the naturalist exists in these southern isles. Fortunately, in almost every instance, the date and locality of introduction of nearly every form of animal colonist can be exactly ascertained, and by careful observation and record it will be possible to chronicle every important change. We have already seen in New Zealand the remarkable case of a fruit-eating parrot, the kea (Nestor notabilis), becoming a true bird of prey. Learning to pick at the skins and offal of slaughtered sheep lying about stations and stock-yards, this bird has actually acquired the art of killing sheep. So greatly has this faculty been developed, that great tracts of mountain country in the interior of the South Island are now rendered uninhabitable for the sheep. It is thought that the chamois or any other active smooth-backed animal will prove too much for the kea; but the poor sheep, with its thick matted fleece, is at the mercy of the powerful bills and claws of these birds.

Similar cases, of altered habits under altered conditions, are more likely to occur in a new conntry, with so peculiar an indigenous fauna as New Zealand possesses, than in any other part of the globe: hence the importance of keeping a good record from the very beginning.

GEO. M. THOMSON.

Dunedin, Oct. 8.

LONDON LETTER.

THE movement for the establishment of a British school of archeology at Athens seems in a fair way to succeed. A meeting of the general committee and subscribers to the scheme was held a day or two ago, at which it was stated that a director's house, with library and lecture-room attached, had been built at Athens, on a site presented by the Greek government. The University of Oxford, the Hellenic society, and other public bodies contributed towards the annual expenses, and Mr. F. C. Penrose was to assume the directorship of the school for one year from this present November. Among those present at the meeting were the head masters of several of the great English public schools, the minister for Greece, and other influential persons.

Several of the most distinguished medical men in London assembled at the College of physicians recently, to hear the Harveian oration (instituted by Harvey himself) pronounced by Dr. Pavy. Harvey's object in establishing this was that members of the college should 'search and study out the secrets of nature by experiment.' After referring to the bacillus, and the attack upon it by processes of disinfection, Dr. Pavy stated that another way of attacking it was due to researches recently conducted. It had been found that the bacillus required virgin soil for its growth, and by certain means it might be brought into such a weakened state as only to occasion, when introduced into the system of an animal, an effect of a mild nature, not dangerous to life, instead of the ordinary form of disease; but the effect produced — and this was the great point of practical importance — was as protective against a subsequent attack as the fully developed disease. The knowledge recently acquired had been already practically turned to account upon a large scale for checking the ravages of that exceedingly fatal disease among cattle known as anthrax, or splenic fever; and, if that could be accomplished for one disease, — and more than one could be mentioned, — was there not ground for believing that means would be found for placing others of the class in the same position? Attempts were being made in that direction. All eyes throughout the civilized world were, indeed, fixed upon the work of Pasteur in Paris with reference to hydrophobia. Looking at the nature of the disease, there was nothing inconsistent with its being dependent upon a bacillus, or microbe as Pasteur called it. He had been an eye-witness of Pasteur's work. Judgment, it must be stated, still stands in suspense, but it must also be said that the results obtained tell decidedly in favor of the views advanced.

Two more volumes (xv. and xvi.) of the zoölogical reports of the Challenger expedition have been issued during the last few weeks; and several others may be expected within the next six months, as the treasury grant for the publication of these reports expires on the 31st of March, 1887, so that the various memoirs must be out of the printer's hands before that date.

The removal of the natural history collections from Bloomsbury to South Kensington has been accompanied by a steady increase in the publications both of the zoölogical and of the geological departments. The fossil mammalia are being catalogued by Mr. Lyddeker, formerly paleontologist to the geological survey of India; the fourth part of his work, which deals with the Proboscidea, being now in the press. Mr. R. Kidston has made a valuable contribution to paleo-botany by his catalogue of the palaeozoic plants, which is especially complete as regards the literature of the subject. The last volume issued by the geological department is the catalogue of Blastoidea, which is the joint work of Mr. R. Etheridge, jun., and Dr. P. H. Carpenter, and is illustrated by twenty quarto plates. The museum contains several remarkably fine types of this class, which were collected some years ago by Messrs. Eilkertson and Rofe respectively from the carboniferous limestone of Lan-

cashire and Yorkshire, and have never been properly described; while the liberality of several American paleontologists, especially Mr. Charles Wachsmuth of Burlington, has enabled the authors to make their work a nearly complete monograph of the group. They recognize nineteen genera, which are arranged into six families, and these fall into two orders, the Regulares and Irregulares. The latter contains the singular Devonian genus eleutherocrenies, which was so well described by the late Dr. Shumard, together with two equally aberrant types from the carboniferous of England and Ireland respectively. These three genera differ altogether from the familiar Pentremites in having no trace of a stem and in the asymmetry of the calyx.

The reports recently made to the local government board by public analysts indicate in a very striking way the good effected by the adulteration act of 1875 as regards food and drugs. When public attention was first directed to this question (by the *Lancet*), one-half the samples of food analyzed were found to be adulterated. The returns for a twelvemonth, just published, show that only 13.2 per cent had been thus tampered with. The adulteration seems greatest in spirits, being 537 out of 2.321, or 23.1 per cent. Butter comes next, with 18.8 per cent. Then follow in order, coffee, mustard, and milk. The adulteration of bread has almost ceased, only 31 samples out of 1,168 tested (not 3 per cent) being faulty. Confectionery and beer are practically unadulterated, while not a single suspicious case occurred among the numerous samples of flour, sugar, pickles, tinned vegetables, jam, and wine, which were examined.

There are many signs that the electric lighting industry, so long under a cloud, has at last taken a very decided turn in the right direction, notwithstanding the fact that the removal by parliament of the legislative restrictions imposed upon it by the electric lighting act of 1882 seems as far off as ever. Numerous celebrations are projected in connection with the jubilee year of the accession of Queen Victoria, in many of which the electric light is to play a very prominent part. The battle of the patents still continues in connection with incandescent lamps, a monopoly in the manufacture of which is claimed by the Edison company, and is stoutly opposed by a number of manufacturers, headed by Messrs. Woodhouse and Rawson, who, beaten in the first trial, have appealed against the judgment of the courts, and will probably carry the matter, if necessary, up to the house of lords. That great competitor of the electric light, the gas industry, is now seriously hampered by the difficulty in disposing of its tar. The quantity of coal carbonized for gas-making in the United Kingdom is about 8,450,000 tons per year; and if the yield of tar be taken at 12.5 gallons per ton, specific gravity 1.165, it follows that 558,780 tons of tar are annually produced. Attention, therefore, is being directed to the best conditions under which tar can be burnt as fuel; and its injection into the furnace by means of steam, with an atomizing apparatus, is found to be one of the best methods. Such 'tar-steam' evaporates 10.7 pounds of water per pound of fuel, as against from 7 to 8 pounds evaporated by 1 pound of coal. W.

London, Oct. 13.

NOTES AND NEWS.

CORNELL university, taking up the plan outlined by President Adams last spring, will establish a law school, with a course of study extending over two years. The faculty will consist of a resident dean, a professor and an assistant professor, together with non-resident professors of special subjects. The faculty will be chosen in January, 1887, and a formal announcement of the new school will be made at that time. Cornell reports this fall 33 graduate students and 304 freshmen. The total enrollment is 794.

— Dr. Wiedermann, so long the amanuensis and pupil of von Ranke, is in an asylum near Berlin. He suffered so much from overwork on the last volume of Ranke's history, and from the nervous excitement attending the last illness and death of his master, that his mental powers became unsettled.

— The first of the Lowell free courses of lectures in Boston this winter given under the auspices of the Teachers' school of science of the Boston society of natural history, will be by Prof. W. M. Davis of Harvard college, on 'Problems in physical geography.' The program is as follows: — first and second lectures, 'Geographical classification,' illustrated by the classification of lakes according to the mode of origin of their basins; third lecture, 'Geographical evolution,' illustrated by the development of plains, plateaus, and their derivatives; fourth and fifth lectures, 'Geographical evolution, as seen in the volcanic series of geographic forms, all structures consisting of rock thrust up while molten from a deep subterranean source may be considered under this heading; the characteristic series of topographic forms developed during their wasting-away will be described. The lectures will be illustrated by maps, diagrams, and models: they will be given, as usual, in Huntington hall, at the Massachusetts institute of technology, beginning on Nov. 6.