CURRENT NOTES ON ANTHROPOLOGY.

LATER CRIMINOLOGY.

A FEW years ago most of us had considerable faith in Lombroso's 'criminal type.' We looked at ear-lobes and finger-nails, and thought we detected in them the 'stigmata of degeneration.'

This illusion was lost when it was found that in fact the criminal was about as well formed as the jury or the Judge. The 'criminal type' fell into oblivion.

But the 'criminal mind' remained. The psychology of evil doers must have something in it radically different from that of 'respectable people.' We forgot the force of the Rev. John Newton's saying, when he saw a thief led to the gallows: "There goes John Newton, but for the grace of God."

Now, however, such authorities as Näcke and Baer and Dallemagne have pronounced the whole edifice of 'criminal psychology' a phantom and a delusion. Criminals are just like other people of their sex, age and condition in life. They are tempted, fall and are caught (especially the last), and that is the only difference.

Such is the summary of the case in the Centralblatt für Anthropologie, 1898, Heft II.

THE DELUSION OF 'ATAVISM.'

'ATAVISM,' or 'reversion,' in the dialect of the evolutionist means a recurrence to a more or less remote ancestral type, and in theory it is brought about through the 'immortality,' as it has been boldly called (by Lapouge), of the germplasm (*Keimplasma*).

Some years ago (1894) I urged in a paper before the American Association that most so-called reversions in the human skeleton have other and better explanations. Now comes a Dutch physician, Dr. Kohlbrugge, and maintains that all alleged atavistic anomalies are merely neutral variations due to ordinary causes (mal-nutrition, use, disuse, etc); and, as they vary from a mean in one direction or the other, they assume a deceptive appearance of regressive or progressive variation, the former reaching to what has fallaciously been considered reversion and atavism. For this he brings considerable evidence. This book is published at Utrecht by Scrinerius, and is well reviewed in the Centralblatt für Anthropologie, 1898, Heft. 2.

ORIGIN OF THE CLIFF DWELLINGS.

IN the *Bulletin* of the American Geographical Society, No. 2, 1898, Mr. Cosmos Mindeleff has a thoughtful article on the origin of the cliff dwellings.

He shows with satisfactory clearness that they are 'the direct result of the peculiar geographic environment.' Like the Pueblos, they are completely adapted to the country in which they are found. Only the 'kivas' or estufas may be regarded as a transplanted feature. These are 'undoubtedly a survival from the time when the people lived in circular lodges, like the Navahoes of to-day.' Many of the sacred ceremonies could be properly performed only in a circular chamber. The cliff ruins exhibit a long sequence of time, but not a development.

He concludes with the general maxim: "The study of an Indian art is the study of the conditions under which it was developed."

In this connection I should mention a carefully prepared article in the *American Anthropologist* for May, by Walter Hough, on 'Environmental Interrelations in Arizona.'

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SCIENTIFIC NOTES AND NEWS.

EXTENSION OF THE WEATHER SERVICE.

THE Weather Bureau has decided to make an important extension of its service by establishing ten or more stations on the Caribbean

Sea. It is expected that a central station will be established in Jamaica or Cuba which will be under the direction of Professor Mark Morrill, now at Washington, and W. B. Stockton, now at Cleveland. Stations will probably be situated on Barran Quilla, Columbia, St. Kitts (southeast of St. Thomas), Trinidad, Curaçao, Martinique, San Domingo and the Barbadoes, and on the north coast of South America. Among those who it is expected will be assigned to these stations are Messrs. Franklin G. Tingley, of Indiana; John W. Towers, of New York; Thomas Crawford, of Jacksonville, Fla.; Frank A. Davis, of Philadelphia; Louis Dorman, of Pittsburgh, and John M. Ryker, of Galveston.

It is planned to make weather charts for the region extending from Central America to the Caribbean islands and from the southern coast of North America to the northern coast of South America. Reports, forecasts and warnings will be sent out to the central station and thence to Washington, whence they will be distributed wherever needed. In cases where indications of an approaching tornado occur the observers will be empowered to send out telegraphic warnings at intervals of two hours, so that a place within the path of the tornado will have ample time to make preparations before the actual arrival of the storm. It is hoped by this means to aid and safeguard the important commercial undertakings which are being rapidly built up in the region.

THE SPECTRUM OF METARGON.

PROFESSOR ARTHUR SCHUSTER writes to *Nature* that in the account given by Professor Ramsay of his researches on the 'Companions of Argon' he has omitted to draw attention to a very curious similarity between the spectrum of his new gas 'metargon' and the ordinary spectrum of carbon, with which every student of spectrum analysis is familiar.

The following comparison of wave-lengths will make the similarity apparent:

	Ramsay's metargon.	Carbon (Angström and Thalén.
Citron band 1 ...	5632·5 ...	5633·0
2 ...	5583·0 ...	5583·0
3 ...	5537·0 ...	5538·0
Green band 1 ...	5163·0 ...	5164·0
2 ...	5126·5 ...	5128·0
Blue band 1 ...	4733·5 ...	4736·0
2 ...	4711·5 ...	4714·5
Indigo band ...	4314·5 ...	4311·0

There are three of Ramsay's bands not included in this list, but these are nearly coincident with known bands in the cyanogen spectrum.

It seems hardly credible that Professor Ramsay has not guarded against the possibility that all these bands may be due to carbon, and not to a new gas; but some explanation seems required, for, though the coincidences in the two sets of bands is not complete, there is no case known in which two different elements have spectra so nearly alike as those of carbon and metargon seem to be.

THE BRITISH GOVERNMENT AND ANTARCTIC EXPLORATION.

WE have on several occasions called attention to the efforts made by the Royal Geographical Society and the Royal Society to obtain the cooperation of the British government in sending an expedition for the exploration of the Antarctic Continent and Ocean. We regret to learn that the government has declined to undertake to make itself responsible for the expedition. The official letter addressed by Sir Clements Markham to Lord Salisbury on October 26, 1897, has just been made public. In its course Sir Clements says:

Last year, under instructions from the Council of the Royal Geographical Society, I brought the matter to the notice of the First Lord of the Admiralty, as it was felt that such an expedition should be a naval expedition, in accordance with all precedents. A reply was received, dated the sixth of April last, to the effect that the Lords Commissioners of the Admiralty regret to be unable to take any part in the organizing of such an expedition, but that at the same time they regard the enterprise as one which is important in the interests of science. Although the present exigencies of the naval service prevent their lordships from lending officers, they will watch the result with great interest, and will be prepared to aid in other ways.

Great regret will be felt throughout the country that the navy should be deprived of the conduct of enterprises of this character, which have always belonged to it from the days of Anson, and from the results of which not only the naval service and the

country, but the whole civilized world, have derived benefit.

But this unfortunate inability, caused, in the opinion of their lordships, by the exigencies of the present time, does not preclude the despatch of an Antarctic expedition under the sanction and authority of her Majesty's government, led by competent seamen and scientific persons who could perform this difficult service satisfactorily.

Grants from the Treasury for such purposes have been so frequent that they may be considered as part of the public policy of the country. To mention those only which were directly connected with this Society, there were the grants in aid for the expeditions of Schomburgk, of Burton, of Speke, of Livingstone, of Cameron, and, more recently, the grant of £1,000 in connection with Mr. Leigh Smith's Arctic expedition. * * * An Antarctic expedition would be most efficiently conducted if the funds were supplied and the details were organized by the government, perhaps through the agency of a specially appointed committee. At the present time, even apart from naval officers, there are scientific seamen and travelers of experience known to myself and my Council who would form a capable staff. My Council trusts that such an arrangement will secure your lordship's approval. An alternative course would be that, with the aid of grants from the Treasury and the governments of the Australasian colonies, the Council of this Society should undertake the responsibility of equipping and despatching the expedition.

The final reply from the Foreign Office, dated Jnne 9, 1898, says:

That after carefully consulting the authorities at the Treasury and the Admiralty, Lord Salisbury is unable, under existing circumstances, to hold out any hope of the government embarking upon an undertaking of this magnitude. Lord Salisbury has made inquiry through the Secretary of State for the Colonies as to the attitude of the Australasian colonies towards the proposal for further Antarctic exploration; and he is informed that at the recent Conference of Premiers held at Melbourne in March last it was resolved that those colonies should take no joint action in the matter; and the cooperation anticipated by the Society from that quarter will not apparently be afforded by the colonial governments.

The Royal Geographical Society will now endeavor, without the aid of the British government, to obtain the funds for an expedition to be sent out under the Society's auspices. They have authorized the President to take steps to obtain subscriptions to the amount of not less than £50,000; the Society itself contributes £5,000.

PROFESSOR KOCH ON THE PLAGUE.

PROFESSOR KOCH was the guest of the German Society for Public Hygiene on July 7th, and delivered an address on the subject of the plague, in which he dealt especially with his discovery of a plague center in the *Hinterland* of German East Africa, whither the disease had been introduced from Uganda. According to the report in the London *Times* he gave a survey of the recent epidemics in Mesopotamia, Persia, China and India, which pointed out that the view entertained ten years ago that the plague was no longer a danger to the nation was shown to be untenable.

A rich harvest of results had been reaped from the study of the plague with the aid of modern means of investigation. The disease had been demonstrated to be caused by bacteria, and useful lessons had been drawn regarding the best methods of combating its ravages. There were excellent prospects of progress in the direction of creating artificial immunity. The part played by rats in the dissemination of the plague has been elucidated, so that it might be said that the plague was really a rat disease. One question, however, to which a satisfactory answer had not yet been given related to the ultimate origin of the disease. The old explanation that it was found wherever dirt and social misery prevailed was inadequate. There must be places where it was endemic and whence it was transplanted into districts that had hitherto been free from infection Former outbreaks could be traced back to Mesopotamia, where the plague had never entirely disappeared. But whence came the Chinese plague? It could be proved that its endemic center was in Hunan. Tibet was a second center, and the latest outbreaks in China, as in India, had their origin there. The third center was on the west coast of Arabia, in the vicinity of Mecca. This center had a special importance in view of the numerous pilgrims who visited it, but it was, after all, doubtful whether the plague was endemic in the neighborhood of Mecca. The constant cases which occurred there might only be survivals of the disease as introduced by large masses of people from abroad. Nothing had hitherto been known of any other plague center besides these enumerated, but Professor Koch

now claimed to have discovered a fourth center in Equatorial Africa. It had been found that a devastating disease prevailed at Kissiba, in the extreme northwest corner of German East Africa, close to the Victoria Nyanza. Suspecting that it was the plague, Professor Koch proceeded from India to East Africa, in order to make investigations. With the help of Dr. Zupitza, who made a special expedition to Kissiba, he had been enabled to identify the disease as the bubonic plague. In the case of five persons who had died from the disease anatomical preparations were obtained and the blood and lymphatic glands of plague-stricken patients were bacteriologically examined. All the ordinary features of the bubonic plague were present. Nine out of ten of those who were infected died. The disease was communicated to rats and to monkeys. It was found that an outbreak of the plague among rats frequently preceded a human epidemic, and, in fact, the rat plague might always be regarded as a warning.

GENERAL.

We learn with much regret that on the ground of ill health Sir William Flower has resigned the directorship of the Natural History Museum, London.

The Berlin Geographical Society has elected as honorary members Professor W. M. Davis, Mr. G. K. Gilbert, M. A. de Lapparent and Professor H. Mohn.

The University of Michigan has conferred the degree of LL.D. on Dr. A. Jacobi, clinical professor of the diseases of children in Columbia University.

Hamilton College has conferred the degree of Sc.D. on Mr. William R. Brooks, Director of the Smith Observatory, at Geneva, N. Y.

Dublin University has conferred *honoris causa* the degree of Sc.D. on Mr. Robert Henry Scott, Superintendent of the Meteorological Department in London.

We regret to record the death of Professor Anton Kerner, Ritter von Marilaun, the eminent botanist, professor in the University of Vienna.

Mr. Alexander Whyte has been appointed, by the British government, scientific adviser in Uganda, where he will establish a botanic garden and experiment station.

Mr. E. B. Dunn, Local Forecaster of the Weather Bureau, in New York, has resigned the position, which he has held for the past fifteen years; Mr. Eben H. Emery has been appointed his successor. Mr. Emery is a graduate of Bates College, and has been connected with the weather service for fourteen years. During the past four years he has been First Assistant in New York, and his promotion is in accordance with the principles of civil service reform.

Dr. Oswald Lohse, of the Astrophysical Observatory in Potsdam, has been promoted to the rank of a professor.

Professor D. G. Ritchie, of St. Andrews, has been elected President of the Aristotelean Society, London.

The Epidemological Society of London has made the first award of its Jenner Medal to Mr. William Henry Power, F.R.S., Senior Assistant Medical Officer of the Local Government Board.

The Physico-agricultural Society, which in 1798 removed from Mohrungen to Königsberg, offers in commemoration of the centennial celebration a prize, the cost of which is defrayed by Dr. Walter Simon. The subject proposed is a research on 'Animal or Plant Electricity' and the value of the prize is 4000 Marks. The competition closes on December 31, 1900, and is open to citizens of any country. The essays may be written in German, French, English or Italian and may be published at any time after September 30th, of the present year.

At a meeting of members of the Royal Institution on July 6th special thanks were returned for the following donations to the fund for the promotion of experimental research at low temperatures: Mrs. G. J. Romanes, £5; Sir Frederick Bramwell, £100; Professor Dewar, £100; Dr. Ludwig Mond, £200; Mr. Charles Hawksley, £100; Sir David Salomons, £21; and Dr. Rudolph Messel, £100.

Sir Robert Rawlinson, formerly Chief Engineer Inspector of the London Local Government Board, who died on May 28th, aged 88 years, bequeathed £1,000 to the London Insti-

tution of Civil Engineers. He also left a large sum, apparently about £35,000, to St. Thomas Hospital, London.

THE International Congress of Zoology, which opens at Cambridge on August 22d, will be divided into four sections: (a) General Zoology; (b) Vertebrata; (c) Invertebrata (except the Arthropoda); (d) Arthropoda. There will be two general discussions, one on 'The Origin of the Mammalia,' opened by Professor Osborn and Professor Seelye, of London, and one on 'The Position of Sponges in the Animal Kingdom,' opened by Professor Delage, of Paris, and Mr. Minchin, of Oxford.

WE are requested to state that it has been agreed by the Executive Committee that ladies attending the Fourth International Congress of Zoology at Cambridge in the company of a member may become associates on the payment of 10s. This payment shall entitle them to attend the general and sectional meetings, and the receptions held during the meeting of the Congress at Cambridge. An associate's ticket shall not be transferable and shall not entitle the holder to receive a copy of the final report.

AT the Washington meeting of the National Educational Association the Natural Science Department received reports from the several committees of twelve charged with the preparation of a course in science for the secondary schools. The subjects considered are physics, chemistry, physical geography, zoology and botany. The committees represent the Natural Science Department of the National Educational Association, the American Association for the Advancement of Science, and the several Associations of Colleges and Preparatory Schools. The chairmen for the five subjects were appointed as a committee to correlate the reports and to present, as soon as practicable, a matured scheme of science instruction for the schools. The chairmen are: for physics, Professor E. H. Hall, of Harvard; for chemistry, Professor Alexander Smith, University of Chicago; for physical geography, Professor Albert Perry Brigham, Colgate University; for zoology, Professor H. B. Ward, University of Nebraska; for botany, Professor J. M. Coulter, University of Chicago.

THE Russian Association of Naturalists and Physicians will hold its tenth meeting at Kief during the last week in August.

THE Ninth Congress of French Alienists and Neurologists will open at Angiers on August 1st, under the presidency of Dr. Mottet. The Fourth French Congress for the Study of Tuberculosis from the 27th of July to the 1st of August, under the presidency of Professor Nocard.

THE Sixteenth Congress of the Sanitary Institute will be held at Birmingham, England, from September 27th to October 1st, under the presidency of Sir Joseph Fayrer. There will be three sections: (1) sanitary science and preventive medicine; (2) engineering and architecture, and (3) physics, chemistry and biology. There will also be special conferences and an exposition. Dr. Christopher Childs will lecture before the Congress and Dr. A. Hill will give a popular lecture.

A PROPOSAL has been made by the Bombay Medical and Physical Society to hold a congress at Bombay at the beginning of the winter to make a thorough study of the plague.

THE Mining Congress, in its recent session in Salt Lake City, has adopted a memorial to Congress asking for the creation of a department of mines and mining. The next meeting of the Congress will be in Milwaukee, beginning September 7, 1899.

MAYOR VAN WYCK, of New York, has made a statement before the Board of Estimates stating that he is not opposed to the Public Library, the Botanical and Zoological Gardens and the Museums, but he thinks that they should be owned and controlled by the city. He stated that he would favor appropriating $15,000,000, if necessary, for a public library. A few weeks ago, however, the Mayor said that the $150,000 needed to prepare the site for the new public library could not be given because the city had exceeded its debt limits. The construction of the library was authorized before the present administration came into office, and it is to be hoped that the money already appropriated cannot long be withheld.

THE Committee of the House of Commons on the Museums of the Science and Art Department has recommended, as we have already

mentioned, the removal of the Museum of Practical Geology from Jermyn street to South Kensington. Many protests have been made against this plan and a memorial signed by about 500 members of the Geological Society has been presented to the government urging serious objections to it.

It is stated in *Nature* that the fourteenth annual general meeting of the Marine Biological Association was held on June 28th; Professor E. Ray Lankester, F.R.S., President, being in the chair. The Report of the Council dealt largely with the work done at the Plymouth Laboratory during the year. Reference was made to Mr. Garstang's investigations of the habits and migration of the mackerel; to Mr. Holt's researches on the reproduction and development of fishes living in the neighborhood of Plymouth, and their distribution at different ages; as well as to the experiments with floating bottles for determining the surface drift in the English Channel, and to the systematic investigation of the dredging and trawling grounds between the Eddystone and Start Point. Twenty-two naturalists and eight students were reported as having worked at the Laboratory since the last annual meeting, in addition to the members of the regular staff. The following were elected members of Council for the year: President, Professor E. Ray Lankester; Hon. Treasurer, J. A. Travers; Secretary, E. J. Allen. Council: F. E. Beddard, Professor Jeffrey Bell, G. C. Bourne, Sir John Evans, G. H. Fowler, S. F. Harmer, Professor Herdman, Professor Hickson, J. J. Lister, Sir John Murray, P. L. Sclater, D. A. Scott, Professor C. Stewart, Professor W. F. R. Weldon.

It will be remembered that sometime since Baroness Hirsch presented 2,000,000 fr. to the Pasteur Institute, Paris. It has been decided to use this sum for the construction and maintenance of a biological institute, which shall be placed opposite the Pasteur Institute, on the rue Dutot. M. Duclaux will be Director of the new Institute, while M. Gabriel Bertrand will have charge of the laboratories of physiological chemistry.

The Academy of Medicine of Paris has for forty years had no home, says the New York *Medical Record*, its meetings being held in the old chapel of the Charité Hospital. It owns ground near Luxembourg, which the government has appropriated for a school of chemistry. In compensation for this lot the French legislature has appropriated a sum sufficient for the purchase of a site for a building on the rue Bonaparte. On this ground the Academy will soon erect a suitable building, where its meetings can be held and which then will be used for storing transactions, for the library, or for the various departments which are under the care of the Academy—for instance, the vaccination department, the board in charge of prophylaxis and treatment of epidemic diseases, the board to which is intrusted the care of the various mineral springs, the sanitary and statistical departments, and the office for dealing with awards granted for sundry scientific researches.

We learn from the London *Times* that the Lord Mayor of Liverpool opened on July 4th another institution in connection with University College in that city. This is Ashton-hall, a museum and school of hygiene. The building was presented by the late Mr. George Holt, and remodeled with funds provided by Mrs. and Miss Holt and the Technical Instruction Committee. It is a large building, with well-lighted museum, laboratories and lecture room, the latter fitted with an electric air lamp. The museum rooms are well fitted, and are already stocked with numerous useful exhibits. The opening ceremony took place in the Arts Theatre of University College, under the presidency of Councillor Willink, Chairman of the Sanitary Science Instruction Committee. Dr. E. W. Hope said it was the late Mr. Holt's wish that the building should be devoted to some branch of medicine having for its object the promotion of public health, and the medical faculty of the College thought they would be giving effect to his wishes by using the building for a museum and school of instruction in public health matters and for research in subjects connected therewith. The building was well equipped for these purposes, including investigation of advanced sanitary problems, such as the purification of water and sewage, the action of disinfectants, and so forth. The

Lord Mayor said that, though it had only been in use a few months in the training of students who wished to become sanitary inspectors, 14 young townsmen had passed the examination and in due course would get certificates and be qualified to act as sanitary inspectors.

THE Select Committee on the Museums of the Science and Art Department, met again on July 5th, as we learn from the London *Times*, and made further progress with the consideration of their report. Certain paragraphs of a recommendatory character were postponed; but the portion of the Chairman's draft dealing with the origin and development of the several museums which remained to be discussed was finally disposed of, and when the Committee reassemble they will proceed at once to formulate their conclusions. Although the question of recommendations has yet to be dealt with, Sir Francis Powell's draft report has already undergone considerable alteration, not the least important of the amendments accepted by the Committee being one relating to the Bethnal-green Museum (submitted by Sir Mancherjee Bhownaggree) declaring that, inasmuch as no arrangement has been made to provide technical instruction in connection with this institution, the object of its inception remains unrealized. The official records show that the Bethnal-green Museum was established to provide for the working population of the East End adequate means of instruction, and that promises were repeatedly given that a school of science and art with a library attached should be started. The complaint from the locality is that no attempt has been made to redeem these promises.

A LETTER has been received by the London School Board from the London County Council stating that the Parks and Open Spaces Committee had considered the Board's letter of May 24th last, which enclosed an extract from a report from the British Embassy at Berlin, as to the arrangements in force in that city for facilitating the study of botany, and which asked the Council whether a somewhat similar arrangement could not be made in London. The County Council informed the Board that they were taking steps in this direction by forming a series of beds in Battersea, Ravenscourt and Victoria Parks, with specimens of plants in their natural orders, and added that the Parks Committee thought that it would be desirable to see the result of this experiment before proceeding any further for the present.

'A REVISION of the Genus Capsicum, with especial reference to garden varieties,' is the title of an article by Mr. H. C. Irish in the last report of the Missouri Botanical Garden. From it we learn that some years since, Dr. Sturtevant, then of the New York Agricultural Experiment Station, planned a systematic study of the *Capsicum*, from an agricultural rather than a strictly botanical standpoint, and, his material, notes and library having been subsequently presented to the Missouri Botanical Garden, for some years past all procurable varieties of this polymorphic genus have been grown in St. Louis and made the subject of current study. In the present paper Mr. Irish, the Horticultural Assistant at the Garden, brings together the result of this study, prefacing the systematic portion by a general account of Capsicums and their uses. A minutely divided analytical key to the garden peppers is provided, and in the synopsis these are all arranged under two species, *C. annuum* and *C. frutescens*, the several botanical and many horticultural varieties of which are described in considerable detail. An unusual feature, for a horticultural paper, is the very large citation of references, especially to early literature, many of which were accumulated by Dr. Sturtevant, and in the verification of which the magnificent pre-Linnæan library which he brought together has been invaluable. All of the principal varieties are represented in simple but effective outline drawing. Mr. Charles Henry Thompson, who last year published a study of the Wolffiellas of the United States, contributes to the *Report* a careful revision of all of the Lemnaceæ occurring in the United States, in which analytical keys and good illustrations are provided for the ready determination of the species.

A CIRCULAR has been issued by The Bureau of Mines, Toronto, stating that the first discovery of Corundum in Ontario was made late in the

year 1896, and exploration work carried on under direction of the government in 1897 shows that the Corundum-bearing lands have an aggregate area of about 50,000 acres, lying in the townships of Carlow, Bangor, Raglan, Radcliffe, Brudenel, Lyndoch and Sebastopol, in the counties of Hastings and Renfrew. The mineral rights over nearly the whole of this tract are held by the crown, and they have been withdrawn from sale and lease pending a report on the occurrence of the mineral and the methods of treating it, undertaken by the professors of the Kingston School of Mining. This report and a map of the Corundum region has been published, and copies of it may be had on application to the Bureau of Mines, Toronto. The attention of prospectors, miners and capitalists is invited to the district, and, with a view to its development and the establishment of industries in the Province for treating and utilizing the Corundum ore, proposals will be received until the first day of September next. Preference in the selection of mineral lands will be given to parties who will undertake to conduct mining and treating operations on the largest and completest scale, and who can furnish satisfactory assurances that they possess the requisite capital for the proposed operations, including separation of the ore from its gangue, milling for abrasive uses, manufacture of abrasive goods, and the production of aluminium if the ore is suitable therefor. Water-power of large capacity is available in the locality for electrical and other works; and during the summer season the lands are easily accessible by steamboat from Barry' Bay station, on the line of the Ottawa, Arnprior and Parry Sound Railway. The lands will be disposed of under the leasehold system, renewable for fixed periods indefinitely at a low rental, subject to the performance of working conditions as provided in the regulations governing the same.

We learn from *Natural Science* that the Trustees of the British Museum have recently purchased the large collection of marine animals formed by Canon A. M. Norman, and containing type-specimens of many species which he has established. Part of the collection is already in the Museum; the rest will go there eventually. The Edinburgh Museum of Science and Art has recently acquired the valuable collection of fossils from the Upper Silurian rocks of the Pentland Hills, made by the late David Hardie, of Bavelaw. It is especially rich in specimens from the Eurypterid beds of Gutterford Burn, near Carlops, Peeblesshire; there are also specimens, chiefly sponges, from North Esk.

In view of the importance of photography for scientific expeditions Mr. W. J. Stillman writes to the London *Times* on experiments made by him, demonstrating the advantage, of using 'cut-films' of celluloid as a substitute for glass. These films are shavings, about the fourth of a millimeter in thickness, from a solid block of celluloid, practically not breakable, and lying flat in the holder like glass. Mr. Stillman writes as follows: "Considering the extreme portability and infrangibility of these films and their inestimable superiority in these respects over glass, and in other respects over paper, I think that these experiments have a high value for scientific voyagers, to whom photographic illustration is so important and the difficulties of photographic operation *en voyage* are so great. *A priori*, as the celluloid is produced under the action of strong acids, and has a certain tendency to liberate the acids with time, their action tending to cause insensibility in the haloid which holds the photographic image, I believed that in so long a time as is covered by my experiment they would have become quite insensible, but I did not see that in this respect there was much falling off. A little there probably is, for in the case of films of the highest sensibility I have found that impressibility for all practical purposes had disappeared after a year, those of lower sensibility losing less in proportion; but this is of absolutely no moment, exposure in the camera for a second more or less being a matter of no importance. The fact that a traveller may with this portable and unbreakable material spend years in the most difficult explorations with photographic record possible at all stages, and develop it on his return home, ought to be of scientific import."

Technical inventions naturally lead to the invention of new names, but rarely in such variety as the following synonyms, for all of which we cannot, however, vouch, collected by

a daily paper: Vitascope, kinetoscope, phantoscope, criterioscope, cinematograph, biograph, kinematograph, wonderscope, animatoscope, vitagraph, panoramograph, cosmoscope, anarithmoscope, katopticum, magniscope, zeoptrotrope, phantasmagoria, projectoscope, variscope, cinograph, cinomograph, hypnoscope, centograph, x-ograph, electroscope, cinagraphoscope, craboscope, vitaletiscope, cinematoscope, mutoscope, cinoscope, animaloscope, theatograph, chronophotographoscope, motograph, kinetograph, rayoscope, motorscope, kinetinephone, thromotrope, phenakistoscope, venetrope, virtescope, zinematograph, vitopticon, stinetiscope, vivrescope, diaramiscope, lobsterscope, cormonograph, kineoptoscope.

UNIVERSITY AND EDUCATIONAL NEWS.

DR. E. BENJAMIN ANDREWS, President of Brown University, has been elected Superintendent of the Chicago Schools by the Board of Education. Thirteen votes were cast for Dr. Andrews and six for Albert G. Lane, the present Superintendent. Dr. Andrews will accept, and will assume the duties immediately. Professor Benjamin Ide Wheeler, who holds the chair of Greek at Cornell University and is an alumnus of Brown University, is prominently mentioned in connection with the vacant presidency.

PROFESSOR JOHN M. COULTER, head of the department of botany in the University of Chicago, is Principal of the Winona Assembly and Summer School, which is holding a session from July 4th to August 28th. The buildings and grounds have been fitted up at a cost of about $300,000.

THE sixth volume of the *Annual Register* of the University of Chicago is a book of 480 pages. The summary of attendance shows a total enrollment for the year of 2,307 students, 1,428 men and 879 women. By quarters the figures are:

Summer, '97,	1273
Autumn, '97,	1170
Winter, '98,	1169
Spring, '98,	1094

THE enrollment of students in the University of Nebraska for the year 1897–98 was as follows:

Graduate students,	143
Collegiate students	993
Law students,	102
Special professional students,	30
Agricultural and mechanical school,	36
School of art and music,	325
Preparatory school	190
Summer school	262

Deducting duplicated names there were 1915 in all, of which 1,043 were men and 872 women. The instructional staff and assistants numbered 184.

TWO hundred and fifty students were enrolled in the summer session of the University of Nebraska, June 6th to July 16th. Hitherto this has been a semi-independent summer school, but this year the experiment was made of offering condensed courses of regular University work. By more frequent meetings of classes and more hours per week in the laboratories, as much was accomplished in many subjects in six weeks as in a full semester under ordinary conditions. The success of the summer session just closed encourages the University authorities to continue the experiment next year. Fully sixty-five per cent. of the students in this session were teachers in the schools of the State.

IT has been ordered by the Russian Minister of Public Instruction that the number of Jewish students in any faculty of the University of Moscow shall not exceed three per cent. of the total number of students in that faculty.

THE Egyptian Ministry of Public Instruction advertises for a senior and a junior professor of agriculture for the School of Agriculture, Gheezeh. The salaries are about $2,500 and $1,500 per annum. Applications may be made before August 12th to the Principal of the School, W. C. Mackenize, D.Sc., 6 Hartington Gardens, Edinburgh.

IN the absence of Mr. W. H. R. Rivers, who is accompanying Professor Haddon on his expedition to the Torres Straits, courses in experimental psychology in University College, London, will be given by Mr. E. T. Dickson.

DR. WILLY KUNKELTHAL, associate professor of zoology at Jena, has been called to a full professorship in Breslau; Dr. F. J. Becker, professor of mineralogy in the German University at Prague, has been called to Vienna.