sian olive, sumac and choke cherry, which serve admirably this purpose, and at the same time have high value in furnishing food as well as protection for game, song and insectivorous birds. Alternation of forest strips with cultivated fields combines ideal conditions for the conservation and propagation of upland game birds, which may bring the farmer some cash return if properly handled.

Tree planting on slopes of gullies will reduce rapid surface run-off and check soil erosion. As a means of conserving the moisture in the soil, shelterbelts, under certain conditions, may be as effective and less costly than the construction of dams on streams and dry gullies.

Above all, however, shelterbelt planting will make living conditions more comfortable and will add much needed variety to the monotonous prairie landscape. Probably the social benefits from windbreaks will be as great as the physical. If, by means of tree planting, agriculture may be made somewhat safer in a region subject to periodic droughts; if by breaking up the extremely large wheat fields, a diversified agriculture can be encouraged; if living conditions can be made more attractive by planting trees around farmsteads; then the still primitive and hazardous existence in the plains region will be raised for thousands of settlers to a higher level of permanence and stability. It will mean creating in the semi-arid region a belt provided with the amenities of a higher cultural life.

Shelterbelt planting is only a part of a broader plan of water conservation and erosion control for the entire Great Plains region. The "black blizzards," for instance, may be mitigated but can not be stopped by shelterbelt planting within a narrow belt 100 miles in width. These dust storms originate farther west, where the original sod has been broken up by the plow. It is only by withdrawing certain areas of the western plains from crop production, returning them to grass and using them for controlled grazing, that the causes of dust storms may be largely removed.

To bring about the desired improvement in the physical and economic condition of the region, a coordination of effort by the various public agencies interested is essential. It will involve land retirement, controlled grazing, diversification of agriculture, water conservation by building ponds, shelterbelt planting, strip cropping, terracing, development of new varieties of cereals and soil-binding grasses and a rationalization of land valuation and taxation.

SCIENTIFIC EVENTS

COOPERATION BETWEEN THE CHEMICAL SOCIETIES OF GREAT BRITAIN

THERE has recently been circulated to all members of the Chemical Society, the Institute of Chemistry and the Society of Chemical Industry, according to *Nature*, a draft agreement in regard to cooperation. The adoption of the agreement is unanimously recommended by the council of the Society of Chemical Industry and the draft agreement was published in *Chemistry and Industry* on March 15. The agreement provides for the establishment of a fund to be administered by a Chemical Council consisting of three members nominated by the council of each society, together with three representatives of industry, coopted in the first instance on the nomination of the Association of British Chemical Manufacturers. The objects of the fund are the allocation of grants to the constituent bodies for the coordination of scientific publications, promotion of research, maintenance of a library, etc. Complete freedom of action is reserved to each constituent body in respect of the matter it publishes. The management of the library of the Chemical Society is delegated to a joint library committee, and contributions to the net annual maintenance expenditure are to be borne by the constituent bodies in proportion to their membership, with due allowance for overlap. This involves, for example, an increase in the contribution of the Institute of Chemistry to £654 and from the Society of Chemical Industry to £448. The agreement is for seven years and thereafter to continue for successive periods of three years, subject to right of withdrawal on giving one year's notice at the end of any period. If the agreement succeeds, it is anticipated that means of reducing subscriptions to the three organizations will be found.

CONFERENCE OF REPRESENTATIVES OF AGRICULTURE, INDUSTRY AND SCIENCE

DR. FRANCIS P. GARVAN, president of The Chemical Foundation, Inc., has announced that a joint conference of representatives of agriculture, industry and science will be held at Dearborn, Michigan, on May 7 and 8.

In addition to Dr. Garvan those joining in calling the conference are: Edward A. O'Neal, president of the American Farm Bureau Federation; Louis J. Tabor, master, the National Grange; Clifford V. Gregory, chairman, National Agricultural Conference.

The purpose of the conference is to survey the variety of farm products which through organic chemistry can be transformed into raw materials usable in industry, and to develop a plan for the joint cooperation of agriculture, industry and science for promoting

in orderly fashion an increasing use of American farm products in American industry.

The hope is entertained that such cooperation will result in the gradual absorption of much of the domestic farm surplus by domestic industry; put idle acres to work profitably; increase the purchasing power of the American farmer on a stable, permanent basis; increase the demand for manufactured products which the American farmer wants, needs and then will be able to purchase; create new work, thus reviving American industry and aiding American labor. The sponsors of the conference believe that in proportion as these objectives are accomplished, the depression will recede and dependable national prosperity will return.

The sessions will be held at Dearborn Inn, Dearborn, Mich., where Carl B. Fritsche, chairman of the committee on arrangements, has opened headquarters. Those who will take part in the program include: Dr. E. R. Weidlein, director of the Mellon Institute; Dr. C. F. Kettering, president of the General Motors Research Corporation, and Dr. Charles H. Herty, Pulp and Paper Laboratory of the Industrial Committee of Savannah, Inc., at Savannah, Ga.

THE WASHINGTON CONFERENCE ON THEORETICAL PHYSICS

SCIENTIFIC men from various universities throughout the country gathered in Washington on April 19, 20 and 21 for a conference on theoretical physics under the joint auspices of the Carnegie Institution of Washington and the George Washington University.

The conference was the first of a series to be held annually in Washington in connection with the researches in nuclear physics conducted by the Carnegie Institution, and the work which is being done in this field at the George Washington University under the leadership of Dr. George Gamow. Dr. Gamow, who is known for his work on atomic nuclei and the theory of radio-activity, has served during the past year as visiting professor of theoretical physics in the George Washington University. His appointment to the regular staff of the university was recently announced.

Day sessions of the conference were held at the university and evening sessions at the Department of Terrestrial Magnetism of the Carnegie Institution. On the opening day members of the conference were the guests of Dr. Cloyd H. Marvin, president of the university, at a luncheon at the Cosmos Club.

The purpose of the conference was to discuss informally problems and recent advances in nuclear physics. Specific topics included: (1) General nuclear model; (2) nuclear transformations; (3) the process of beta-disintegration; (4) the effects of high-energy radiations. Each session was opened by a brief introduction of the subject by one speaker, and the balance of the time left free for discussion.

Those who attended the conference included: Dr. G. Breit, University of Wisconsin; Dr. Edward U. Condon, Princeton University; Dr. P. A. M. Dirac; Dr. S. Goudsmit and Dr. G. E. Uhlenbeck, University of Michigan; Dr. A. Lande, the Ohio State University; Dr. L. Nordheim, Purdue University; Dr. H. Bethe, Cornell University; Dr. G. Beck, University of Kansas; Dr. J. C. Merriam, Dr. John A. Fleming, Dr. L. R. Hafstad and Dr. M. A. Tuve, of the Carnegie Institution of Washington; Dr. L. J. Briggs, Dr. F. L. Mohler and Dr. L. B. Tuckerman, of the National Bureau of Standards; Dr. Charles R. Mann, Dr. T. B. Brown, Dr. James H. Taylor and Dr. George Gamow, of George Washington University. Dr. J. R. Oppenheimer, of the University of California and the California Institute of Technology, who was among those invited to participate, could not attend.

Next year the conference will place the emphasis on certain problems related to chemistry.

THE AMERICAN PHILOSOPHICAL SOCIETY

AT the general meeting of the American Philosophical Society held in Philadelphia on April 18, 19 and 20, the Penrose Memorial Lecture was given by Dr. W. F. G. Swann, director of the Bartol Research Foundation of the Franklin Institute, whose subject was "Is the Universe Running Down?" The addresses at the annual dinner were given by Dr. H. H. Donaldson, of the Wistar Institute of Anatomy; Dr. Edwin G. Conklin, of Princeton University, and Dr. Harlow Shapley, director of the Harvard College Observatory. On Saturday afternoon a reception was given at the Franklin Institute, preceded by an address entitled "A Brief Sketch of the Franklin Institute," by Dr. Howard McClenahan, director of the institute. In the morning there were addresses on "Cosmic Rays," by Dr. Robert A. Millikan, director of the Norman Bridge Laboratory of Physics and chairman of the executive council of the California Institute of Technology, and by Dr. Arthur H. Compton, professor of physics at the University of Chicago.

The following members were elected:

Dr. Roger Adams, professor of organic chemistry and head of the department, University of Illinois.

Dr. Leo H. Baekeland, honorary professor of chemical engineering, Columbia University.

Dr. Franz Boas, professor of anthropology, Columbia University.

Dr. Lyman J. Briggs, director of the National Bureau of Standards.

William L. Bryant, director of the Park Museum, Providence, Rhode Island.

Rhys Carpenter, professor of classical archeology, Bryn Mawr College.