beyond empiricism, nor obtain any insight into the real meaning and relations of natural phenomena.

HARRY C. JONES.

---

*APPROPRIATIONS FOR THE U. S. DEPARTMENT OF AGRICULTURE.**

THE passage of the agricultural appropriation act for the year 1901–1902 marks an epoch in the history of the development of the national Department of Agriculture. Not only does it carry the largest appropriation ever made for the Department and provide for future extension of its work in various lines, but it inaugurates a scheme for the partial reorganization of the scientific branches of its work. Three of the present divisions are raised to the grade of bureaus, and a number of other divisions are associated in one large Bureau of Plant Industry, corresponding in a general way to the present Bureau of Animal Industry.

Starting first as an appendix to the Patent Office for the distribution of seeds, the Department of Agriculture was formally organized in 1862 as an independent department in charge of a commissioner, and in 1889 was raised to the dignity of an executive department. The passage of the Hatch Act providing for agricultural experiment stations about that time increased its responsibilities and extended its field of usefulness.

The growth of the Department has been steady and uninterrupted. The importance of its work has been recognized by steadily increasing appropriations, and the relations maintained with the experiment stations furnish a means of carrying its investigations into every section of the country, in cooperation with these institutions, and serve to broaden its influence. As an institution for agricultural investigation it is now without a counterpart in any country, and there are few, if any, scientific institutions which include so large an aggregation of scientists and experts devoting their attention to investigations and research. The Department is coming to be generally recognized as one of the great scientific institutions, not alone in this country, but of the whole world. The formation of bureaus is a fitting step at this juncture, for it is a recognition of the growth which has been made and the need for a more compact form of organization. The creation of these four new bureaus, in addition to the Weather Bureau and the Bureau of Animal Industry, is a following out of the general divisions into which the subject of agriculture seems logically to fall, associating such lines of work as relate closely to each other and providing for the closest cooperation practicable among them.

The new Bureau of Plant Industry embraces the divisions of Botany, Vegetable Physiology and Pathology, Agrostology, Pomology, and Gardens and Grounds, and is under the directorship of B. T. Galloway. To this bureau has also been assigned the Section of Seed and Plant Introduction, together with the general supervision of the experiments in tea culture. A horticulturist will be added to the list of specialists, with the intention of developing the work of investigation along that line. From the standpoint of administration the arrangement will be an economy of time and will give greater opportunities for investigation to the chiefs of the divisions.

In recognition of the plan for a systematic survey of agricultural soils and for extension of the work in forestry, the divisions of Soils and Forestry receive bureau organizations and are raised to that designation. The fourth bureau provided for is the Bureau of Chemistry, to which additional scope will be given.

* From proofs of the 'Experiment Station Record,' Vol. XII., No. 9.

The appropriation act makes frequent mention of cooperation between the different divisions of the Department and also with the agricultural experiment stations. The establishment of the Bureau of Plant Industry will favor the extension of the cooperation and will assist in adjusting the lines of work and preventing any tendency to duplication.

Of the new bureaus the Bureau of Plant Industry receives the largest appropriation, namely, $231,680. The amounts appropriated for the different lines of investigation in charge of this bureau, aside from certain salaries, are $60,000 for investigations in vegetable pathology and physiology, $20,000 for pomological investigations, $45,000 for botanical investigations and experiments, $20,000 for grass and forage plant investigations, $20,000 for seed and plant introduction, $7,000 for tea-culture experiments (an increase of $2,000), and $20,000 for gardens and grounds. The total appropriation for the Bureau of Plant Industry represents an increase of $61,900 over the combined appropriations for the previous year of the divisions associated in it. A new feature of the botanical investigations is the study of useful plants of the tropical territory of the United States, together with plants likely to be of value for introduction into those sections. Furthermore, investigations are to be made on 'the varieties of wheat and other cereals grown in the United States and suitable for introduction, in order to standardize the naming of varieties as a basis for experimental work of the State experiment stations and as an assistance in commercial grading'; and in cooperation with the Bureau of Chemistry, the cause of deterioration of export grain, particularly in oceanic transit, is to be investigated, together with means of preventing such loss. Special mention is made in the appropriations for this bureau of the employment of scientific aids, a class of employees drawn from the agricultural colleges, which has previously been arranged for in the Department.

The Bureau of Forestry receives $185,440, an increase of $105,440 over the previous year. The appropriation for the Bureau of Soils is $109,140, which is an increase of $77,840. This is to enable an extension of the tobacco investigations, which remain in charge of this bureau, and the investigation and mapping of soils in the United States. The Bureau of Chemistry receives $35,800, and in addition to its other duties is charged with the investigation of food preservatives and coloring matters 'to determine their relation to digestion and to health and to establish the principles which should guide their use.'

The Weather Bureau receives increased appropriation for general maintenance, and $46,000 for the erection and equipment of buildings in six different places, and for laying a cable between the mainland and Tatoosh Island, Washington, making the total appropriation $1,148,320. The maintenance fund of the Bureau of Animal Industry is increased $50,000, and the inspection work is extended to include dairy products intended for exportation to foreign countries. Such products, the same as meats, may be marked, stamped or labeled, so as to secure their identity and indicate their purity and grade. This is an entirely new provision, which it is hoped will tend to place American products on a better footing in foreign markets. An appropriation of $25,000 is made, in addition to one of $50,000 last year, for animal quarantine stations, giving a total for the bureau of $1,154,030.

The appropriations for agricultural experiment stations have reached the sum of $789,000, including $33,000 for the Office of Experiment Stations, as heretofore, and $12,000 each for stations in Alaska, Hawaii and Porto Rico. The Hawaii station

will be located near Honolulu on a government reservation originally set apart by the provisional government for the use of an experiment station. It is intended to make the work there supplementary to that of the experiment station which has been maintained by the Hawaiian sugar planters, and attention will be given to other field crops and the development of animal industry and horticulture. Jared G. Smith, recently in charge of the Section of Seed and Plant Introduction of this department, has been placed in charge of the Hawaii station, and will take up the work there about the middle of April. Fifty thousand dollars was appropriated to continue the irrigation investigations, and $20,000 for nutrition investigations, the latter being an increase of $2,500.

The Division of Statistics receives $156,160, the same as last year, the Division of Entomology $36,200, and the Division of Biological Survey $32,800. The fund for publications is increased by $50,000 for farmers' bulletins and a small amount for distribution, making the total for the Division of Publications $198,020 aside from the general printing fund, $110,000. Other appropriations are as follows: seeds, $250,000, exclusive of the $20,000 mentioned for seed and plant introduction, an increase of $100,000; library, $16,000; public-road inquiries, $20,000, an increase of $6,000; investigating the production of domestic sugar, $5,000; Arlington farm, $10,000; office of the Secretary, $71,670; Division of Accounts, $18,900; Museum, $2,260, and contingent expenses, $37,000. The grand total, including the regular appropriations for the experiment stations, is $4,582,420, an increase of $558,920 over last year.

An important item of the appropriation act is the authorization of the Secretary of Agriculture to submit plans and recommendations for a fireproof agricultural building, to be erected on the grounds of the Department, and appropriating $5,000 for the preparation of such plans. The Department long since outgrew its original accomodations, and for years has been badly cramped for room. The present main building has been condemned as unsafe, and from the nature of its construction the risk of fire has always to be met. Besides erecting a number of small buildings, which are mere temporary makeshifts, it has been necessary to rent several residences in the neighborhood and adapt them to laboratory and office purposes. Laboratory buildings for the Division of Chemistry and the Bureau of Animal Industry have been specially erected by private parties and rented to the Department. The amount now paid for rental for these buildings, together with the additional expense required for watchmen, aggregates about $10,000 annually. The position to which the Department has now attained, the demands of its work, and the safety of its library records and collections, make a modern agricultural building a practical necessity if not an imperative need.

E. W. Allen.

THE REDUCTION TO ABSURDITY OF THE ORDINARY TREATMENT OF THE SYLLOGISM.

The traditional treatment of the syllogism errs both by redundancy and by insufficiency—that is to say, the validity of the syllogism can be tested by a far simpler method of procedure, and, on the other hand, the ordinary method fails of application to a vast number of pairs of propositions which are nevertheless the premises of a valid syllogism. In the first and second moods of the first figure the syllogism is in what may be called its primitive form—it is doubtless the only form in which it is used by children and savages; but there is another form, in which negative modes of expression are given free play, which is far