FeWO_4$, wolframite $(Fe, Mn)WO_4$ and hübnerite $MnWO_4$, though Lacroix states that the analyses of ferberite show an excess of FeO. Molybdite from Corsica showed qualitatively the presence of iron and water. The aluminates, ferrites, chromites comprise the spinel group, the various members of which (spinel, hercynite, chromite, magnetite, etc.) are fully described and illustrated, and the orthorhombic chrysoberyl. Only three borates are given, hambergite and rhodizite from Madagascar and ulexite. Nadorite, $PbO \cdot SbOCl$, from Algiers and the probable occurrence of romeite, $CaSb_2O_4$, therewith, are the two antimonites which finish the volume. The descriptions of the different minerals are given as in the former volumes and the paragraphs on the occurrences and associations are very full and contain much interesting information. The volume is richly illustrated with photographs and with crystal drawings.

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[1] The composition of this and several related minerals badly needs revision. From the data now at hand, apatélite, raimondite, cyprussite and possibly several others are probably identical (W. T. S.).

SCIENTIFIC JOURNALS AND ARTICLES

The Journal of Biological Chemistry, Vol. VIII., No. 3, issued September 15, contains the following: "Some Peculiarities of the Proteolytic Activity of Papaïn," by Lafayette B. Mendel and Alice F. Blood. A detailed study of the behavior of papaïn with especial reference to the accelerating effect which HCN exerts upon its action. "The Erepsin of the Cabbage (*Brassica oleracea*)," by Alice F. Blood. A typical vegetable erepsin can be prepared from white cabbage. "A Method for Determination of Saccharine in Urine," by W. R. Bloor. Evaporated urine is acidified and extracted with benzol. Saccharine is determined colorimetrically in the benzol extract by transforming it into a colored substance, probably phenol-sulphonephthaleïn or sulphurein. This is effected by heating with phenol-sulphuric acid. "Estimation of Saccharine in Urine and Feces," by Alfred J. Wakeman. A modification of Bloor's method. "Manganese of the Tissues of Lower Animals," by H. C. Bradley. Data from numerous analyses indicate that manganese is a normal constituent of the fresh-water mussels of North America. "Some Lipase Reactions," by H. C. Bradley. Experiments performed with human pancreatic juice show that the hydrolysis of triolein is regularly increased by increased amount of lipase; that a given