

Inspection of the photograph will show that the spectrum is very similar to the earlier spectrum of *Nova Aurigæ*. The hydrogen lines, notably C and F, are bright and very broad. The dark lines superposed upon them are probably reversals caused by the absorption of an outer layer of cooler gas at lower pressure.

On the more refrangible side the hydrogen lines are accompanied by dark lines, just as was the case with *Nova Aurigæ*. As Wilsing has shown, this is doubtless due to the great pressure under which the radiation occurs. The bright sodium line has broadened into a band, on which appear the two dark D lines. These appear on the photographs, and are clearly visible in visual observations with a three-prism spectroscope. As the titanium poles were moistened with a weak solution of sodium chloride, the comparison spectrum contains the bright sodium lines. Thus the motion of the star in the line of sight can be measured. Some preliminary determinations indicate that the *Nova* is moving away from the earth at a low velocity.

The helium line, D_3 , seems to be present as a dark line, lying close to the bright sodium band on the more refrangible side. The bright calcium lines H and K are notable for their great breadth and for the narrow lines of reversal which traverse them. The chief nebular line seems to be present ($\lambda 5002-5041$), and a fainter line or band ($\lambda 4911-4988$) covers the region of the second nebular line. The b group of magnesium is doubtless represented by the very bright band $\lambda 5154-5204$. The green coronal line ($\lambda 5303$) would fall near the more refrangible edge of a bright band in the spectrum of the *Nova*.

Further results, based upon measurements of photographs taken with the three-prism spectrograph, will be given in a subsequent paper.*

MARCH 12, 1901.

GEORGE E. HALE.

SCIENTIFIC NOTES AND NEWS.

PROFESSOR S. W. STRATTON has, in view of his appointment as director of the Bureau of Standards, resigned his professorship in the

* Note added March 18th. A comparison of photographs taken on March 4th and March 15th, shows

University of Chicago. He will go abroad soon to study similar institutions in foreign countries.

PROFESSOR GEORGE FREDERICK WRIGHT, of Oberlin College, arrived in New York on March 22d, after his geological expedition round the world.

DR. LEON VAILLANT, professor of zoology at the Paris Museum of Natural History, has been elected a member of the Zoological Society of London in the room of the late Alphonse Milne-Edwards.

At the banquet offered to M. Marey, the eminent French physiologist, by the Paris Club Scientia, to which we have already called attention, it was decided to present him with a medal, and a committee for this purpose has been appointed. Subscriptions may be sent to M. Masson, treasurer, 120 Boulevard Saint-Germain, Paris.

THE University of Glasgow will confer, on April 23d, its LL.D. on Dr. A. W. Rücker, secretary of the Royal Society.

DR. G. A. HANSEN, the discoverer of the lepra bacillus, will celebrate his 60th birthday on July 29th, and the occasion will be celebrated by the erection of a marble bust in the Lungegaard Hospital, Bergen, where he discovered the bacillus.

THE Society of Italian Agriculturists has awarded a special honor to Professor Grassi for his services to agriculture by his investigations on malaria.

DR. G. TORELLI, professor of mathematics at Palermo, has been awarded the mathematical prize of the Naples Academy of Sciences.

SECRETARY LONG has called a meeting of the Board of Visitors to the Naval Observatory in Washington on April 9th. The board, it will be remembered, consists of Mr. St. Clair McKelway, of the Brooklyn *Eagle*, President William R. Harper, of the University of Chicago, Professor Edward C. Pickering, of the Harvard College Observatory, Professor Asaph that the dark lines on the more refrangible edge of the bright hydrogen lines continue to increase in sharpness. At first single and rather diffuse, they have become sharply defined double lines. The b line of magnesium is apparently decreasing in intensity, and the calcium line K is much fainter than before.

Hall, Jr., of the University of Michigan, Professor Charles A. Young, of Princeton University, and Professor Ormond Stone, of the University of Virginia.

CAPTAIN BERNIER was at Ottawa last week with a view to obtaining a grant from the Government for his polar expedition. He has also opened subscriptions in the principal Canadian cities. He estimates the cost of the expedition at \$130,000.

THE amount of new blood on the recently elected Council of the Geological Society of London is not great, being confined to Professor Theodore T. Groom and the Right Reverend J. Mitchinson, D.D. We see that Dr. Mitchinson was elected a Fellow only last year, but he was bishop of Barbados and is now master of Pembroke College, Oxford.

DR. J. G. ADAMI, professor of pathology at McGill University, will attend the International Congress of Tuberculosis, to be held at London in July. He has been appointed vice-president of the section of pathology and bacteriology.

PROFESSORS ANDREW F. WEST and J. Mark Baldwin, of Princeton University, have been appointed delegates to the Ninth Jubilee of the University of Glasgow.

DR. EDWIN A. BARBER has been appointed secretary of the Pennsylvania Museum and School of Industrial Art and curator of the museum.

DR. ASAPH HALL has resigned from the Board of Managers of the Observatory of Yale University.

IT is reported that the Secretary of the Navy has decided not to order the trial by court-martial of Professor Stinson J. Brown against whom charges were filed by Capt. Charles H. Davis, Superintendent of the Naval Observatory, but has detached Professor Brown from duty at the Observatory and placed him on waiting orders. He will be detailed for duty elsewhere as soon as an assignment can be found. It is also reported that Captain Davis will probably be assigned to the command of a ship in the course of the summer.

MR. FRED J. ALLEN, of Auburn, N. Y., has been nominated by President McKinley as

Commissioner of Patents in the place of Mr. C. H. Duell, who has resigned in order to resume private practice.

KING EDWARD VII. has signified to the President and Council of the Marine Biological Association his pleasure in becoming the patron of the Association.

M. ANTON CARLÉS is making progress with the model for the monument of Pasteur which is to be erected in his native town. In addition to the statue of Pasteur, which is said to be very effective, there is a model personifying science who holds a wreath of laurel towards Pasteur, and another figure of a woman holding two young children who are supposed to have been saved from death by Pasteur's discoveries.

DR. GEORGE PRATT STARKWEATHER, assistant professor of applied mechanics in the Sheffield Scientific School of Yale University, died at New Haven on March 21st. Dr. Starkweather graduated from the Sheffield Scientific School in 1891 and was last year promoted from an instructorship to an assistant professorship. He was only twenty-eight years of age.

DR. GEORGE T. FAIRCHILD, from 1879 to 1897 president of the Kansas State Agricultural College, died on March 16th, in his sixty-second year. He was at the time of his death professor of English Literature at Berea College.

DR. JOHN W. GRIFFITH, for several years senior physician to the Finsbury Dispensary and medical officer of health to Clerkenwell, died recently at Camberwell in his 82d year. He was best known to naturalists as part author of Griffith & Henfrey's 'Micrographic Dictionary.'

THE death is also announced of Mr. W. J. Williams, for many years clerical assistant to the secretary of the Zoological Society of London.

ALEXANDER MACFARLANE, M.A., D.Sc., LL.D., will deliver a course of six lectures entitled 'British Mathematicians of the Nineteenth Century,' at Lehigh University, beginning April 12, 1901. The life and work of the following will be presented in the order named: George Peacock (1791-1858); Augustus DeMorgan

(1806-1871); Sir William Rowan Hamilton (1805-1865); George Boole (1815-1864); Arthur Cayley (1821-1895); William Kingdon Clifford (1845-1879). Those interested are invited to attend. Tickets of admission can be secured by addressing Professor C. L. Thornburg at the University.

THE Newberry Research Fund from the income of funds raised by the Scientific Alliance, New York, has been increased by an addition of \$50 by a gift of a friend of the Alliance. The award this year will amount to \$100 by action of the Council of the Academy and will be made in geology or paleontology. Application should be sent immediately to Professor Henry F. Osborn, Columbia University, New York City.

THE following gentlemen have undertaken to be responsible for the indexing of the literature of Great Britain and Ireland for the International Catalogue of Scientific Literature in the subjects named: *Anatomy*—Professor G. D. Thane, University College, London; *General Biology*—Professor E. A. Minchin, University College, London; *Physiology* (including *Pharmacology*)—Dr. W. A. Osborne, Physiological Laboratory, University College, London, or to Professor W. D. Halliburton, King's College, London; *Experimental Pathology*—Dr. T. G. Brodie, Examination Hall, Victoria Embankment, London, W. C.; *Bacteriology*—Mr. S. G. Shattock, St. Thomas's Hospital Medical School, London, S. E.; *Experimental Psychology*—Dr. W. H. R. Rivers, St. John's College, Cambridge.

THE International Association of Academies will hold a meeting in Paris on April 16th.

THE fifth Triennial International Congress of Physiologists will be held at Turin from September 17th to 23rd in Professor Mosso's laboratory. There will be an exhibition of apparatus from September 14th to 23rd. Americans proposing to attend the Congress can address Professor F. S. Lee, Columbia University, New York City.

THE triennial convention of weather bureau officials will be held at Milwaukee, Wis., on August 27th to 29th.

A CIVIL SERVICE examination will be held on April 23d and 24th for the positions of geologist

and assistant geologist in the Geological Survey for occasional service at a salary from \$3 to \$5 per diem.

ONE of the amendments to the Sundry Civil Appropriation Bill, passed by the fifty-sixth Congress, appropriated \$35,000 for the erection of a laboratory for the investigation of infectious and contagious diseases and matters pertaining to the public health, under the direction of the surgeon-general. Five acres of land, on which is situated the Naval Museum of Hygiene, have been set apart for the building.

THE California Legislature has appropriated \$100,000 for the State Board of Health to be used for the suppression of the plague. The Legislature has also passed a most extraordinary bill making it a felony to publish, by writing or printing, that Asiatic cholera or bubonic plague exists within the State unless the fact has been determined by the State Board of Health and entered upon its minutes. The San Francisco papers have apparently been only too ready to suppress information in regard to the plague in that City, and the passage of a bill of this character at the present time seems almost incredible. It has for a long time been known in medical circles that there have been cases of plague in the Chinese quarters in San Francisco, but the State authorities have denied their existence and have attempted to suppress any information in regard to the epidemic. It appears that Secretary Gage appointed some time since, in spite of the protest of the Governor of California, a commission to investigate the matter. This commission, consisting of Professor F. G. Novy, of the University of Michigan, Professor Simon Flexner, of the University of Pennsylvania and Professor L. F. Barker, of the University of Chicago, has made a thorough investigation and has presented a report which for the present has not been made public. In the meanwhile the Governor of California has sent a commission to Washington to protest against Federal interference, and has recommended a local investigation. It appears that the epidemic in San Francisco is but slight, but it will naturally be exaggerated by attempts to deny its existence for commercial reasons.

GOVERNOR VORHEES, of New Jersey, has

signed the Palisades Park bill and the Appropriation bill which carries an item of \$50,000 to aid in the purpose of preserving the Palisades and in establishing an inter-State park along the top of the bluff on the high rocks.

SECRETARY WILSON has authorized Professor Willis L. Moore, chief of the Weather Bureau, to create three new forecasting divisions, under the general authority of the last appropriation act. These divisions have been selected as follows: New England, headquarters at Boston; Western Gulf States, headquarters at Galveston, and Central Rocky Mountain plateau, headquarters at Denver. This will make a total of seven forecasting divisions in the weather service.

THE steamship *Discovery*, built for the British Antarctic Expedition, was launched on March 21st, from the yards of the Dundee Shipbuilders' Company. We gave last week some account of the ship and the scientific staff of the expedition.

THE following item is from the New York *Evening Post* of March 20th: "Peculiar circumstances surround the case of William Wallace, ex-Superintendent of Buildings at the Museum of Natural History, who resigned by request on January 10th. A lawsuit is under way before Judge Marean in the Kings County Supreme Court, special term, to-day, in which Mr. Wallace is alleged to have borrowed money as an agent of the Museum and appropriated it to his own uses. This money, it is further alleged, was borrowed from the contractors who are at work on the new buildings of the Museum. Work has been stopped because Mr. Wallace is alleged to have made contracts which he had no power to make. In reply to those who associate the facts that Mr. Wallace had borrowed money of the contractors and had then arranged contracts with them, Comptroller Coler, William E. Dodge, and others who are acquainted with the affairs of the Museum maintain a serious silence. The matter has been put in the hands of Edward M. Shepard, and to him each person referred inquirers. Mr. Shepard explained to-day that an investigation into Mr. Wallace's affairs was being made by the Museum authorities. "What you want to know,

I suppose, is Mr. Wallace's exact offence," said Mr. Shepard. "On that subject I cannot talk. The investigation, which will probably take three weeks, will establish that question. If Mr. Wallace has had any wrong doing with the contractors, it is so far a matter between themselves. This I will say, however, that if any contractor has lent money to Mr. Wallace, and then received contracts from Mr. Wallace's hands without the approval of the trustees, I do not think the contractor is in an enviable position, and I do not believe the contract would be legally valid."

WE learn from *Nature* that a small zoological expedition has started for the Malay Peninsula. It consists of Mr. N. Annandale, who was a member of the 'Skeat' expedition to the Siamese Malay States in 1899, and Mr. H. C. Robinson, hon. research assistant in the Zoological Department of University College, Liverpool. They intend to settle for a year in the native State of Jalor, near the east coast of Lower Siam, and to explore the neighborhood of Patani and Biseret. Collections will be made in all branches of natural history, while one of the special objects of the expedition is the study of the pre-Malayan tribes of Negrito stock who inhabit the center of the peninsula. A thorough investigation will also be made of the fauna—both living and extinct—of certain very large limestone caves which are found in the district, and are said to extend for great distances underground. The birds of the district will also be studied, and observations made on mimicry and allied phenomena. The ethnographical work ought to be interesting, since Jalor is on the borderland in which the Siamese and Malay races meet. Mr. Robinson is supplied with dredges and townets for the investigation of the marine fauna, and he proposes, by the method of pumping sea-water through fine silk nets, to make a collection of the surface plankton of the Red Sea and Indian Ocean on the voyage out.

ACCORDING to the New York *Evening Post*, Dr. W. A. Kuflewski, chairman of the Special Committee appointed by the Chicago Public Library Board to consider the advisability of sterilizing the books in the library for the purpose of preventing the spread of disease, re-

ported to the trustees at their meeting on February 18th, recommending that some system be adopted for freeing the pages of the volumes from bacilli. Dr. Kuflewski exhibited several glass tubes filled with germs taken from the pages of library books. The bacilli represented a hundred different poisons and germs of disease. He said that all the fifty books examined by him during the investigation were found to be more or less infected. He said there was no doubt that disease was spread by the books. He advised that a system of sterilizing the volumes by the dry process be adopted immediately.

THE New York *Evening Post* reports that the Hon. John Dryden, Ontario Minister of Agriculture, recently announced in the Legislature that a complete change of policy had been decided upon in regard to the efforts to stamp out the San José scale. It had been found that cutting down infected orchards would prove far too costly to be continued. To continue it would have meant an expenditure of nearly \$500,000 as a partial compensation to fruit growers. The new policy is to educate fruit-growers to destroy the pest without cutting down the trees. Experiments indicated that by systematic work this could be accomplished.

THE collection of mounted birds at the University of Michigan, including nearly fifteen hundred specimens, has been rearranged. The birds that are native of Michigan are in three cases on the east side of the bird room. Those in the case farthest north are birds to be found north of Ann Arbor, those in the middle case birds in the neighborhood, and those in the third case birds living to the south of Ann Arbor. The west side of the bird room is occupied with cases containing specimens from many different parts of the world. These are scientifically arranged. Besides the specimens in the cases, thirty-six bird groups have been arranged. These are mounted in their natural surroundings, often with nest, eggs and young. Each group is a picture of bird life. In addition to the mounted specimens in the bird room of the museum, the University possesses nearly four thousand skins for use in scientific study in the class room.

UNIVERSITY AND EDUCATIONAL NEWS.

SIR WILLIAM McDONALD has made another large gift to McGill University, namely \$150,000, for endowments for the chair of chemistry, now held by Professor Harrington, and for the chair of botany, now held by Professor Penhallow, and for an addition to the endowment of the chair of physics now held by Professor Cox.

TEACHERS College, Columbia University, has received an anonymous gift of \$100,000 for a building for its experimental school. The building will provide for 50 children in the kindergarten and 240 in the elementary grades, with special classes in sewing, cooking, manual training and music. There will also be a gymnasium, baths, library, reading rooms and accommodations for evening classes, club meetings and social gatherings for the people of the community. This experimental school of the Teachers College is, of course, in addition to the Horace Mann school for which a new building is in course of construction.

THE present Legislature of the State of California has passed measures of importance for the two great universities of the State, and these have been signed by the Governor. The sum of \$200,000 was appropriated for the support of the University of California, and a further contingent appropriation of \$50,000 was made. Stanford University was, as we have already noted, given additional power to accept and hold funds, and its property was in part exempted from taxation.

THE last session of the State Legislature voted to place the North Dakota Agricultural College upon a permanent and fixed income in place of the heretofore uncertain bi-annual appropriation. One-fifth mill is assessed upon all taxable property in the State for the support of the College. An appropriation of \$50,000 was made for needed buildings and improvements, and \$18,000 to meet current expenses until the mill tax becomes available. A new chemical laboratory is to be built during the present season.

It is reported that German-American citizens of Baltimore will collect \$100,000 toward the endowment of the Johns Hopkins University, and that \$600,000 of the million dollar fund have been secured.