(3) The Senate or Convocation of the University of London, or any other person or body directly affected by any such statute or regulation, may, within thirty days after the notification thereof in the *London Gazette*, petition Her Majesty in Council to withhold her approval of the whole or any part thereof.

(4) Her Majesty in Council may refer any such petition to a committee of the Privy Council, with a direction that the committee hear the petitioner personally or by counsel, and report specially to Her Majesty in Council on the matter of the petition.

(5) Thereupon it shall be lawful for Her Majesty by Order in Council either to declare her approval of the statute or regulation in whole or in part, or to signify her disapproval thereof in whole or in part. but any such disapproval shall be without prejudice to the making of a new statute or regulation.

(6) The costs of any petition under this section may be regulated by the committee to which the petition is referred.

V. *Power to amend statutes and regulations.*—After the expiration of the powers of the Commissioners the Senate of the University shall have power to make statutes and regulations for altering or supplementing any of the statutes or regulations made by the Commissioners. Provided as follows :—

(1) A statute made under this section shall be subject to the provisions of the last foregoing section, with the substitution only of the Senate for the Commissioners ;

(2) A regulation made under this section shall be invalid so far as it is inconsistent with any statute made under this Act and for the time being in force.

VI. *Short title.*—This Act may be cited as the University of London Act, 1896.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

A DESPATCH (says the *Board of Trade Journal*) has been received at the Foreign Office from Mr. Martin Gosselin, Her Majesty's Chargé d'Affaires at Berlin, stating that a Government chemical dyeing school has recently been opened at Crefeld, which has cost about £20,000, exclusive of the machinery and fabrics, which have for the most part been presented by private manufacturers. The school contains laboratories for research and educational purposes, as well as a complete collection of dyeing machinery, and an exhibition showing the result of different processes.

THE following are among recent announcements :—Dr. Franz Boas to be lecturer on physical anthropology in Columbia University ; Dr. Arthur Allen to be professor of psychology and pedagogy in the Ohio University ; Dr. Bauer, professor of mineralogy at Marburg, to be Privy Councillor ; Dr. H. Biltz to be extraordinary professor of chemistry at Greifswald ; Dr. Linde, professor of physics in the Munich Technical High School, to be Ph.D. *honoris causa* of Göttingen University.

PLANS have been filed for the buildings of Barnard College in New York City. Three halls have been provided for. The central one is named Milbank Hall, in honour of the donor, Mrs. Anderson, *née* Milbank, and will cost 160,000 dols. Opposite the grounds of Columbia University will be Brinkerhoff Hall, costing 132,000 dols., the gift of Mrs. Brinkerhoff. The third hall for which the plan provides will correspond to Brinkerhoff Hall. Funds are not yet provided for it, nor a name assigned.

SCIENTIFIC SERIALS.

American Journal of Science, July. — Lecture experiment with liquid carbon dioxide, by C. Barus. The passage from the liquid into the gaseous state should be shown in full daylight, the tube containing the liquid being placed vertically in a wooden trough closed by plate-glass at both ends. This insures safety, and gives more light than a water-bath. The image of the tube is thrown upon a screen. Two different focal lines are obtained, one for the gas, the other for the liquid. Contrary to what might be expected, the one does not pass continuously into the other, that for the gas being always virtual, and that for the liquid real.—Percussion figures on cleavage plates of mica, by T. L. Walker. These figures, produced by a blow on the centre of a hexagonal plate with a blunt needle, have been described as being six-rayed stars with the rays at 60° to each other. Accurate measurements show that the angles may vary from 53° to over 63°, according to the kind of mica employed.—The seven-day weather period, by H. Helm Clayton. To extend the investigation of the seven-day weather period beyond the area of the United States, three stations were selected in the Arctic region, five in Europe, two in Asia, two in Oceania near the equator, three in middle South America, one in Mauritius, and one in Australia. The periods investigated were those of 7 days 6·43 hours, 6 days 3 95 hours, and 5 days 10·8 hours. Particular attention was given to a compilation of barometric minima at these stations during the last fifteen years. The results show that, on the average, twice in a period of 7 days 6·43 hours in America, and three times in Europe, waves of barometric minima, or storms, tend to begin near the poles, and sweep across the continents. There is a tendency at every station for the days of maximum frequency to remain on the same days of the period throughout the year.—The hydrology of the Mississippi, by J. L. Greenleaf. This is a valuable and interesting paper dealing with the drainage areas, rates of flow, and rainfall over the tributaries of the great American river. It is illustrated by diagrams representing the various factors in a concise and lucid manner. The largest drainage area is that of the Missouri. Then follows the Ohio, the Arkansas, and the Red River. Of these, the Missouri has the most striking peculiarities. Its drainage area has an average rainfall of 19 6 inches per annum. Although in flood it is a mighty torrent, its average volume is very poor considering its enormous drainage area of 527,700 square miles. Only 12 per cent. of the rainfall finds its way into the river. The rest is absorbed and evaporated by the extensive prairies. In the Ohio area the proportion is 30 per cent., and since the annual rainfall is 43 inches, it is not surprising that its discharge exceeds that of the Missouri. Near the Mexican Gulf we have the Yazoo and St. Francis Rivers, which carry off 70 per cent. of their rainfall, owing to its being quickly absorbed by the sandy soil, or stored in the swamps. There are other admirable diagrams showing the growing volume of water as each tributary enters, and giving the whole life-history of the river system in a very attractive shape.

Wiedemann's Annalen der Physik und Chemie, No. 6.—Electrolysis of water, by A. P. Sokolow. Helmholtz applied his theorem of free energy in thermodynamics to electrolysis, and concluded that the E.M.F. necessary to electrolyse water depends upon the density of the hydrogen and oxygen at the electrodes, and that when the liquid is free from gas the necessary E.M.F. may closely approximate to zero. The author endeavoured to find a more rigorous experimental proof of this conclusion than has hitherto been obtained. This was done by constructing a voltameter with platinum electrodes in which separate platinum wires were fused in close to the electrodes. Any polarisation of the latter due to a current, if leading to the formation of gas, would be gradually transferred to the wires through the separating liquid. This was found to be the case, and dissociation was obtained with E.M.F.s of a few hundredths of a volt.—Loss of energy in magnetisation by oscillatory condenser discharges, by Ignatz Klemenčič. Hysteresis and other losses have so far only been investigated with about a hundred oscillations per second. The author experimented with condenser discharges up to 2000 per second in order to obtain an approximate idea of the action of Foucault currents and hysteresis in iron and nickel at higher frequencies. The method used was that of discharging a condenser and interrupting its discharge at a certain stage by a dropping weight. This made it possible to determine the damping of the oscillations in a simple coil and in a coil with an iron or nickel core respectively. The results showed that even in thin iron wires the loss of energy was chiefly determined by the Foucault currents. The losses due to hysteresis in soft iron were considerably greater than those calculated from the hysteresis curves at lower frequencies. For steel and nickel, however, the losses were about the same.—On magnetic irregularity and the annealing of iron and steel, by A. Ebeling and E. Schmidt. Annealing, if done uniformly, may be sometimes useful ; but if not uniform, it may be detrimental to magnetic homogeneity. The most uniform material is obtained by careful fusion. Wrought iron is not made magnetically uniform by annealing.—Transparency of bodies for Röntgen rays, by O. Zoth. This was determined by comparing them with a tinfoil scale containing grades of various thicknesses. The transparency of alcohol compared with tin was 600, that of water 300, cork 2450, ebonite 150, plate-glass 29, magnesium 36,

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