vided the proper ideals are never sacrificed to the popular demand, for there seems to be no cogent reason why the intellectual advancement of a nation should not be in perfect harmony with all those things that constitute the sphere of its practical activity. The future of higher education in Germany and in the United States will be proof against all attacks, provided there is no diminution in the proportion of persons animated by a desire to lead the intellectual life, and provided further that we never cease to adhere to those ideals of scholarship and learning which have contributed in such bountiful measure to Germany's commanding position in the educational world.

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SCIENTIFIC BOOKS.

Catalogue of the Ward-Coonley Collection of Meteorites. By HENRY A. WARD, A.M., LL.D. Pp. xii + 113, with 10 plates. Published by the Author. Chicago, May, 1904.

The Ward-Coonley collection of meteorites comprises at the present time representatives of more falls than any other collection in the world. Of about 680 meteorites known, the Ward-Coonley collection contains 603, which is 43 more than the number in the Vienna collection, according to the latest catalogue (1902), and 46 more than the British Museum collection contains, according to its latest catalogue (1904). The attainment of so remarkable a completeness by the Ward-Coonley collection is set forth in the catalogue just published by Professor Ward. The work contains much information of value besides being a catalogue.

In an interesting preface the author describes the manner in which the collection has been built up. Attention is called to the fact that exchange has proved quite as important a means of acquiring meteorites as purchase, and a liberal policy in this regard on the part of museums and collectors who would enlarge their collections is urged. The Gregory and Siemaschko collections are stated to be largely incorporated in the Ward-Coonley collection, while extensive travel by Professor Ward yielded meteorites obtainable in no other way. The first seventy pages of the catalogue are devoted to a list of the meteorites represented in the collection. These are arranged alphabetically under the groups of siderites, siderolites and aerolites. The list gives the name of the meteorite preferred by the author, its classification according to Brezina's system, the latitude and longitude of the locality and a statement of the locality according to political divisions. Reference to the first description of the meteorite is then given and the weight in grams of the chief piece and total weight in the Ward-Coonley collection. It is evident that great care has been taken to render this part of the catalogue accurate in detail, and the large amount of painstaking labor necessary to achieve this result can be appreciated only by those who have essayed similar tasks. So thoroughly has the work been done, however, that this catalogue may be considered the most authoritative work now extant in regard to the names and localities of the meteorites which it lists. American locality names of meteorites in particular have suffered so wofully from the mistakes of foreign authorities hitherto that it is cause for congratulation that the matter has been taken in hand by one so familiar with the subject as Professor Ward.

Following the list of specimens in the Ward-Coonley collection, an alphabetical list of all known meteorites is given with such synonyms as have importance. Here again the wide experience and knowledge of the author give the list a peculiar value. It has not been burdened with synonyms resulting from imperfect or careless spelling, but genuine synonyms have been retained.

The next division of the catalogue shows the geographical distribution of all known meteorites according to countries. The meteorites of each country are arranged alphabetically under that division and their date of fall or find, and classification as iron or stone shown. Division VI. of the catalogue has been contributed by Dr. Brezina, of Vienna.

This gives in complete form the classification of meteorites wrought out by Dr. Brezina at the Vienna Museum and now brought quite up to date. Seventy-four groups are named and under each group are given the meteorites assigned to each. The complete presentation of this classification is a work which will be of great service to students of meteorites and an aid to further study of the groups. Following this a table shows to what extent these groups are represented in the Ward-Coonley collection. It appears that all the groups are represented and 95 per cent. of the group localities. The total weight of the collection is given as 2,495 kilos (5,509 pounds), and the total number of specimens as about 1,600. The average weight of the representatives of each fall is 4,138 grams ($9\frac{1}{9}$ pounds), or, counting nothing over 50 kilograms to a fall, 1,746 grams ($3\frac{4}{5}$ pounds).

The following meteorites are stated to have larger representatives in the Ward-Coonley collection than in any other: Among siderites, Arispe, Bacubirito, Ballinoo, Cañon Diablo, Canyon City, Central Missouri, Costilla Peak, Illinois Gulch, Luis Lopez, Nejed, Roebourne, Saint Genevieve, Surprise Springs, Tonganoxie, Ute Pass and Willamette. Among siderolites, Morristown, Pavlodar and Veramin. Among aerolites, Baratta, Bluff, Castine, Indarch, MacKinney, Mighei, Ness County, Oakley, Petersburg, Pipe Creek and Rushville.

Adjuncts to the collection such as casts, micro-sections, betyl coins, etc., are listed and the ten illustrative full-page plates show the appearance of about fifty typical specimens of the collection and the manner of mounting and installation.

It is a cause for felicitation that so large and complete a collection of meteorites is to be found on this side of the Atlantic, and students of science will join with Dr. Brezina in congratulating, as he does in a recent letter which the present writer has been permitted to see, Professor Ward 'upon the results of such uncommon energy and experience. Instead of three first-class world collections, Vienna, London and Paris,' says Dr. Brezina, 'there exist now four.'

Oliver C. Farrington.

Le Mouvement. By R. S. Woodworth. Paris, O. Doin. 1903. Pp. viii + 421. 4 fr.

This volume, which is a part of the 'Bibliothèque internationale de psychologie expérimentale normale et pathologique,' edited by Dr. Toulouse, is an excellent and complete discussion of movement in all its aspects.

The work is divided into two parts, viz., I., on the perception of bodily movements, and II., on the production of movement.

In the first part there are excellent accounts of the physiological, clinical and anatomical findings regarding the muscular sense, and of the functions of the semi-circular canals in relation to sensations of movement. The remainder of the section is concerned with a general survey of the literature on the perception of the extent, the time, and the force of movement, on the perception of lifted weights, on weight illusions, and a critique of Weber's law in relation to the perception of movement.

The second part—on the production of movement—consists in discussions regarding reflex action, coordination, dynamogenesis, motor automatism, voluntary movement, rapidity of voluntary movement—including reaction time—the precision of movement, and fatigue.

Not every one will agree with the author regarding the rôle of the synapses in the production of habits, etc. (p. 227): "S'il y a un arrêt quelconque dans le système nerveux, comme cela arrive pendant le sommeil, il provient probablement du synapse. Et probablement aussi, c'est le dévelopement des extrémités nerveuses et le rapprochement des extrémités des branches de dendrites et de l'axe qui produisent la formation des habitudes et la maturité des instincts." The movements of dendrites and the shortening of spaces between parts of contiguous neurons has not been sufficiently investigated to make the above statement 'probable.'

Fatigue is considered to be a phenomenon connected with muscle, very little or not at all with the neurons controlling the muscle. This view, it is admitted, is somewhat radical, but the author guardedly concludes that 'the theory of the participation of the central nervous system in motor fatigue is without proof' (p. 400). It might also be retorted