

to the top of the burner. The product is then treated with a little water in an agate mortar, when the caustic soda formed is quickly dissolved and any metal present is left, generally in quantity large enough for easy examination. Sulfur and other substances are very readily detected in the solution. In case of silicates and borates the silicon or boron is left in the elementary state and easily recognized. In case it is desired to examine the constituents of the substances with the spectroscope, aluminum or magnesium filings are substituted for the sodium. The reaction is violent, but in small quantities unattended by danger. If it is desired to use larger quantities the substance must be diluted with an indifferent body, as salt when sodium is used, magnesium oxid with magnesium and aluminum oxid with aluminum. In this way considerable quantities may be used in a small iron crucible, and thus silicates decomposed in a few seconds. With care the process is even available for quantitative work.

In the course of an investigation on the analysis of illuminating gas, Messrs. Harbeck and Lunge have discovered the existence of a stable compound of carbon monoxid with platinum and also with palladium. These are formed by leading carbon monoxid over the metal in a finely divided state. The metals are not completely converted into the carbonyl, hence their composition is as yet unknown, but they present an analogy to the volatile carbonyls of nickel and of iron. They have no catalytic power of causing the combination of gases, and their formation explains why the presence of carbon monoxid prevents the catalytic action of platinum and palladium. As it is well known that certain other gases also prevent this catalytic action, investigation will now be needed to see if they too form similar compounds.

In a paper read before the Chemical So-

ciety (London), Messrs. Lean and Whatmough discuss the preparation of pure iodine. It is well known that iodine is very difficult to prepare free from bromine and chlorine. The authors find that cuprous iodide can readily be prepared free from these elements, and by heating it in a stream of dry air at  $220^{\circ}$ – $240^{\circ}$  most of the iodine is expelled and can be condensed upon a cold surface. This pure iodine has a black vapor and not the usual deep violet, thus confirming the statement of Stas that the vapor of pure iodine is opaque. Further, it emits no visible vapor at ordinary temperatures.

J. L. H.

#### SCIENTIFIC NOTES AND NEWS.

THE Senate confirmed, on February 14th, President McKinley's appointment of Mr. George M. Bowers as Fish Commissioner.

THE Prince of Wales has consented to act as patron of the coming International Congress of Zoology.

PROFESSOR AGASSIZ arrived in San Francisco on February 13th on the steamship *Australian* from Honolulu, returning from his investigations of the formation of coral islands.

PROFESSOR LUIGI CREMONA, who holds the chair of mathematics in the University of Rome, has been elected a correspondent of the Paris Academy of Sciences.

THE Senate of Glasgow University has appointed Professor Michael Foster, secretary of the Royal Society and professor of physiology in Cambridge University, to be Gifford lecturer in the Glasgow University in succession to Professor Bruce.

DR. NANSSEN is now giving lectures in Great Britain, and will next month lecture in St. Petersburg and Vienna. He then expects to return home and devote himself to studying the specimens collected and the observations made during his expedition.

THE Cameron prize of the University of Edinburgh has been awarded to Professor T. R. Frazer for his researches in practical therapeutics.

THE death is announced of Dr. Samuel Newth, the author of text-books in physics and mathematics, and formerly Principal of New College, near London.

A BRASS tablet has been placed in the biological laboratory of Johns Hopkins University, in memory of Professor Humphrey and Mr. Conant, who died in Jamaica last summer. It bears the following inscription: "In memory of two devoted naturalists, who gave their lives to promote science, James Ellis Humphrey, associate professor of botany in this University, died in Jamaica, August 17, 1897, at the age of thirty-five years; and Franklin Story Conant, Bruce fellow in this University, died from illness contracted in Jamaica, September 13, 1897, at the age of twenty-seven years. The heart of him that hath understanding seeketh knowledge."

THE managers of the Royal Institution, London, have resolved that the centenary of the Institution (founded in 1799) shall be properly celebrated next year.

THE botanical collection recently formed at St. Mungo's College, Glasgow, by Dr. James Swanson, professor of botany, has been increased by a large number of specimens presented by Mr. F. W. Moore, Director of the Botanical Garden, Glasnevin, Dublin.

THE Biological Club of Princeton University has sent, through Senator Sewall, a protest against the bill interfering with physiological and pathological experiments in the District of Columbia that has been introduced into the Senate. Such protests have been sent by a number of scientific societies and should be neglected by none.

THE Ornithologischer Verein of Vienna has been merged into the K. K. Zoologisch-botanische Gesellschaft of that city, as an ornithological section of the Society. The Ornithological Section of the Zoological Society will retain the observation stations. A great number of them will keep a record of the migration of birds; materials will be collected for the study of birds' food, birds' usefulness and destructiveness. The result of the work at the different observation stations will be published in reports, which will be issued from time to time.

The quarterly journal of the Ornithologischer Verein, *Die Schwalbe*, will be discontinued; Volume XXIV., No. 4, being the last number.

It was arranged to devote the meeting of the Royal Society of February 24th to a discussion of the scientific advantages of an Antarctic expedition opened by Dr. John Murray.

THE fifth annual reception and exhibition of the New York Academy of Sciences will be given at the American Museum of Natural History, on Wednesday and Thursday, April 13th and 14th. The first evening will be devoted to a reception to the members of the Academy and their personal friends. On the afternoon of the second day the exhibition will be open to students and others, and in the evening to interested friends and affiliated societies in New York City. Professor George E. Hale, of the Yerkes Observatory, will also give the annual lecture before the Academy on that evening. The committee having the exhibition in charge are Messrs. Henry F. Osborn, Charles F. Cox, Reginald Gordon, Gary N. Calkins and Richard E. Dodge, chairman. Scientific workers having materials showing progress in science during the last year that they might wish to exhibit should correspond with the chairman of the committee, Professor Richard E. Dodge, Teachers' College, 120th Street, West, New York City.

PROFESSOR J. M. SCHAEFERLE writes to the *Astronomical Journal* that a cable dispatch received at Mt. Hamilton from Professor Campbell, who is in charge of the Crocker Lick Observatory Expedition at Jeur, India, states that most satisfactory photographs of the corona were obtained with three different telescopes. One set with a telescope 40 feet long, and two other sets with five-foot and three-foot telescopes. He also reports that the great equatorial extension of the corona, which formed such a conspicuous feature of the eclipse of January, 1889, has again been photographed. He also satisfactorily photographed the changes in the solar spectrum at the sun's edge with the aid of one of the spectroscopes, and probably obtained successful photographs of the reversing layer with the aid of a second spectroscope.

MR. F. H. KNOWLTON has just completed the manuscript of a 'Catalogue of the Cretaceous

and Tertiary Plants of North America,' embracing 2,652 species and varieties. In 1876 Professor Leo Lesquereux published a catalogue of similar scope, but at that time only 706 species were known, which shows that the knowledge of our fossil floras has increased rapidly within the past twenty years. The Catalogue will be published as a Bulletin of the U. S. Geological Survey.

THE *Moniteur Industriel* of January 29th states that the objections to wood as a pavement are appearing in very noticeable ways in Paris, and have been observed for a long time. Recently, the unhealthy and nauseating surface moisture and deposits have become so objectionable that it has been decided to endeavor to find a remedy. The men repairing the pavement have been subject to epidemic illness. Cement will probably be used to cover the surface of the pavement in some cases, experimentally at least. Creoline is used as a disinfectant, meantime, and is said to have proved quite unsatisfactory. In cases of analysis by Drs. Miquel, Rodet and Nicolas, from 17,000 to 50,000 microbes have been found in a gramme of the deposit from the surface of the pavement. Asphalt blocks are recommended in substitution, and it is proposed that all wooden pavements within the city limits be removed.

The Baldwin locomotive works, of Philadelphia, have received an additional order from the Russian government for fourteen locomotives, making in all thirty-four locomotives now in course of construction for the Russian government.

TROUT have been successfully introduced into the streams of Australasia, and the Government of New Zealand is now importing a large number of salmon over from Great Britain.

THE certificate of incorporation of 'The Thomas W. Evans Museum and Institute Society' has been filed in Philadelphia, the board of trustees consisting of leading citizens. It will be remembered that Dr. Evans left the larger part of his estate for the foundation of a dental institute to be located in West Philadelphia. Philadelphia is already well supplied with schools of dentistry, and it seems probable that this large sum of money, said to be about

\$4,000,000, will not be used to the best possible advantage, even supposing it be not divided among the lawyers.

THE following resolution was unanimously adopted at a meeting of the New York Academy of Medicine on February 17th: "*Resolved*, That the Fellows of the New York Academy of Medicine do earnestly recommend the establishment of a Bureau of Health, with the power to administer within constitutional limits the sanitary needs of the United States. The New York *Evening Post* advocates the measure, devoting to it an editorial, a column and a-half in length, in the course of which it says: "One of the most urgent needs of this country to-day is the establishment of a National Health Bureau, of which a supervision and harmonizing of quarantine procedures might well be a function, but by no means the most important one. To turn into useful channels, without delay, facts which patient toilers in science are daily bringing to light; to prosecute research in new fields of promise for the physical welfare of the citizens; to create a standard for public sanitary measures; to harmonize, and, when called upon, to direct such measures in different States; to investigate the great and growing problems of public water supplies which touch upon many fields involving the individual rights of associated States of the Union; to secure international cooperation in guarding or suppressing the centers of distribution of infectious material the world over; to collect statistics of disease and render available the fruitful lessons which they bear; to hold in readiness the machinery for the suppression of epidemic disease when called upon by stricken communities—these are some of the urgent functions of a National Health Bureau, whose organization cannot too soon be under way."

SECRETARY LONG has recommended that the corps of naval professors of mathematics be discontinued as part of the naval establishment. His recommendation is accompanied by the following memorandum: "The reason for the creation of the office has passed away. These professors were, at first, teachers of midshipmen on board ship, and were thus exposed to the dangers of service in war and at sea. They

were, therefore, properly pensioned by a place upon the retired list. To-day their name is largely a misnomer. Under the law, one is assignable to the teaching of ethics and English studies, one of Spanish and one of drawing. In fact, only one teaches mathematics at the Naval Academy; several of them are on duty at the Naval Observatory; two are librarians; one is engaged in ordinance work, and another in the bureau of yards and docks. They have no service at sea, and there is no more reason why hereafter the retired list should be open to a new appointee to the work now done by this corps than to any other employee in civil life. If this recommendation is adopted by Congress it will be necessary to provide for the appointment of astronomers at the Naval Observatory, to take the places, as they shall become vacant, of existing professors of mathematics who now serve in that capacity. There should be five astronomers, as at present, and the salary of those hereafter appointed should be sufficient to make up for the refusal to them of the privilege of retirement, and also to secure men of high scientific attainments, adequate to the demands of one of the most capable observatories of the world. As the above astronomical corps is now full, no appointment under the new statute proposed will be necessary till a vacancy occurs."

*Nature* states that a meeting will be held in Manchester on February 16th to take into consideration such steps as may seem desirable to assist the executive committee in making the Zoological Congress this year thoroughly successful.

THE Physical Society of Paris has undertaken the supervision of a 'Bibliographica Physica' and has appointed a commission to arrange a method of bibliographical classification. The Physical Society and the Institute of Electrical Engineers, of London, are arranging for the publication of abstracts and papers.

MESSRS. MUNN & Co. have issued a reference catalogue containing a classified index of more than 10,000 articles that have appeared in the *Scientific American Supplement* since its establishment in 1876. The publishers offer to send the catalogue without charge, and it will prove

of value to those who wish to consult any of the large number of valuable scientific articles that have been included in this publication.

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#### UNIVERSITY AND EDUCATIONAL NEWS.

THE British government has expressed itself in favor of a Catholic University for Ireland, though it is not expected that any active steps towards its establishment will be undertaken during the present session of Parliament.

A BILL has been introduced in the lower house of the Prussian Diet giving the Minister of Education power to reprimand or withdraw the licenses of *Privatdozenten*. The bill is evidently intended to give the Government power to regulate the teaching of the lecturers, and has aroused much opposition, a protest against the measure having been signed by one-half of the professors in the University of Berlin.

THE Baldwin locomotive works of Philadelphia has presented the department of mechanical engineering of Columbia University with the locomotive exhibited at the World's Fair valued at about \$12,000. Within the past few months donations of machinery to this department have been made valued at \$60,000.

PROFESSOR LESTER F. WARD will give two courses of lectures, one on pure sociology and one on applied sociology, at the University of West Virginia during the summer quarter.

DR. KARL HÜRTLE has been promoted to a full professorship of physiology at the University of Breslau, and Dr. Anschütz to a full professorship of chemistry at the University of Bonn. Dr. Wiechert has been appointed associate professor of terrestrial magnetism in the University of Göttingen, and Dr. Eugen Meier, of the Polytechnic Institute of Hannover, professor of technical physics in the University of Göttingen.

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#### DISCUSSION AND CORRESPONDENCE.

PRESIDENT MC'KINLEY'S APPOINTMENT OF A FISH COMMISSIONER.

TO THE EDITOR OF SCIENCE: Under the head of 'Scientific Notes and News,' the last number of SCIENCE contains remarks concerning the President of the United States which are unjust, untrue and malicious, and which as an associate