

known locally as "clams" of various kinds, and there also occur two species of *Mytilus*, a pecten, a cockle, and an oyster. The Indians made extensive use of these molluscs before the advent of the white man on this coast, as is shown by the great heaps of shells still remaining. *Mya arenaria*, which was transported from the Atlantic coast many years ago, probably with oyster-spat, has become well-established in many localities on the Pacific coast, where it inhabits the mudflats of bays and has advanced up some estuaries, always remaining, however, within the influence of salt water. The author records that in January, 1918, excessive rainfall caused exceedingly high water in one of these estuaries, the *Mya* being washed with comparatively fresh water for four weeks, and at the end of the period a dense layer of fine sand, up to 2 in. in depth, covered the clam

bed. A high percentage of the younger and weaker individuals was found to be dead, probably smothered by the fine silt. *Mya* is found to withstand transportation to inland markets if kept at a low temperature, and will remain in good condition for a week after having been taken out of the water, but the other clams cannot be sent successfully any distance in marketable condition. Certain of them are canned at the coast. Observations are given on the spawning periods and growth of the bivalves.

The attention of students of recent Crinoids may be directed to a paper by Dr. Austin H. Clark on "Sealilies and Feather-stars" (Smithsonian Misc. Coll., vol. 72, No. 7, 1921). The account, while devoted chiefly to external and skeletal features, includes short notes on regeneration, asymmetry, distribution, food, locomotion, etc.

Water-power Resources of India.¹

THE Triennial Report (1919-1921) of the Hydro-Electrical Survey of India, which has just been received, is of the character of a comprehensive volume, embodying all the essential information contained in the preliminary and second Reports, which have already been noticed in NATURE. In addition, it contains later information derived from the investigation of certain sites selected for their potential value as sources of water-power supply. In the result, the opinion is formed "as a rough preliminary forecast" that the probable water of India for maximum development is some 12,680,000 kilowatts, equivalent to 21½ million water horse power, of which only 1¼ per cent. so far is developed or in course of development. The estimate is, of course, to be received with caution, as it is largely "speculative and based on the minimum of reliable information." The water power actually developed at the present time amounts to 138,780 kw., (continuous), capable of being expanded to 213,150 kw., in accordance with the ultimate capacity of the sites exploited. The following is a detailed summary of the probable *minimum* continuous water power:—

	Brought forward	Kw.
Jammu and Kashmir		2,933,320
Madras		305,330
Mysore		92,310
North-West Frontier		48,500
Patiala		1,000,000
Punjab and Canals		290
Rajputana		793,150
Sikkim		160
Travancore		5,000
United Provinces and Canals		450
		403,370
		<u>5,581,880</u>

	Kw.
Assam	414,000
Baroda	4,000
Bengal	669,850
Bihar and Orissa	62,550
Bombay	644,310
Burma	951,570
Central India	680
Central Provinces and Berar	137,560
Cochin	4,000
Coorg	1,500
Gwalior	43,300

Carry forward 2,933,320

The Survey is being made under the supervision of Mr. J. W. Meares, who was appointed Chief Engineer in succession to Mr. F. E. Bull. It is noteworthy that the same reluctance to finance hydrographical surveys exists in India as in other parts of the Empire. Mr. Meares is much concerned as to the outlook. As a consequence of the "Reforms" made by the Government of India, it was decided in October, 1920, that all outlay on water storage and water power would be a Provincial charge and that the necessary provision for hydro-electric surveys should therefore be made in the Provisional Estimates from and after the year 1921-22. When the Estimates came up for approval before the various legislative councils, in many instances reductions were moved, and as the matter now stands "the Survey is in danger of falling between the upper and the nether millstone, as the Government of India is no longer able to provide funds for a continuance of the work."

A considerable quantity of useful data is incorporated in the volume, including seven plates and maps, 23 diagrams, and 51 tables. Much detailed information is set out for the guidance and direction of those engaged in the Survey, of whose cordial cooperation Mr. Meares speaks very highly.

¹ Hydro-Electric Survey of India. Volume III. Triennial Report with a Preliminary Forecast of the Water Power Resources of India, 1919 to 1921. By J. W. Meares. Pp. ix+199. (Calcutta: Government Printing Office, 1921). 4 rupees.

University Pensions.

THE Sixteenth Annual Report of the Carnegie Foundation for the Advancement of Teaching provides some interesting reading, especially regarding pension systems. The claim is made that in the Reports of the Foundation will be found "the most complete information concerning pensions and pension systems in existence." The remarks on the University Teachers' pensions in England and Wales deserve notice. Reference is made to the movement of the Association of University Teachers to secure the extension of the School Teachers (Superannuation) Act of 1918 to University teachers, or failing this to

obtain benefits at least equivalent to those offered by the Act. As in previous years, the Report shows a strong bias against any non-contributory scheme. It is very easy to understand why this should be so. The Teachers' Insurance and Annuity Association of America could not have come into existence on any other than a contributory basis. On its own showing the Foundation was unable to finance a scheme such as is growing up in America. But no attempt is made to demonstrate how such a contributory scheme can be "sounder" than a non-contributory scheme backed by the government of the country. It would