report at once to a local board for military duty and thus be inducted into the military service of the United States, immediately thereupon to be discharged from the National Army for the purpose of enlisting in the Enlisted Reserve Corps of the Medical Department. With every such request must be inclosed a copy of the order of the local board calling him to report for physical examination (Form 103), affidavit evidence of the status of the applicant as a medical student or interne and an engagement to enlist in the Enlisted Reserve Corps of the Medical Department.

Upon receipt of such application with the named inclosures the Surgeon General will forward the case to the Adjutant General with his recommendations. Thereupon the Adjutant General may issue an order to such interne or medical student to report to his local board for military duty on a specified date, in person or by mail or telegraph, as seems most desirable. This order may issue regardless of the person's order of liability for military service. From and after the date so specified such person shall be in the military service of the United States. He shall not be sent by the local board to a mobilization camp, but shall remain awaiting the orders of the Adjutant General of the Army. The Adjutant General may forthwith issue an order discharging such person from the military service for the convenience of the government.

Three official copies of the discharge order should be sent at once by the Adjutant General to the local board. Upon receipt of these orders the local board should enter the name of the man discharged on Form 164A and forward Form 164A, together with two of the certified copies of the order of discharge, to the mobilization camp to which it furnishes men. The authorities at the mobilization camp will make the necessary entries to complete Form 164A, and will thereupon give the local board credit on its net quota for one drafted man.

SCIENTIFIC MEN AND NATIONAL SERVICE

ON August 15, the Editor of SCIENCE addressed the following letter to the Surgeon General of the Army:

I shall be under obligations to you if you are able to tell me what steps are being taken to make use in the medical service of the army of men who are conscripted who are not physicians but have scientific training that would enable them to render greater national service than by serving in the regular army. If you are willing to make a statement that could be printed in SCIENCE, it would assist many scientific men who are at present doubtful as to what they should do.

The following reply, dated August 29, has been received:

In reply to your communication of August 15 requesting information relating to drafted men who possess scientific training, I beg to advise you that the Sanitary Corps of the United States Army, attached to the Medical Department, will accept a number of selected men who are not physicians but who have attained professional standing in bacteriology, chemistry and the several branches of engineering pertaining to sanitation. The Corps was organized specially to secure the services of skilled sanitarians having experience in both practical field work as well as those specially qualified in the several scientific branches having a correlation to the sanitary sciences.

By order of the Surgeon General:

C. L. FURBUSH,
Major, Medical Reserve Corps,
United States Army

SCIENTIFIC NOTES AND NEWS

PROFESSOR THEODORE LYMAN, of the department of physics at Harvard University, has received from the War Department a commission as captain in the aviation department of the United States Signal Corps, and has been ordered to report for active service in France. Profesor Lyman has been since 1910 director of the Jefferson Physical Laboratory at Harvard.

PROFESSOR H. GIDEON WELLS, of the department of pathology of the University of Chicago, and head of the Otho S. A. Sprague Memorial Institute, has been appointed a member of the commission on behalf of the American Red Cross to go to Roumania for the purpose of investigating the conditions there and planning for Red Cross assistance in that field. He has been granted leave of absence by the trustees until January, 1918.

Professor Basil C. H. Harvey, of the department of anatomy of the University of Chicago, who has been appointed to the Medical Department of the United States Army, with the rank of captain, has been granted one year's leave of absence by the board of trustees. Assistant Professor Norman MacLeod Harris, of the department of hygiene and bacteriology, who has been serving abroad in the Canadian Medical Corps for the past year, has had his leave of absence extended for another year.

Professor Alfred Atkinson, of the department of agronomy, at the Montana State College, has been appointed by Mr. Herbert C. Hoover food commissioner of the state of Montana.

Professor Herbert W. Mumford, of the University of Illinois, is now associated with the Bureau of Markets of the United States Department of Agriculture as consulting specialist in live-stock marketing.

Dr. A. C. Trowbridge, of the department of geology of the Iowa State University, has been made director of the Y. M. C. A.'s educational work at the Des Moines cantonment.

Robert A. Hall, Ph.D. (Chicago), formerly assistant professor in physiological chemistry at the University of Minnesota, has been appointed to a lieutenancy in the army and is now on his way to France for immediate service.

Dr. Bennet M. Allen, professor of zoology in the University of Kansas, recently delivered an address on "Experiments upon the glands of internal secretion in amphibian larvæ" before the faculty and students of the graduate summer quarter in medicine of the University of Illinois.

Dr. Alonzo E. Taylor, of the University of Pennsylvania, member of the advisory board of food division of the surgeon-general's office, will visit the several medical officers' training camps and deliver a series of lectures on food values, food needs, and preparation and conservation of food.

The board of regents of the University of Michigan have approved a plan of Professor Henderson, director of the extension service, for the giving of about fifty extension lectures before the troops to be gathered at the Battle Creek Cantonment. These lectures are to be given by members of the faculty without compensation, and with the reimbursement by the university to them of their actual traveling and hotel expenses, for which the university extension fund already provides.

The Paris Academy of Sciences has received a gift from Mme. Beauregard to found a memorial to M. Clément Félix, the well-known electrical engineer.

Dr. C. O. Trechmann, of Hartlepool, England, who, while engaged in the manufacture of Portland cement, made contributions to mineralogy, crystallography and entomology, died on June 29.

George Wilber Hartwell, professor of mathematics and registrar in Hamline University, St. Paul, died on July 23 of appendicitis. Dr. Hartwell was born in New Jersey in 1881 and was graduated from Wesleyan University in 1903. After two years spent in teaching in the Michigan Agricultural College, he went to Columbia University on a fellowship, and there took the Ph.D degree in 1908. After filling a one-year vacancy in the University of Kansas, where he was elected to Sigma XI, he went to Hamline University as professor. The year following he became registrar, and continued in these positions until his death. He was a member of the American Mathematical Society and several similar foreign societies. The correspondent who sends us this information writes that Dr. Hartwell was not only a scholar of brilliant powers, but he was an executive officer of such tact and ability and a man of such decision and force that his loss to the college and his associates can hardly be estimated.

At Liverpool University an advisory committee of ten members has been formed in order to develop the chemical industry after the war; it consists of four members of the chemical staff of the university and six others representing the chemical industries.

The annual meeting of the American Public Health Association, which was to have been held in New Orleans in December, will be held

in Washington by direction of the executive committee. War hygiene will be the central theme of discussion, and Washington is the city where information regarding the sanitary problems of armies is being concentrated.

THE installation of a new aquarium at Woods Hole Station of the Bureau of Fisheries was completed on July 5, under the direction of Superintendent Harron, of the central station. The aquarium consists of 10 tanks, which are arranged along the western and northern sides of the exhibition room of the hatchery building. The old grotto is entirely displaced. The front of the aquarium is stained to represent Spanish oak. The interiors of the tanks are decorated with beach rocks of various sizes secured in the vicinity. The tanks were those used at the San Francisco exposition for the bureau's exhibit, but it was necessary to alter them in order to adapt them to the space allotted at Woods Hole. The aquarium makes a very pleasing exhibit and will be appreciated by the thousands of people who annually visit the station, in addition to serving a useful purpose in the scientific and fish-cultural work.

DR. MACNAMARA, a member for North Camberwell, in answering a question put in the British House of Commons, defined the functions of the Board of Invention and Research as follows: (*a*) To concentrate expert scientific inquiry on certain definite problems, the solution of which is of importance to the naval service; (*b*) to encourage research in directions in which it is probable that results of value to the navy may be obtained by organized scientific effort; (*c*) to consider schemes or suggestions put forward by inventors and other members of the general public. The board considers all inventions relating to naval warfare and acts in an advisory capacity to the Admirality. It has funds at its disposal for carrying out trials and experiments and possesses full facilities for arriving at a decision whether an invention is worthy of adoption or not; but the adoption of an invention is subject to the approval of the Board of Admiralty. The general superintendence of the Board of Invention and Research is reserved to the First Lord, to whom it has direct access. The Central Committee meets once a week; the panel once every six weeks, and the subcommittees hold meetings at frequent intervals as the circumstances require. The president has attended 54 sittings during the last 12 months. Dr. MacNamara also stated that the members of the board who received remuneration for their services were the president, £1,350 a year, in addition to retired pay; Vice-admiral Sir Richard H. Peirse (naval member of Central Committee), £1,530 a year; Professor W. H. Bragg (member of Panel), whilst occupying the post of resident director of research at an Admiralty experiment station, professorial salary of £1,000 a year at the University of London is refunded by the Admiralty to the university authorities; Dr. Dugald Clerk (member of Panel), as director of engineering research at the Admiralty Engineering Laboratory, City and Guilds (Engineering) College, South Kensington, is entitled to repayment of out-of-pocket expenses to an amount not exceeding £600 a year.

WE learn from the *Journal of Industrial and Engineering Chemistry* that through a cooperative agreement with Cornell University, representatives of the Bureau of Mines have been stationed at Morse Hall, where the electric furnace equipment of the department of chemistry has been utilized in some metallurgical work of the bureau. Experiments on the electric melting of brass have indicated that a suitable electric furnace might materially reduce the metal losses from volatilization and avoid the use of costly crucibles. The bureau is now testing a commercial-size furnace with special attention to its suitability for use on brasses for cartridges and shrapnel cases. Another electric furnace problem studied by the bureau has been the production of ferro-uranium from the uranium oxide obtained as a by-product in the extraction of radium from its ores. Ferro-uranium is used in making uranium steel, which is said to be used by Germany for the lining of big guns which will stand up at a rate of fire so rapid that other steels fail. It is undecided whether the work

on gun steel will be done at Cornell or some other university.

It is reported in *Nature* that in order to promote the further development of the dye-making industry in the United Kingdom, the president of the Board of Trade has decided to establish a special temporary department of the board to deal with matters relating to the encouragement, organization, and, so far as necessary, the regulation of that industry. The department will be under the direction of Sir Evan Jones, Bart., who has placed his services at the disposal of the president, and will have the official title of commissioner for dyes. The commissioner will act in close consultation with the various dye-making and dye-using interests concerned.

The United States Geological Survey, Department of the Interior, has issued as Bulletin 645 its "Bibliography of North American Geology for 1915," by J. M. Nickles. This bulletin is a list of the books, papers and maps bearing on the geology (including the paleontology, petrology and mineralogy) of North America and adjacent islands, and of Panama and Hawaii, issued in 1915. The papers are arranged alphabetically by names of authors and the bulletin contains a full alphabetical subject index by which any paper relating to any particular subject or area may be readily found. This bibliography is one of a series, the volume for 1911 forming Bulletin 524, that for 1912 Bulletin 545, that for 1913 Bulletin 584 and that for 1914 Bulletin 617. From time to time these bibliographies are combined in a single volume covering several years. The series now covers the literature of American geology from 1732 to the end of 1915.

The annual report on the Science Museum, and on the Geological Survey of Great Britain and Museum of Practical Geology, has been published as a White Paper for the Board of Education. According to an abstract in the London *Times* both museums have been closed to the public since March 6, 1916, but the scientific work has been continued so far as was possible under present conditions. The Science Museum remained open to students and for special purposes, the daily average of visitors after March being 132, as against 986 formerly. To the horology section Mr. Evan Roberts contributed over 200 watches and watch movements, of much historical and technical interest. The library of the London Mathematical Society was transferred and deposited on loan in the Science Library, and is being catalogued. The number of readers was 6,832, of whom two thirds were science teachers or students of the various colleges. The Geological Survey has also suffered from the war, which in turn has made special demands on the staff. Consultations and correspondence relating to military establishments at home and abroad have been frequent. Progress has been made with the "Series of special reports on the mineral resources of Great Britain," and with the standardizing of six-inch maps. The petrographical department has helped the Admiralty in the matter of aeroplane compasses, and the photographic work included the copying of maps and diagrams for military purposes and the making of microphotographs for the Admiralty. The Museum of Practical Geology was visited by 7,227 persons between January 1 and March 6, when it was closed to the public except for special inquiries. Donations during the year include a series of specimens, mainly rocks, from the western front, and igneous rocks from Imbros and Lemnos.

The Research Defense Society of Great Britain, owing to the continuance of the war, has again decided to postpone its annual general meeting. The committee's report of the work of the society during the past two years, as reported in *The British Medical Journal*, states that the inaction of the opponents of research had necessarily made the society less active. There had hardly been any controversy in the newspapers, and all through the country the great advances made in protective medicine due to research were being appreciated and better understood. The lectures given had been concerned more with the general influence of scientific medicine on the health and efficiency of the army than with experiments on animals. The Association for the Advancement of Medicine by Research decided last year in favor of amalgamation with the Re-

search Defense Society, and the president and honorary treasurer of the association, Sir Thomas Barlow and Dr. Hale White, have joined the committee of the society. It is hoped that in the coming years there will hardly be any need for disputes with antivivisection societies, and that the society's best opportunities for usefulness will be found in wide, non-aggressive educational work.

WE learn from *Nature* that the pensions granted during the past year by the British government include the following: Mrs. Charlton Bastian, in consideration of the services to science of her late husband, Dr. Charlton Bastian, and of her straitened circumstances, £100; Mrs. Minchin, in consideration of the scientific work of her late husband, Professor E. A. Minchin, and of her straitened circumstances, £75; Mrs. Albert Günther, in consideration of the scientific work of her late husband, Dr. Albert Günther, and of his distinguished services to the British Museum as keeper of zoology, £70; and Mrs. Roland Trimen, in consideration of the eminent services of her late husband to biological science, and of her straitened circumstances, £75.

UNIVERSITY AND EDUCATIONAL NEWS

THE will of Mrs. Robert W. Bingham, wife of Judge Robert Bingham, of Louisville, Ky., a graduate of the University of North Carolina, gives to the University of North Carolina $75,000 a year for the establishment of professorships and ultimately a capital sum producing this amount. The professorships are to be known as Kenan professorships, in memoriam of Mrs. Bingham's father, William R. Kenan, and her uncles, Thomas S. Kenan and James Graham Kenan, graduates of the university. The value of this bequest to the University of North Carolina is more than a million and a half dollars.

FRANCIS A. THOMSON has resigned from the faculty of the State College of Washington to accept the deanship of the school of mines at the University of Idaho, Moscow, Idaho.

DR. WALLACE BUTTRICK, member of the executive committee of the Rockefeller Foundation and director of its China Medical Board, is in England on the invitation of a department of the British government to confer with educators and officials in Great Britain concerning public education.

AT the University of Chicago the following promotions from associate professorships to professorships have been made: Basil C. H. Harvey, of the department of anatomy; Horatio Hackett Newman, of the department of zoology; J. Paul Goode, of the department of geography; Walter Sheldon Tower, of the department of geography. From an assistant professorship to an associate professorship: Arthur C. Lunn, of the department of mathematics.

AT the New Hampshire College A. W. Richardson, of the University of Maine, has been appointed assistant professor in charge of the poultry department to succeed R. V. Mitchell, and G. A. Minges, of Iowa State College, has been appointed instructor in chemistry. The chemistry department has lost two members owing to the war: Professor G. A. Perley has been granted leave of absence for the period of the war and is serving as first lieutenant in the division of chemical engineering, U. S. Army, and Arnold J. Grant has gone to the second Plattsburg Camp.

DISCUSSION AND CORRESPONDENCE

THE PUBLICATION OF SCIENTIFIC RESEARCH

TO THE EDITOR OF SCIENCE: A matter in which there is a considerable divergence between the practise of different laboratories is that of the method of publication of their results. A number of laboratories publish their own bulletins, either as separate papers or as periodical volumes. Others publish in the scientific and technical press, either in one or two journals or in a number of different journals according to the subjects dealt with.

Naturally, the best method of publication will depend to some extent on the nature of the work published and the character of the laboratory. In the case of a purely technical laboratory publishing a large number of papers dealing with one special, technical subject,