

nation was not reproducing itself at the same rate as of old; the less able and the less energetic were more fertile than the better stocks. No scheme of wider or more thorough education would bring up in the scale of intelligence hereditary weakness to the level of hereditary strength. The only remedy, if one were possible at all, was to alter the relative fertility of the good and bad stocks in the community. Grave changes had taken place in relative fertility during the last forty years. He ventured to think that we now stood at the beginning of an epoch that would be marked by a great dearth of ability. We had failed to realize that the psychical characters—the backbone of a state in the modern struggle of nations—were not manufactured by home and school and college; they were bred in the bone, and for the last forty years the intellectual classes of the nation, enervated by wealth or by love of pleasure, or by following an erroneous standard of life, had ceased to give us in due proportion the men wanted to carry on the ever-growing work of our empire, to battle in the fore rank of the ever-intensified struggle of nations. The remedy lay first in getting the intellectual section of our nation to realize that intelligence could be aided and be trained, but that no training or education could create it. It must be bred; that was the broad result flowing from the equality in inheritance of the psychical and the physical characters in man, and that result constituted a problem for statecraft to deal with.

SCIENTIFIC NOTES AND NEWS.

PRESIDENT SCHURMAN, of Cornell University, has proposed the erection of a new building for Sibley College, in memory of the late Professor Thurston, to be known as Thurston Hall. The students of Sibley College have voted to erect a bronze memorial tablet in honor of Professor Thurston.

DR. C. S. SHERRINGTON, professor of physiology at Liverpool University, will give the second series of Silliman lectures at Yale University.

PROFESSOR H. S. JACOBY, of Cornell University, is spending the present term in the

practical study of the bridges of the chief railroads of the United States and Canada.

PROFESSOR J. CULVER HARTZELL, of the Illinois Wesleyan University, is in Munich, having been given leave of absence for eighteen months. He is studying the upper devonian of Europe. The past seven months he has spent in Germany, and the next five months will be spent in Italy and Switzerland.

WE learn from Bulletin No. 4 of the Bureau of Agriculture of the Philippine Islands that Dr. Janet Perkins has been authorized by the Carnegie Institution to work on the Philippine flora at the Botanical Garden in Berlin.

DR. LLEWELLYS F. BARKER, professor of anatomy in the University of Chicago, sailed for Europe on November 7.

PROFESSOR E. W. SCRIPTURE, of Yale University, is in Munich carrying on researches on the analysis of speech by means of gramophone records, under the auspices of the Carnegie Institution.

PROFESSOR H. S. HELE-SHAW, who holds the chair of engineering at Liverpool University, has been appointed, through the Colonial Office, to organize technical education in the Transvaal and the Orange River Colony. The appointment is not a permanent one, and Professor Hele-Shaw has been granted leave of absence by the university council until September next.

THE committee of the National Physical Laboratory has appointed Mr. W. A. Caspari to the post of junior assistant in the chemical department.

WE learn from *Nature* that Mr. G. Marconi, in company with Captain H. B. Jackson, has gone to Gibraltar to carry out further experiments in wireless telegraphy for the Admiralty. It is hoped to be able to open communication with Gibraltar before losing touch with Portsmouth.

BARON E. NORDENSKIÖLD has arranged to make a zoological and anthropological expedition to the frontiers of Peru and Bolivia. The expedition will start from Stockholm at the end of December or the beginning of January.

WHILE students of the Agricultural College

at the Ohio State University were witnessing on November 6 the harvesting of a field of corn for ensilage purposes by a machine operated by an old traction engine, the boiler exploded and pieces of iron were thrown through the crowd of students. The engineer was killed, and Vernon H. Davis, assistant professor of horticulture, was injured.

WE learn from *Nature* that the bust of John Dalton, presented to the Manchester Literary and Philosophical Society by Sir Henry E. Roscoe on the occasion of the centenary of the announcement of the atomic theory, was unveiled on October 20. The secretary read the following letter from Sir Henry Roscoe: "I desire to present to the Literary and Philosophical Society of Manchester a bronze bust of Dr. Dalton, as a memento of the many years of pleasant intercourse which I have in past days spent in converse with its members, and as a recognition of the honor which the society has done me by electing me as an honorary member, and in bestowing upon me its Dalton Medal. The bust is the work of a distinguished sculptress, Miss Levick, and I believe that all those who have seen it agree with me in esteeming it a powerful and lifelike work of art. It will give me great satisfaction to hear that the society accept my gift, and that they value the bust as a work of art and as a reminiscence of the donor." The president, in formally unveiling the bust, observed that it was a happy coincidence that this meeting took place on the anniversary of the date when Dalton communicated to the society his paper on absorption of gases by water, in which was given the first hint of the atomic theory.

DR. FRANK RUSSELL, one of the most promising of the younger American anthropologists, recently of Harvard University, died of tuberculosis in Arizona on November 7.

THE death is announced of Dr. C. T. Hudson, F.R.S., known for his investigations on the rotifers.

At a meeting of the Kalamazoo Academy of Medicine held on November 3, Dr. F. G. Novy presented the results of work carried on, with the cooperation of Mr. McNeal, in the Hygienic Laboratory of the University of Michigan relative to the cultivation of the

trypanosome of Nagana or the Tsetse-fly disease of South Africa. They have succeeded in cultivating this flagellata, *in vitro*, for the past two months (68 days), through six generations. The fresh active cultures reproduce the disease in animals, modified cultures are without virulence and may possibly serve as vaccines. The method of cultivation is the same as that employed for the cultivation of rat trypanosomes, published in the Vaughan *Festschrift*. The rat and Nagana trypanosomes are the first pathogenic protozoa cultivated in pure condition outside of the body.

It appears that Rear-Admiral R. B. Bradford, chief of the Bureau of Equipment of the Navy Department, in his annual report to Secretary Moody, says that the commission appointed to consider the question of transferring to the Department of Commerce and Labor the hydrographic office, the naval observatory and the nautical almanac office, has reached the conclusion that it would be unwise to transfer these offices from the jurisdiction of the Navy Department on account of their nautical character and their indispensable aid in preparing for war. The bureau says it learns that it is proposed to place these offices under civilian control, and attach them to the secretary's office.

THE new observatory of Amherst College, the corner stone of which was laid on June 23 last, has so far advanced toward completion that the first series of regular observations was begun by Professor Todd and his assistant, Mr. Baker, on October 28. The sum of \$100,000 has been raised for endowment, observatory building, protection of the site, instrumental equipment and the director's residence.

As we stated last week, the Academy of Natural Sciences of Philadelphia has received from Dr. Thomas Biddle a collection of anthropoid apes. It consists of mounted skins and skeletons of the gorilla, two adult specimens of the bald chimpanzee, young male of the common chimpanzee and an aged male orang. All were mounted by Umlauff of Hamburg. The gorilla is an adult male in perfect condition, and in life must have weighed at least three hundred and twenty-five pounds. At the regular meeting of the

academy on November 3, the collection was formally presented by Dr. H. C. Chapman and Mr. A. E. Brown, before the largest audience ever gathered in its lecture hall.

ENGLISH papers state that Mr. F. du Cane Godman has recently presented to the British Museum (of which he is a trustee) a collection of nearly 30,000 specimens of beetles, following on a previous donation of 50,000. The present collection consists mainly of representatives of the family Elateridæ, the bulk being from Central America.

THE fourteenth International Congress of Americanists will be held at Stuttgart from August 18 to 23, 1904, under the presidency of Professor Karl von den Steinen. The general secretary is Professor K. Lampert, Stuttgart, Archivstrasse 3.

A CABLEGRAM to the daily papers states that the *Terra Nova* arrived at Hobart, Tasmania, on October 1. The *Morning*, the relief ship of the Royal Geographical Society, is expected daily. The two vessels will start to the relief of the *Discovery* during the first week in December.

THE Linnean Society of New South Wales has acquired the compass and sun dial used by Charles Darwin on the voyage in the *Beagle*.

THE daily papers say that a meteorite, weighing from ten to twenty tons, has been discovered near Oregon City, Ore.

AT recent sales in London a complete set of *Curtis's Botanical Magazine* from 1787 sold for £120; a copy of 'The Herball, or Generall Historie of Plantes,' 1597, for £15 15s., and 'De Arte Supputandi,' printed by R. Pynson, 1522, the first treatise in arithmetic published in England, for £20.

Nature states that the zebra stallion Matopo, which has been described and figured by Professor Cossar Ewart in his book 'The Penyuik Experiments,' and was the sire of some interesting zebra-horse hybrids, is dead. This zebra was purchased some time ago by Mr. Assheton-Smith, Vaynol Park, Bangor, who was hopeful that he might find it possible to repeat some of Professor Ewart's experiments, but unfortunately his expectations have not

been realized. Whilst retaining the skin, he has presented the skeleton of the zebra to the University College of North Wales, where it will form a handsome addition to the zoological collection. It may also be noted that to this college Professor W. A. Herdman, F.R.S., of Liverpool, recently made a donation of some fishes from Ceylon and Indo-Malaya which he collected when in the east investigating the pearl fisheries of Ceylon. Professor D'Arcy Thompson, C.B., Dundee, has also presented a skeleton of the somewhat rare sea otter (*Enhydra*) from Alaska.

WORD has come to the office of the United States Geological Survey that Mr. L. M. Prindle has completed the reconnaissance survey of the Forty-mile gold placers and also of the Seventy-mile placer fields in Alaska. He is now investigating the auriferous placers of the Birch Creek district, where he was joined by Mr. Alfred H. Brooks. Together they will make a hasty examination of the newly discovered gold fields on the lower Tanana River. Mr. Brooks spent a few days in the Juneau district with Dr. Arthur C. Spencer and Mr. Charles W. Wright. The areal mapping of the Juneau Special quadrangle has been completed, and the study of the ore bodies has been begun. Dr. Spencer will make a hasty examination of the important gold mines at Seward and Berner's Bay, on the east coast of the Lynn Canal, in the latter part of the season. Mr. Wright, before joining Dr. Spencer, spent about three weeks in the Porcupine placer district, which lies above the head of the Lynn Canal, near the International Boundary. His results, which included a study of the economic conditions, will be prepared for publication in the early part of the winter. Dr. George C. Martin spent the month of June in the Controller Bay oil fields, and in August visited the Cook Inlet oil fields. Mr. Brooks, who has charge of the Alaskan work, will return to Washington about the end of October, after visiting the two parties engaged in mapping the placers of the Nome region.

MAJOR POWELL-COTTON, of the British Army, has, according to Reuter's Agency, just completed a journey in Eastern Equatorial Africa

lasting 20 months. The expedition has resulted in some thousands of miles of hitherto unknown country being mapped, and in the discovery of six new tribes, including a race of so-called magicians. Data have also been collected regarding the cave dwellers of Mount Elgon. Fifty different species of animals have been secured, some of which will probably prove to be new to science. The explorer also succeeded in bringing back some perfect specimens of five-horned giraffes. For several months the expedition was traversing a region between the Upper Nile, Lake Rudolf and Lake Victoria in which no white men had previously set foot. Of the so-called magicians, whom Major Powell-Cotton came upon half way between Lake Rudolf and Lake Albert, and who in their appearance and their customs are quite distinct from any other tribe, he gives the following account: "Their villages were remarkable. Built of wattle and grouped together in dozens on the upper slopes of the hills, these dwellings were constructed with two storeys, the upper floor being approached through a dormer window, reached from the ground by means of a rude ladder. At no other point have I seen native houses consisting of two floors. These people, living in the higher altitudes, are able to grow corn, while the warlike natives in the plains below are scorched by drought, and yet in such awe are the magicians held that the starving people below, who outnumber the hill villagers by perhaps a thousand to one, have never been known to attack them. These people had never before seen a white man, and during the several days I spent in their country they were quite friendly and supplied us with food."

A BULLETIN from the Bureau of Forestry states that the Territorial Government of the Hawaiian Islands will appoint as superintendent of forestry this winter a man furnished it by the Bureau of Forestry, who will take charge of important projects for the betterment of the islands' forests. The man appointed will have the responsibilities first of determining the location and the boundaries of a system of forest reserves, and later of superintending a great deal of forest planting both on public and private lands. The forest

conditions of the islands are unlike any that prevail in this country. Mr. William L. Hall of the Bureau of Forestry, who has just returned from a two months' examination of the islands, reports peculiar and interesting problems which forestry must solve there. The islands contain scarcely any forests capable of yielding timber of value for lumber. Nearly all the lumber used for building purposes comes from the Pacific Coast. But there are several hundred thousand acres of forest land of the greatest value for protective purposes. Indeed, so great is the importance of these forests that on their preservation depends the existence of the sugar industry, and that is equivalent to saying the continued prosperity of the islands. The sugar exports of the last fiscal year amounted to \$25,000,000, and sugar is practically the only export. The raising of sugar requires an enormous amount of water, nearly all of which must be supplied by irrigation, the water being carried in flumes and ditches from the wet, mountainous parts of the islands to the dry plains on which the sugar cane is grown. The rainfall of the islands is nearly all confined to the northeast and east mountain slopes, where it is tremendously heavy, some years more than 200 inches. On the other side of the divide, and in the plains beyond, where the sugar cane grows, there may be no more than 15 inches of rain a year. The forests are largely confined to the rainy side of the mountains, and are necessary as a protective cover, to keep the ground from washing from the slopes and the rain from rushing back too rapidly into the sea. The presence of the forest cover, since it makes the stream flow regular, preventing both floods and periods of low stream flow, is indispensable to the success of irrigating projects. The value of this forest, strangely enough, consists not so much in the trees it contains—for they are frequently low, crooked, and sparsely scattered—as in the impenetrable mass of undergrowth beneath them. This undergrowth, composed of vines, ferns and mosses, is of so dense a character that it shades the ground absolutely and holds water like a sponge. It is, however, exceedingly delicate and easily destroyed. Let cattle into

such a forest and they will speedily eat or trample down the undergrowth till the bare ground is exposed. The soil then rapidly dries out and becomes hard, and the trees soon die. Grasses, insects and wind usually hasten the destruction. Cattle and goats have ravaged the Hawaiian forests without hindrance for many years and have worked further each year into the heart of the dense tropical growth. The Hawaiian public lands consist of 1,772,640 acres. All of these lands, which are in forest, and many forest areas privately owned which the government can gain possession of by exchange, will be put into forest reserves, cleared of cattle and goats, fenced and preserved.

Bradstreet's says editorially: The enormous losses already suffered in Texas and the immense power for evil, not only to that state but to the entire south, contained in the onward march of the so-called Mexican boll weevil, lends interest to the fact that a convention has been called to meet in Dallas, November 5, to consider ways and means of checking its ravages. Invitations have been sent out to all parts of the United States interested in this problem, and especially throughout the cotton producing states of the south, not only to those handling cotton itself but to all principal dealers in kindred lines. Fully one thousand delegates are expected to assemble to consider the subject. The question is getting to be a serious problem, not only with Texas producers but the entire cotton producing section of the United States, and those interested regard it as a question that should be studied and considered by every section of the United States. Under the caption 'The Cotton Weevil, a National Danger,' *Bradstreet's* some six months ago advocated a careful consideration of this subject by Congress, and the beginnings of systematic work were laid in an appropriation by Congress of a sum of money to be used in studying the pest and, if possible, finding something to check its progress. We know of no single subject that contains more of importance to the entire country's economic interests than the devising of measures to arrest and, if pos-

sible, eradicate this scourge to the principal agricultural interest of the south.

UNIVERSITY AND EDUCATIONAL NEWS.

THE College for Women of the Western Reserve University has received from various donors \$50,000 for the enlargement of the campus.

At the last meeting of the trustees of Columbia University, gifts amounting to \$40,500 were acknowledged toward the fund for the purchase of South Field.

THE board of directors of the College of Physicians and Surgeons of Philadelphia has instructed President H. C. Wood to appoint a committee to obtain plans for the proposed new library hall, on Twenty-second street, above Chestnut. The site was purchased some time ago, at a cost of \$80,000. The college now has on hand a surplus of \$24,000 toward the construction of the hall. Mr. Andrew Carnegie gave \$50,000 for that purpose, and \$54,000 was raised by the college.

THE University of Wisconsin is planning to celebrate next June, with a week's exercises, the fiftieth anniversary of the first commencement.

WILLIAM F. DURAND, professor of Marine Engineering, has been appointed acting director of Sibley College, Cornell University, in place of the late Professor Thurston.

THE following appointments have been made in the College of Physicians and Surgeons, Columbia University: Dr. Samuel W. Lambert, professor of applied therapeutics; Dr. Joseph A. Blake, professor of surgery; Dr. George E. Brewer, professor of clinical surgery; Dr. John S. Thacher, professor of clinical medicine; Dr. Frederick Peterson, clinical professor of psychiatry.

At the Illinois Wesleyan University, Dr. J. K. P. Hawks has been appointed instructor in bacteriology, Dr. J. Whitefield Smith, instructor in biology, and Mr. Bartgis McGlone, instructor in botany.

EARL SPENCER has accepted the presidency of the Council of the Royal Agricultural College, Cirencester, in the room of the late Duke of Richmond and Gordon.