April 25, when Baarn was under British fire, but everything came off all right.

Nearly all intellectual work was stopped for months because of lack of current, of trains and also of time, because everyone had to toil daily for his food and fuel. None of the astronomers died, but the elder ones were certainly not benefited. Professor v. Rhyn was in Hellendoorn for a year with an acute case of T.B.; he is at home again but is not cured. Professor Hertzsprung recently has retired and Oort has become director. Minnsort was a hostage for two years; last winter he almost died as a result of making distant "hungertrips." But he is exceedingly tough. We are practically certain that we shall not see Pinkhof back. Of approximately 100,000 Dutch Jews an estimated 5,000 are alive; the others have been butchered in an atrocious manner, . . .

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. . . Naturally all of us have become quite a bit thinner, but have kept alive on sugar beets and tulip bulbs. The latter, when boiled, taste like chestnuts. Not everyone can stand them, because they are slightly poisonous; this, however, can be corrected with some chalk. Toward the end we had no gas, no electricity, hardly any fuel, and had to cook on a sort of small emergency oil stove. Well, that is over now and we are already gaining some weight. The effect of lack of protein is remarkable; it causes a noticeable lack of memory. Our staff was much bothered by that; however, it does not seem to be lasting; after good nourishment it returns. To keep myself in shape I had stored up some casein, which proved quite helpful. . . .

On November 28, 1945, Dr. van der Bilt received the sad news of death through exhaustion as Japanese prisoners in the Netherlands East Indies of the following Dutch astronomers:

Dr. Arnout de Sitter, acting director of the Bosscha Observatory at Lembang, Java.

Dr. W. Chr. Martin, Bosscha Observatory.

Mr. J. Uitterdyk, teacher in Batavia.

SCIENTIFIC NOTES AND NEWS

DR. JOSEPH L. ROSIN, pharmaceutical chemist of Plainfield, N. J., was presented on December 11 with the 1945 Remington Medal of the New York branch of the American Pharmaceutical Association in recognition of his work as "the foremost American authority on chemical reagents." The medal was presented at a dinner meeting at the Hotel Pennsylvania, attended by leading representatives of professional and scientific pharmacy.

AT the annual meeting in New York City of the American Pharmaceutical Association the Award for Scientific Distinction was presented by Dr. Alan Valentine, president of the University of Rochester, to the Rockefeller Institute for Medical Research. It was accepted by Dr. Homer T. Swift, acting director of the hospital of the Rockefeller Institute, who read an address by Dr. Herbert S. Gasser, director of the institute, who was unable to be present.

THE second presentation of the Elizabeth Severence Prentiss Award in health education was made to Dr. C.-E. A. Winslow, Lauder professor emeritus of public health of the School of Medicine of Yale University, at the Cleveland Health Museum, which celebrated on November 27 its fifth anniversary with a civic luncheon at which the attendance was about five hundred.

THE Achievement Medal of the Florida Academy of Sciences (Phipps and Bird, Richmond, Va., donor) was awarded to Garald G. Parker, geologist of the U. S. Geological Survey, Ground Water Division, of Miami, Fla., at the meeting in St. Augustine of the academy on December 6 and 7. The title of his paper was "The Effect of the Pleistocene Epoch on the Geology and Ground Water of Southern Florida."

AT a dinner given on November 28 in honor of the seventy-first birthday of Dr. Chaim Weizmann, he was presented with a check for $1,000,000 to be used for the establishment of the Weizmann Institute of Science in Palestine.

PHI LAMBDA UPSILON, the honor society for men in chemistry, announces the election of the following officers to serve for the coming triennium: *President,* Dr. T. F. Buehrer, of the University of Arizona; *Vice-president,* Dr. L. F. Audrieth, of the University of Illinois; *Secretary,* Dr. James M. Church, of Columbia University; *Treasurer,* Dr. Herschel Hunt, of Purdue University; and *Editor* of *The Register,* Dr. Robert D. Vold, of the University of Southern California.

DR. HANOR A. WEBB, head of the department of chemistry of George Peabody College for Teachers, Nashville, was elected president of the Tennessee Academy of Science at the business meeting on December 1. Dr. Paris B. Stockdale, head of the department of geology at the University of Tennessee, Knoxville, was elected vice-president. Kendall E. Born, of the State Division of Geology, Nashville, was re-elected secretary-treasurer.

DR. W. B. YOUNG, acting dean of agriculture at the University of Connecticut, has been appointed dean of the College of Agriculture and director of the Experiment Station. Dr. W. L. Slate will again become vice-director.

COMMANDER C. M. LOUTITT, who has been commanding officer of the Service School Command, Naval Training Center, Bainbridge, Md., has been released to inactive duty. He has been appointed professor of psychology at the Ohio State University and is assuming direction of the work in clinical psychology.

DR. ROBERT P. SHARP, who is now on terminal leave from the Army Air Corps, where he has served as an expert on glaciology in the Arctic Information Center, at the beginning of the winter term will take over his work as associate professor of geomorphology and glaciology at the University of Minnesota.

DR. SHERWOOD K. HAYNES has been appointed associate professor of physics at Vanderbilt University. He was recently associate director of the Radar School of the Massachusetts Institute of Technology. Dr. Philip Rudnick has been promoted to a professorship of physics and will return to his work there on January 1.

DR. JOSEPH C. SHAW, assistant professor of dairy husbandry at the University of Connecticut, has become professor of dairy husbandry at the University of Maryland.

DR. R. DALE SMITH, head of the department of biology at Gonzaga University, Spokane, Wash., has been appointed assistant professor in the department of anatomy of the School of Medicine of the University of Maryland, Baltimore, effective, January 1.

DR. E. MONROE BAILEY, since 1902 associated with the work in chemistry of the Connecticut Agricultural Experiment Station at New Haven, since 1917 chief of the department of analytical chemistry, a recognized authority on food and drug standards, retired on October 1. Dr. Harry J. Fisher, associate chemist, has been appointed acting head of the department.

THE Committee on International Cooperation in Anthropology, Division of Anthropology and Psychology, National Research Council, has undertaken the task of gathering information concerning the status of anthropological personnel, scientific societies, museum and university departments, and publications, in countries affected by the war, and is reporting its findings in a series of communications in *The American Anthropologist*. The first one of these, on France, appeared in the October–December, 1945, issue; the second, on Scandinavia, will be forthcoming in the January–April number. The personnel of this committee is Dr. Henry B. Collins, Jr., Dr. John M. Cooper, Dr. William N. Fenton, Dr. Henry Field, Dr. Frederica de Laguna, Dr. Robert H. Lowie, Dr. William Duncan Strong, Dr. Franz Weidenreich and Dr. Melville J. Herskovits, *chairman*. It will be appreciated if any information concerning anthropology or anthropologists could be communicated to the chairman (Department of Anthropology, Northwestern University, Evanston, Illinois), for incorporation in these accounts.

A NEW YORK STATE SCIENCE SERVICE has been established as a new agency of the State Museum at Albany, N. Y., of which Dr. Carl E. Guthe is director, to serve as a clearing house and advisory center for the dissemination of impartial scientific information to schools and other agencies. The service will be conducted by a staff of State scientists and their assistants on the museum staff, including Dr. Winifred Goldring, paleontologist; Dr. Robert D. Glasgow, entomologist; Dr. Homer G. House, botanist; Noah T. Clarke, archeologist; Dr. John G. Broughton, assistant geologist; Walter J. Schoonmaker, assistant zoologist, and Kenneth F. Chamberlain, assistant entomologist.

DR. A. MCGEHEE HARVEY, Army major, U.S.A., on terminal leave, has been appointed director of the Department of Medicine and physician in chief of the Johns Hopkins Hospital, Baltimore. He will take up his work on June 30. He succeeds Dr. Warfield T. Longcope.

DR. HART E. VAN RIPER, pediatrician, formerly of Madison, Wis., has been appointed assistant medical director of the National Foundation for Infantile Paralysis.

A COMMITTEE of inquiry and research on atomic energy of thirty-five members has been appointed by the Carnegie Endowment for International Peace. Members of this committee include Dr. Karl Compton and Dr. Harold Urey.

FACULTY members of the Michigan College of Mining and Technology who have recently returned from service with the armed forces include Lieutenant Commander R. W. Drier, associate professor of metallurgical engineering; Lieutenant Chester Pratt, USNR, and Captain Thomas Vichich, U.S.A., instructors in mathematics. Captain H. W. Risteen and Commander Jerry Service, of the United States Naval Reserves, associate professors of mechanical engineering and of physics, respectively, will return for the winter term.

DR. KARL COHEN, formerly associated with Columbia University, where he worked on its atomic research project, has joined the staff of the Standard Oil Development Company. He will later work at the new laboratory to be constructed at Linden, N. J.

DR. HARLOW SHAPLEY, director of the Harvard College Observatory and national president of the Society of Sigma Xi, spoke at the University of California, Los Angeles, on the afternoon of December 7. His subject was "Planetary Perplexities." On the evening of December 8, he delivered the final address of a two-

day "Conference on American-Russian Cultural Exchange," sponsored at the university jointly by Phi Beta Kappa and the Society of the Sigma Xi. The latter address, at which Dr. Robert A. Millikan, of the California Institute of Technology, presided, was entitled "Planetary Worries, Science and Peace."

DR. R. SMOLUCHOWSKI, research physicist at the Research Laboratory of the General Electric Company, Schenectady, N. Y., delivered the opening lecture on November 16 before the Sigma Xi Chapter of North Carolina State College. The title of his lecture was "Inaudible Sounds."

THE twenty-seventh National Metal Congress and Exposition will be held in the Public Auditorium of Cleveland during the week of February 4. An attendance of more than 30,000 is expected. In addition to the technical program of the American Society for Metals, papers will also be presented by the American Industrial Radium and X-Ray Society, meeting at Hotel Hollenden on Wednesday, Thursday and Friday, February 6, 7 and 8. Other societies will have business or group meetings during the week. Presentation of four medals will be a feature of the annual dinner on February 7: the Henry Marion Howe Medal for the paper of the highest merit published in *Transactions* during the year 1944, the Albert Sauveur Achievement Award, the American Society for Metals Medal for the Advancement of Research and the American Society for Metals Gold Medal.

THE American Society of Zoologists, in conjunction with Section F of the American Association for the Advancement of Science and in association with other biological societies, will hold its next meeting in Saint Louis on March 28, 29 and 30, 1946. The preliminary announcement and call for papers will be issued in the near future by the Secretary, Dr. L. V. Domm, The University of Chicago. Titles and abstracts must be received not later than February 1.

THE National Research Council announces that the closing date for applications for the predoctoral fellowships in the natural sciences, which it is administering under a grant from the Rockefeller Foundation, will be February 1, 1946. These fellowships, as announced in September, are to assist young men and women, whose graduate training in the natural sciences was prevented or interrupted by their war activities, to complete their work for the doctorate. Candidates should send in their applications at once, and —in any case—prior to February 1, 1946, even though they may be unable to begin their graduate work until a later date. Information concerning the fellowships and nomination-application blanks have been mailed out widely to graduate schools and wartime research laboratories. They may also be obtained by writing directly to the Secretary, Committee on Predoctoral Fellowships, National Research Council, 2101 Constitution Ave. N.W., Washington 25, D. C.

NON-POLITICAL control of proposed Federal aid to scientific research was urgently requested at a recent meeting of the New York Section of the American Chemical Society, representing more than 4,000 chemists and chemical engineers. The Magnuson bill for a Federal program directed by outstanding scientists and laymen was endorsed; the Kilgore bill, putting the entire project under a single director, was opposed. A resolution passed by the section approved without reservation the principles expressed in a recent letter to President Truman, signed by forty-three leading scientific men, which supported the Magnuson bill and called for the establishment of a national research board of experts appointed by the President without reference to political affiliation.

IN the interest of the more rapid development of jet propulsion and rocketry in the United States the American Rocket Society has become affiliated with the American Society of Mechanical Engineers.

THE Florida Academy of Sciences, in annual meeting assembled at St. Augustine, on December 6 and 7, by resolution endorsed the Bowman open letter to President Truman (SCIENCE, November 30) and so wired the President. Copies of the telegram were sent to thirty-six members of the Congress, committee members and those representing the State of Florida.

THE fiftieth anniversary of the General Electric Engineering and Consulting Laboratory at Schenectady, N. Y., was observed on November 13. Speeches were made by A. L. Rohrer, the founder; E. S. Lee, successor to the late Dr. "Louie" T. Robinson, and Dr. E. F. W. Alexanderson. Later in the year a bronze plaque, now being made, will be unveiled in the laboratory.

THE centenary celebrations of the Imperial College of Science and Technology, South Kensington, was held on October 22, when a message from the King of England was broadcast from the Royal Albert Hall. The Imperial College is a federation of the Royal College of Science, the Royal School of Mines and the City of Guilds College. These were related to earlier institutions, the first of which, the Royal College of Chemistry, was founded a century ago. In 1907, by a Royal Charter of Incorporation, the three colleges were joined together and established as a school of the University of London.

THE Percy Committee in its report on Higher Technological Education, published by the British Ministry of Education, includes the following recom-

mendations: The establishment of eight Regional Advisory Councils in England and Wales to coordinate technological studies in universities, colleges of technology and other technical institutions (each council should establish an academic board to ensure coordination on the teaching level and there should be arrangements for adequate representation of and consultation with industry on both the council and the board); the establishment by the Minister of Education of a standing organization to be known as the National Council of Technology to advise on national aspects of regional policy; the selection of a limited number of colleges as colleges of technology to provide full-time courses, as well as facilities for post-graduate studies. For engineering, about six colleges are suggested, excluding the London area; additional institutions might be selected for other branches of technology.

THE trustees of the late Sir William Napier Shaw, F.R.S., who was director of the British Meteorological Office, have offered to the University of Cambridge his meteorological library, together with an endowment of between £5,000 and £6,000 for its upkeep and for the development of the "study of the atmosphere."

SPECIAL ARTICLES

FURTHER STUDIES ON THE MONKEY ANTI-ANEMIA FACTOR[1]

WE have recently reported[2] that whole liver powder contains a factor necessary for optimum growth and blood production in monkeys maintained on purified diets. An assay for this factor depends upon a measure of the weight and hemoglobin response in a monkey that has failed to show a complete recovery from a riboflavin deficiency after riboflavin therapy. Subsequent experiments have demonstrated that brewer's yeast fed at a level of 8 per cent. in the ration was an inadequate source of this factor. Scott *et al.*[3] reported that beta-pyracin had hemopoietic properties for chicks when fed with a source of the *Lactobacillus casei* factor; however, we have found that a combination of these two factors was ineffective for the monkey.

TABLE 1

THE RESPONSE OF STANDARDIZED ASSAY MONKEYS TO FRESH AND LYOPHILIZED LIVER THERAPY

Monkey No.:	82		164		53		125	
Treatment:	10 grams fresh pork liver per day for one week				3 grams lyophilized liver per day for one week			
	Before	After	Before	After	Before	After	Before	After
Weight (grams)	3800	3995	2770	2910	4870	5180	3070	3300
Hemoglobin (grams/100 cc)	11.71	14.28	12.06	13.89	12.13	14.67	11.05	14.03
R.B.C. (millions/c.m.m.)	3.00	4.30	3.10	4.20	3.05	4.85	2.85	4.67

Two assay monkeys were fed fresh pork liver in order to determine whether fresh liver is a more potent source of the active principle than whole liver powder. Livers obtained directly from the packing plant were thoroughly ground and stored in a frozen condition. Ten grams of this liver mixed with the dry ration were fed to each monkey per day. This level corresponds to about 3 per cent. whole liver powder in the entire diet. The two monkeys showed a definite gain in weight and hemoglobin production during the following week (*cf.* Table 1). Since it requires an average of 3 weeks to produce a maximum response when whole liver powder at a level of 3 per cent. in the diet is fed it is evident that fresh pork liver is a more potent source of the monkey anti-anemia factor than whole liver powder.

Further assays with fresh beef liver showed it to be as active as fresh pork liver. However, some difficulty was encountered in feeding these fresh liver preparations and therefore lyophilized liver was tried. The liver was lyophilized by freezing with dry ice and then drying under high vacuum. The product thus obtained powdered easily and mixed well with the dry ration. It was stored in a stoppered container in the refrigerator.

Two assay monkeys were given 3 grams of the lyophilized liver daily mixed with the dry ration. Here again an increase in weight and hemoglobin content of the blood was evident within a week, as is shown in Table 1. Since the lyophilized liver had about the same effect as an equivalent amount of fresh liver it can be readily seen that no loss in activity occurs when this method of drying is employed. Both fresh liver and lyophilized liver contained more of the monkey anti-anemia factor than equivalent amounts of whole liver powder indicating that ordinary methods of drying destroy appreciable amounts of the activity of liver.

Since this factor is so labile special precautions must be taken during fractionation and isolation procedures.

[1] Published with the approval of the director of the Wisconsin Agricultural Experiment Station. Supported in part by grants from the National Foundation for Infantile Paralysis, Inc., New York, and the Commercial Solvents Corp., Terre Haute, Indiana.

[2] J. M. Cooperman, H. A. Waisman, K. B. McCall and C. A. Elvehjem, *Jour. Nutrition*, 30: 45, 1945.

[3] M. L. Scott, L. C. Norris, G. F. Heuser and W. F. Bruce, *Jour. Biol. Chem.*, 158: 291, 1945.