

physical examination curve. If we must admit intellectual mediocrity, let us, at any rate, secure that we have, in compensation, physical excellence.

In practice this would necessitate the preliminary testing, when they are undergoing their medical inspection, of all candidates by means of the spirometer; neither a difficult nor a lengthy operation. No doubt, as Dr. Venn points out, breathing power may to some extent be improved by practice, and candidates would all flock to a "spirometer-crammer." But probably all of them would be the better for some physical cramming in this way.

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UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Prof. W. Watson Cheyne, F.R.S., has been appointed an additional Examiner in Surgery for the present term.

An inter-collegiate Examination in Mechanical Science and Engineering, for candidates for the Mechanical Sciences Tripos, will be held, under the direction of Prof. Ewing, at the end of this term, commencing on June 4.

THE Somerset County Education Committee have adopted a resolution in favour of establishing in the county a fixed Dairy Farm School for adults of both sexes. Instruction in cheese and butter making, and in subjects allied thereto, would be given. Provision is made for granting thirty scholarships, giving free board and tuition at the school for two months, to farmers' sons and daughters engaged in dairy work. The Committee have agreed that it is desirable to set up an agricultural side to one or more of the existing secondary schools in the county. It is hoped that in due course an agricultural college for the West of England will be provided by the combined efforts of the local counties.

WITH the view of acquainting teachers with a course of experiments in accordance with the British Association Committee's programme for the teaching of Chemistry in schools, the Evening Schools Code, and the syllabus for Major Scholarship examinations recently prepared by a committee of the Incorporated Association of Head Masters, Prof. Armstrong, F.R.S., will give a series of demonstrations at the City and Guilds Central Technical College, on Saturday mornings, in May. The special object of the course will be to explain the exact method to be followed in carrying out a carefully arranged series of very simple qualitative and quantitative experiments calculated to impress the chief and most generally useful facts of chemistry on children's minds whilst developing their powers of observing and reasoning.

It has often been urged against the educated natives of India, that they are admirable at adaptation, but are altogether at a discount where original research is concerned. The Hon. Mr. A. Cadell commented upon this failing in a recent address to Convocation of Allahabad University. His advice was that debating societies, which are so common a feature of student-life, should give place to natural history societies; the object would be to foster the true scientific spirit in the native mind. In this connection, some remarks (which we quote from the Allahabad *Morning Post*), made by Prof. Ingram, of the Madras Educational Service, indicates that the complaint as to the want of scientific research by natives of India is not without foundation. In a recent contribution he says:—"Now, if India is not helping in this work, if she is supplying no additional information, and is offering no aid towards the consummation of this unity, her claim to be regarded as in any sense a scientific country, is null and void. No matter how assiduously her students may devote themselves to studying the science course of their University curriculum; if it all end there, it is nothing. But need it end there? What country could offer greater facilities for scientific research than India? Here is a country teeming with animal and plant life; but the systematic biology of India is still in a nebulous condition. Why are no students devoting themselves to collecting and collating, and studying the plants of their districts, or the insects that abound within their walls? It would be hard, too, to find a country better suited than India, with her clear atmosphere and cloudless skies, for the study of the stars or of other atmospheric phenomena. In these ways, and in a thousand others, we might be advancing

the cause of knowledge. But we can scarcely be said to have begun yet." By way of remedy, Prof. Ingram suggests the formation of an Indian Royal Society, or some such association as would serve the same purposes here as the British Association does at home. It is possible, however, without going to that length, to utilise the resources already at hand. India is not without its scientific societies. There are the Asiatic Society of Bengal, the Indian Science Association, and the Bombay Natural History Society, all of which are amply sufficient for the purposes of scientific research.

SCIENTIFIC SERIALS.

American Journal of Science, April.—Niagara and the Great Lakes, by F. B. Taylor. By a correlation of the abandoned shore lines, moraines, and outlets, and the gorges, recently submerged shores, and rivers of this region, the author is led to the view that the lakes were at first glacial and ice-dammed, falling by stages as the outlets changed on withdrawal of the glacier-dams. By the withdrawal of the glacier the Niagara river was opened, and the upper lakes became united. The land was gradually depressed at the north, and finally led to the opening of Nipissing outlet, which was then brought down to the sea-level, and marine waters filled the three upper lakes, the Ontario, St. Lawrence, and Winnipeg basins. The subsequent raising of the Nipissing outlet made the upper lakes fresh again. Then followed the stage of the second Lake Algonquin and that of the second (present) Niagara lakes. Lake Superior became independent. The Great Champlain uplift took place at the north-east, and the formation of the St. Clair delta began, and continues to the present day.—Disturbances in the direction of the plumb-line in the Hawaiian Islands, by E. D. Preston. There appears to be a disturbance of more than a minute in the direction of gravity at the south point of Hawaii. At Kohala the plumb-line is deflected half a minute towards the south, and at Kalaieha nearly as much towards the north, the disturbance being in both cases towards the mountain. The deflection at the south point is also northward, and is caused by the great masses of Mauna Loa and Mauna Kea.—Structure and appendages of *Trinuclus*, by Charles F. Beecher. The three posterior thoracic endopodites are very similar, and in a general way closely resemble those of *Triarthrus* from the same region of the thorax. They are, however, comparatively shorter and stouter, and could not be extended beyond the ends of the pleura. The two distal joints are cylindrical, with well-marked articular surfaces and ridges. The joints preceding these proximally become much wider, flattened, and produced into transverse extensions which carry large tufts of setæ at the end. The exopodites seem to be composed of slender joints, the distal exites being long and slightly curved outwards. They carry very long, close-set, overlapping lamellose fringes, which evidently had a branchial function. The characters of the appendages indicate an animal of burrowing habit, which probably lived in the soft mud of the sea-bottom, much after the fashion of the modern *Limulus*. In addition to its limuloid form, the absence of eyes seems to favour this assumption. So does the fact that many specimens have been found preserving the cast of the alimentary canal, showing that the animal gorged itself with mud, like many other sea-bottom animals.

Wiedemann's Annalen der Physik und Chemie, No. 3.—Electric conduction and convection in feebly conducting dilute solutions, by E. Warburg. The alteration of conductivity produced by a current in bodies like aniline, the phenomena of convection exhibited by them, and their apparent deviations from Ohm's law, can all be explained on the supposition that their conductivity depends upon an electrolyte of which the body is a very dilute solution. Bodies were investigated whose conductivities went down to 5×10^{-10} . The similar behaviour of still worse conductors, like xylol, benzol, oil of turpentine, is probably due to the same cause.—Ratio of sectional contraction to longitudinal dilatation of iron rods during magnetisation, by A. Bock. By magnetisation the constants of elasticity of soft iron are altered to an extent not exceeding 0.5 per cent. The observations indicate that flexure diminishes, torsion also decreases, and the ratio of sectional contraction to longitudinal expansion increases. Iron becomes more incompressible in the magnetic field (see p. 614).—Freezing points of some binary mixtures of heteromorphous substances, by Albert Dahms. Eutectic mixtures