

Piutti has discovered a new test for the presence of wood in paper, namely chlorohydrate of *o*-Br-phenetidin, which tinges the woody fibres a bright yellow, while cellulose, ordinary fibres of cotton, wool, silk and linen are unaffected. A large number of other papers on certain new organic derivatives have been published in the *Rendiconto* of the Naples Academy, partly under the authorship of Piutti, working in conjunction with Piccoli, partly as the result of work done in Piutti's laboratory; while a detailed study of the crystallography of certain other new organic compounds, illustrated by diagrams, is contributed to the *Rendiconti* del Reale Istituto Lombardo by Boerio. Papers dealing with the methylation of the indols, and the bases derived from them, have been contributed to the *Atti dei Lincei* by A. Piccinini, G. Plancher and Bettinelli.

A geographical congress was held last April, in connection with the centenary celebrations of Paolo Toscanelli and Amerigo Vespucci.

In geology, mineralogy, and palæontology, a number of papers have appeared, but these are chiefly of local interest. We may, however, mention G. Gemmellaro's description of a new genus of brachiopods from the Sicilian *Fusulina* limestone; Artini's account of a meteorite which fell in the Somali peninsula; Bassani's work on the ichthyofauna of the eocene limestones of Gassino in Piedmont; and Taramelli's exposition of Schardt's theory, according to which a large extension of the Swiss pre-Alpine rocks is to be regarded as a limb of the secondary formation which at one time covered the Alps much further to the south.

Botany is represented by Delpino's description of several new instances of myrmecophilous plants furnished with extra-nuptial glands; A. de Gaspari's contribution to the biology of ferns dealing with spore dissemination, acarophily and myrmecophily; L. Buscalioni's work on the origin of vascular elements in the growing point of monocotyledonous roots, and his joint paper with R. Pirotta on plurinucleate vascular elements in Dioscoreaceæ; and B. Longo's researches on chromatolysis in vegetable nuclei, and on the affinities between the Rosaceæ and Calycanthaceæ.

A prominent place in the zoological literature furnished by Italy must be accorded to B. Grassi's researches on the relations between mosquitos and malaria, which have formed the subject of several notes in NATURE. Suffice it here to say that these researches have led Grassi, with the co-operation of G. Bastianelli, A. Big-nami, and A. Dionisi to trace the further stages of the development of the malarial parasite within the body of the gnat *Anopheles claviger*, a work which must certainly result in facilitating the prevention of this dangerous disease in Italy. A series of papers on the morphology of Diplopods have been presented by F. Silvestri. The late A. Costa commenced an investigation on the reciprocal actions of certain animal toxins, based on the fact that the sting of certain Hymenoptera (*Scolia*) has the remarkable property of allaying the irritation due to a scorpion's sting. P. Pavesi chronicles the capture of a fish (*Coregonus Schinzii Helveticus*) near the mouth of the Ticino, probably carried down from Lago Maggiore. L. Maggi has made an extended study of the comparative anatomy of the skull, tracing the homology and homotopy of certain bones from the ichthyosaurus up to man.

Among physiological and histological papers, interest attaches to Albin's considerations on the nutritive value of whole-meal bread, which seem to demonstrate that this bread is inferior in nutritive matter to ordinary bread, besides having the disadvantage of containing an excessive quantity of indigestible matter formed of the harder parts of the pericarp of the grains. A. Montuori has investigated the formation of hæmobilin. Golgi has noted two re-

markable peculiarities of the nerve-cell. Monti deals with the preservation of museum specimens, and with the pathology of nerve-fibres in anæmia, in embolism, in congestion, in hydræmia, in malaria, in poisoning, and in inflammation. The conversion of starch into sugar during digestion in the stomach is dealt with at some length by E. Oehl. Marengi has studied the regeneration of nervous fibres in cut nerves; M. Jatta, the genesis of fibrin in pleural inflammation; and D. Baldi has applied the Baubigny process to discover the presence of bromine in thyroids.

Italian science has lost the following workers during the year 1898: Pacifico Barilari, engineer, for many years president of the Council of Public Works in Rome; Giuseppe Gibelli, professor of botany in the Royal University of Turin; A. Costa, the author of numerous papers on entomology dealing with Amphipoda, Hymenoptera, and especially with Italian saw-flies; Teodoro Carnel, botanist, of Florence; and Dr. Eugenio Bettoni, director of the Royal Piscicultural Station in Brescia.

A condensed review, such as the present, would not be complete without some reference to the long array of papers—many of them of the greatest interest to specialists—which want of space prevents us from enumerating individually, but which are none the less worthy of consideration.

G. H. BRYAN.

HIGHER EDUCATION IN PARIS.¹

THE report of the Senate of the University of Paris, drawn up by Prof. Moissan, and presented to the Minister of Public Instruction in December last, gives abundant evidence of the excellent provision for higher education in Paris. It is gratifying to observe the importance attached, by State authorities in France, to the opinions held by eminent men of science on the subject of education. The record of a splendid year's work which is here brought together is proof enough, were any needed, that nothing but good can result when men distinguished in science exert their influence on Councils responsible for the administration of education.

On July 10, 1896, the new University of Paris was endowed by law with a large measure of autonomy. After the period of transition, which naturally followed the inauguration of the new University, the results of self-government have proved completely satisfactory, as the work accomplished during the school-year 1897-8 amply demonstrates. Since 1896 new chairs have been established, new courses of instruction have been formulated, new laboratories have been furnished, and the provisions for practical work have been extended in several directions. The Senate has considered many questions directly affecting their relations with the students, and has endeavoured to interest the general public in the work and development of the University. It is recognised that the University should be a national institution, and that substantial progress can only be assured by an association of effort on the part of the whole body of professors and the public.

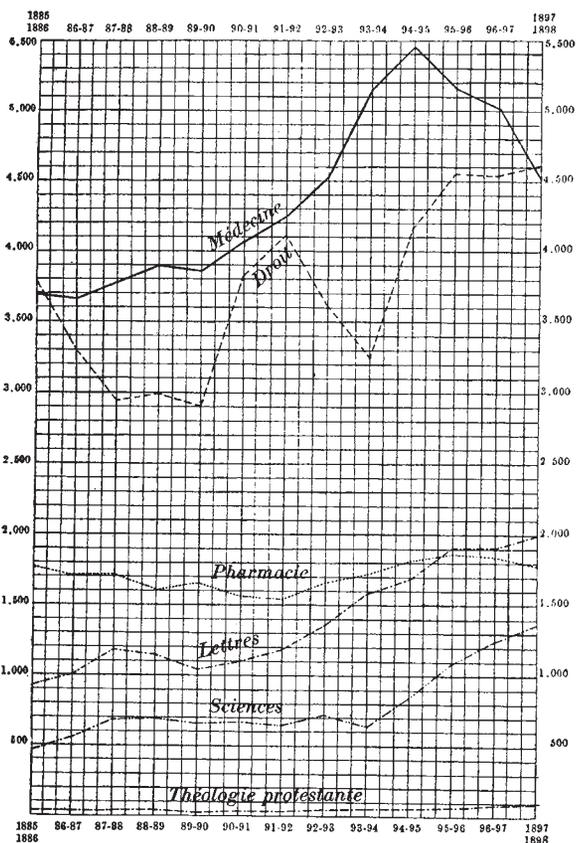
Number of Students, &c.—The following table shows the number of students in the various faculties for two years, that especially dealt with in the present report and the year immediately preceding:—

	1897-8.	1896-7.
Faculty of Protestant Theology	95	77
Faculty of Law	4607	4549
Faculty of Medicine	4495	5015
Faculty of Science	1370	1243
Faculty of Letters	1989	1904
Higher School of Pharmacy	1790	1845
	14,346	14,633

¹ Rapport du Conseil de l'Université de Paris. (Année Scolaire 1897-1898.)

The decrease in the number of students studying medicine is more apparent than real, the method of classifying and certain natural fluctuations being sufficient to explain it. The increase in the numbers taking law, science and literature has been steadily maintained for some years, though, as the accompanying curves show, there have been temporary unimportant diminutions.

The number of foreign students at the University during 1897-8 was 1258, of whom 110, representing eighteen nationalities, were studying science. There were 250 women students, of whom 187 were foreigners. The numbers of bachelor's diplomas awarded in the Faculty of Science for the two years referred to above



Number of students in the various Faculties of the Paris University since 1885.

were 947 and 795 respectively. These included several branches, as follows:—

Faculty	1897-8.	1896-7.
Classical (Literature—Mathematics) ...	585	444
of Modern (Literature—Sciences) ...	197	203
Science. (Modern (Literature—Mathematics) ...	165	148
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	947	795

It is interesting to note that fifty scholarships are offered by the State in science, out of a total number of 146 in all faculties. No science scholarships are provided either by the city authorities or by private individuals, though fifty-six, spread over the other faculties, are available from these sources.

The Doctorate of the University of Paris.—Recognising that the systems of secondary education in other countries differ from those of France, and that in consequence foreigners are not able to rapidly pass the examinations

necessary for the diploma of bachelor, which have hitherto been compulsory before proceeding to the doctorate, the Council of the University of Paris has modified the regulations governing the bestowal of its doctorate as far as foreigners are concerned. As the report makes clear, the imperfect knowledge of French and French literature possessed by most of these foreign students has also been taken into account, and for the future the bachelorship will not be considered indispensable. A foreigner may, without having taken the degree of bachelor at the University of Paris, be very strong in some subject or other. Why, asks Prof. Moissan, should he be prevented from taking the doctorate? The Council wish, as they say, to open their University to every type of mind; two things only are demanded of the aspirant to the doctorate—intelligence and work. No kind of official stamp will be insisted upon. This will lead the way, the Council very properly think, to what they regard as their chief duty—the encouragement of scientific investigation. There is a large number of students at present in the science laboratories of the University itself, as well as those of the Pharmaceutical School, who are preparing theses for the new doctorate.

New Gifts to the University.—Many important gifts and bequests have been made to the University during the year.

(1) *Charles Legroux Prize.*—A donation of 10,000 francs, made by Madame Legroux, for the establishment of a quinquennial prize, to be awarded to the best work on the treatment and causes of diabetes.

(2) *Marjolin Legacy.*—The proceeds from property to be applied to paying the fees, for further terms, of French students of medicine who have been characterised for their zeal and exactness.

(3) *Mercet Donation.*—M. Émile Louis Mercet has given an annual amount of 3000 francs for six years, to be applied towards the salary of a secretary for a department of the Sorbonne.

(4) *Countess Chambrun Foundation.*—An annual gift of 5000 francs for thirty years towards the foundation of a course of study in social economics.

(5) *Anonymous Gift of 50,000 francs.*—This bequest was remitted to the Council by M. Lavissee. It brings an annual revenue of 2000 francs, which is to be devoted towards alleviating the needs of deserving French or foreign students.

(6) *Anonymous Gift of 75,000 francs for Travelling Scholarships.*—The anonymous donor proposes, if necessary, to renew this gift annually for three or four years. It is to be devoted to founding five travelling scholarships, each of the value of 15,000 francs. Two are to go to old students of the École normale supérieure, three to old students of the University. The choice of suitable students will be in the hands of the Council of the University on the report of a commission appointed by the Rector. The scholarship holders will employ some fifteen months in travelling round the world with the object of studying the social conditions, forms of government, &c., of different countries.

Of other important questions, such, for example, as an account of the work carried on in the laboratories and hospitals, the researches which have been made, and the technical applications arising therefrom, the errors rectified during the year, M. Moissan says space will permit him to say nothing. But there is more than enough in this interesting report to show that the University of Paris, with its 116 professors, to say nothing of lecturers, laboratory directors, and experimentalists, is doing a good work, and that its constitution in 1896, out of the older University of France, was fully justified. When it is borne in mind, moreover, that side by side with the instruction in science which is going on in the University, Paris possesses such large schools as the College of France, the Natural History Museum, the School of

Mines, the Normal School, the Polytechnic, the School of Fine Arts, the Pasteur Institute, the Central School and others, all engaged in a greater or less degree in imparting and advancing scientific knowledge, it will be seen that the provision for higher technical instruction in Paris is of the most satisfactory kind.

A. T. SIMMONS.

THE EXHIBITION OF RECENT ACQUISITIONS AT THE NATURAL HISTORY MUSEUM.

IT has already become recognised that collections of objects intended to be exhibited to the general public should be presented in such a way as to enable the visitor to obtain some systematised information. This one takes to be the so-called educational side of the question. Museum curators, however, although by necessity extremely conservative, are beginning to find themselves in a position not very different from that of the popular lecturer or writer of the day. Unless these have something new to offer, be it only the method, so to speak, of marketing their wares, they will fail to arrest the attention which, when once directed in the sought-for way, may never again be lost.

The curator, it must be pointed out, is in a worse plight than the others, for the lecturer's audience is a varying one, and the writer can change his public; while the museum, as one is accustomed to it, is a fixture. Again, whereas the hearing of a lecture or enjoyment of an article usually presupposes some amount of expenditure upon the part of the hearer or reader, on the other hand most museums are free; and there is a good deal of truth in the saying that what is paid for is appreciated more than that which is had for nothing.

A little living interest must always be an advantage to a museum, and there seems some likelihood that Prof. Ray Lankester's infusing of some into the natural history side of the British Museum may mark the beginning of a new era there.

Possibly the new departure may be of more direct value to the general public, who only pays for the Museum, than to the specialists who use the building; but let us consider the matter in detail.

The arched recesses opening out of the entrance hall have hitherto been assigned to the index collections. These were intended as a biological introduction to the main groups represented in detail in the galleries, but they have never been absolutely completed. Recently, indeed, some of the specimens have been taken away, possibly to reappear in a more suitable position at the head of the series they elucidate. More to the point is the fact, that their place in the last alcove but one on the right-hand side is now taken by "specimens recently acquired."

The collection which first arrests attention illustrates the remarkable molluscan fauna of Lake Tanganyika. There are three series of shells, two of which show the freshwater molluscs of the general type which inhabit the African lakes, as illustrated by representatives from Lakes Nyassa and Tanganyika. The third consists of shells from the latter piece of water, which belong to the series called halolimnic, by Mr. J. E. S. Moore, who has done so much to add to our knowledge of the Tanganyikan fauna, and who has started this month upon a second expedition to the Great Lakes of Africa. This naturalist has shown that the shells in question are almost identical with well-known Jurassic forms, and the chief interest surrounding this exhibit is that in many cases, side by side with the examples collected by Mr. Moore, are their fossil representatives. This reminds one forcibly of the arbitrary line drawn in the arrangement of the Museum between fossil and recent

genera; but this by the way. As instances of the pairs of similar species might be quoted:

Tanganyika.	Jurassic.
<i>Chytra kirkii</i> .	<i>Onustus ornatissimus</i> , Burton Bradstock.
<i>Bathanalia irridesens</i> .	<i>Amberleya orbignyana</i> , near Yeovil.
<i>Pseudomelania damoni</i> .	<i>Purpurina bellona</i> , Bradford Abbas.
<i>Limnotrochus thomsoni</i> .	<i>Littorina dorsetensis</i> , near Yeovil.
<i>Melania admirabilis</i> .	<i>Cerithium subsalariforme</i> , Bradford Abbas.

Possibly the most striking exhibit is the collection of siliceous hexactinellid sponges dredged from Saguma Bay in Japan, and purchased by the Museum: many types and some of the finest examples yet known are among the number. They come from depths varying from 80 to 300 fathoms, and mention might be made of the fine *Euplectella imperialis* and *Rhabdocalyptus victor*, while the specimen of *Chaunoplectella cavernosa* is particularly beautiful.

The rare birds' skins presented by Dr. Moreno, the director of the Museum of La Plata, are as they were received. Indeed, it is rather agreeable to see exhibited in the Museum something which is not absolutely spick and span. An albino song-thrush from Argyll, presented by Colonel Edward Malcolme, finds a place by an example of one of the four recent species of *Pleurotomaria*, viz. *berichii*, all very rare and valuable, and the only living representatives of a genus once a thousand strong. The particular specimen contained the soft parts, and we are looking forward to an interesting paper based upon them from Mr. Martin Woodward, who gave a description of the radula to the Malacological Society the other day. A series of models illustrating the development of the chick within the egg attracted much attention on Easter Monday, as appertaining to something more or less familiar to the crowds whose acquaintance with oranges was even closer, judging from the heaps of peel not wholly left outside the building.

A formidable array of bottles contains a large collection of crustaceans exchanged with the Paris Museum, and chiefly obtained during the *Talisman* and *Travailleur* expeditions. Following close up, there is a second display of members of the same class from the Indian Museum. Lastly, must be mentioned several series of fish: one collected by Mr. Moore in the same lake as the shells; another representing a selection of the remarkable forms inhabiting the River Congo, presented by the Secretary of State for the Congo Free State, and recently described by Mr. G. A. Boulenger, with annals of the museum belonging to that republic. Many peculiarities of structure are to be met with; for instance, the curved snouts of the species belonging to the genus *Gnathonemus*, from which they take such names as *curvirostratus elephas* and *rhynchophorus*. The large teeth, too, of *Hydrocyon goliath* are most striking, fitting as they do between a pair of those in the opposite jaw, and coming to lie in deep grooves beyond their bases.

Two specimens of *Lepidosiren paradoxa*, sent by Mr. Graham Kerr from Paraguayan Chaco, complete the present list of the new exhibits.

Neglecting the actualities and possibilities of the Museum as a centre for research, it is primarily a storehouse in which everything, so far as space allows, is exhibited; a fact that enables the collector to name his specimens without unduly taking up the time of the staff. Secondly, the educational idea has been added to, but not combined with, this; while the popular interest will bear development, and it remains for the new director to work the various lines of usefulness into a well-balanced and harmonious whole. WILFRED MARK WEBB.