Even with subsidies from learned societies the continuation of some American scientific publications seems dubious under present economic conditions. The American Statistical Association is now taking a vote on the continuance of the *Annals of Mathematical Statistics,* stating that its annual subscription rate must be raised to $12.00 on the basis of the present number of subscribers. At the proposed rate the *Annals* will cost next year about 3½ cents a page —not far from the cost per page of many German scientific periodicals.

The librarians present at the A. L. A. conference accepted the concessions made by the German publishers as the inauguration of a new policy which will make possible in the future even further reductions than those now definitely promised. The condensation of important articles and the elimination of less important will be a relief both to scientists and to libraries; on the other hand, it is difficult to see how the basic cost per page can be decreased without subsidies or an increase in number of subscriptions. The depreciation of the American dollar in terms of foreign currency has introduced a new factor which promises difficulties for librarians, for scientists and for German publishers. The income of libraries is decreasing. Even with the reductions made by the German publishers the cost of importations will not be decreased, as the present rates of exchange have practically nullified the reductions, in so far as American libraries are concerned. Under present conditions of exchange the possibility of an increase in the number of American subscriptions to any foreign periodical is doubtful.

There is one point that did not appear in the Chicago discussions but which is worthy of note. For research a knowledge of the literature previously published on the subject under investigation is considered a necessity. The cost of the literature is an insignificant item compared to the total cost of research, but is a desirable and justifiable expenditure, if expensive duplication is to be avoided. A small proportion of funds devoted to research may well be set aside for the purchase of the literature.

The statement of the German representatives, confirmed later by other German publishers, that subscriptions from Japan to German scientific periodicals exceed those from the United States, throws an interesting sidelight on the relation between research and use of the literature. In view of this fact, it is easy to understand why Japanese scientific periodicals are rapidly increasing in reputation and recognition.

Productive research depends upon cumulative knowledge. "Progress in any field of investigation, however, depends upon the extent to which each new investigation builds upon the past and the extent to which it contributes new information and discovers new relationships. Failure so to build upon the past frequently means aimless wandering about in fields previously explored in the same desultory fashion."[3] Under present conditions, with diminishing library budgets and consequently decreasing subscription lists there is a grave danger that the results of research will not become known at all widely and that many valuable and badly needed scientific journals will pass out of existence.[4] German publishers in the curtailment of articles and the omission of the less important material have taken very decided steps in the right direction. They deserve our support and encouragement in their energetic attempts to remedy a most serious situation.

It is to be hoped that with the waning of the world-wide depression increased funds for libraries and increased subsidies to publishers—outlays which represent at the most only a small fraction of the cost of research—will be forthcoming to ensure the availability of the results of scientific investigations to all interested.

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THE UNITED STATES BOTANIC GARDEN

IN SCIENCE of March 2, page 206, Professor Varrelman calls attention to the impending retirement of Director Hess, of the U. S. Botanic Garden. It should be noted that a bill has been introduced into the Senate (Senate Bill 1839) providing for the transfer of the Botanic Garden to the U. S. Department of Agriculture. The main arguments for this transfer may be summarized as follows:

The present government of the Botanic Garden is an

[3] E. W. Allen, Editorial *Experiment Station Record,* 55: 303, September, 1926.

[4] The fear that curtailment of library budgets will indirectly prevent the publication of many valuable scientific articles and books is becoming wide-spread. *Cp.* "Practical Methods for Reducing the Cost of Instruction," by J. D. Russell, in *Journal of Higher Education,* 5: 24–29, January, 1934. "An item of instructional expenditure that has been eagerly pounced upon as offering the opportunity for curtailment in the present emergency is the library budget. It is extremely unfortunate that the necessity of reducing these appropriations has been felt just at the time when instructional methods are being developed which are likely to increase the use of the library. . . . Slashes in library book budgets tend in the long run to be reflected in the incomes of college and university faculty members over the country. A restriction on the purchases of such books not only means a reduction in the royalty income of the ablest and most productive scholars, but greatly increases the difficulty of obtaining publication for scholarly materials of intrinsic worth. Any long-continued policy of restricting the purchases of books for college and university libraries will probably be disastrous for that type of scholarship which depends on publication for its financing."

anachronism, dating from the time in the distant past when there was no organized work in agriculture under the government. To continue it under present circumstances is unnecessary and inexcusable.

Congress is poorly qualified for the management of such an institution, which is an administrative rather than a legislative function. As a consequence, the abuses which Professor Varrelman mentions have grown up.

A Botanic Garden is properly a scientific institution and could function as such under the Department of Agriculture, to the great advantage of the various plant industry activities of the government.

The Botanic Garden should supplement the activities of the National Arboretum, now under development, by performing for herbaceous plants and smaller growths the same service which the Arboretum contemplates for trees.

The transfer is in harmony with the policy of the administration to unite similar activities for economic administration and efficient operation.

The retirement of Director Hess necessitates a certain amount of reorganization, making of the present an auspicious time for the transfer. If the garden is allowed to relapse into the old routine, it will be very difficult to bring about the change in the future.

Horticultural interests are strongly advocating the change and it is to be hoped that workers in other fields of science will do likewise.

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WEST POINT, NEW YORK

DECREASE IN GOVERNMENT APPROPRIATIONS FOR ENTOMOLOGICAL WORK

IN the furtherance of economy, the administrative budget as presented to the Congress of the United States provides for drastic reductions in appropriations for the support of entomological work. During the past thirty years the Bureau of Entomology has grown from a small group of enthusiastic economic entomologists into a great organization of highly trained men who have become recognized authorities in almost every phase of entomology. It is now proposed by the curtailment of support to disorganize and to disrupt this organization, to throw out of employment many entomologists who have dedicated their lives to this branch of scientific work at the invitation of the government.

That insect pests will decrease in importance is unthinkable. Inevitably in the future there will be need for many more specialists in the several fields of entomological work than have so far been employed. Since virtually all these problems cross state lines, they are federal and their solution is a function of the federal government. To disrupt this staff in the face of certainties of future needs, in order for the moment to save a few thousand dollars, is not economy but futile and false show of economy.

We realize that the injustices and unwise proposals here outlined are being equally applied to other lines of scientific endeavor in the government service, but we feel it our duty to point out these facts as they apply to entomology.

We believe that if this false economy is practised this year, the people of the United States will pay for this folly a thousand fold.

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President, Entomological Society of America
E. F. PHILLIPS,
President, American Association of Economic Entomologists

SCIENTIFIC APPARATUS AND LABORATORY METHODS

AN EXTRACTOR FOR FLUID SYSTEMS

A SIMPLE apparatus, yet one more efficient than those commonly in use, is suggested for the extraction of various quantities of aqueous fluids by solvents either lighter or heavier than water. It is based upon the principle of a simple but satisfactory and long known gas-washing apparatus, which consists of an inclined tube filled with the wash fluid. A bubble of gas entering the lower end is obliged to roll slowly up through the liquid. Continuous exposure of fresh surface over the rather long path makes the washing very thorough. This idea applied to a globule of solvent traveling through a fluid to be extracted has shown that the effectiveness of the extraction is likewise very satisfactory.

The figure is self-explanatory if the usual types of extractors are compared with it.[1] The ends of the glass tubing in the connections can be fitted together very closely so that no rubber is exposed. No difficulty from the action of solvents on rubber has been encountered. The rubber stopper is at no time in contact with the organic solvent and hence causes no difficulty. Cork stoppers are desirable for the flask and the condenser. Ground glass connections could of course be used.

For solvents heavier than water, the same container or series of containers may be used with a different arrangement of glass bends. In this case the end

[1] Wieland-Gattermann (McCartney), p. 34, 1932; Lassar-Cohn (Osper), p. 207, 1928; Houben, I, p. 572, 1925; Zelmanowitz, *Biochem. Zeitschr.*, 1: 253, 1906; Palkin, Murray and Watkins, *Ind. and Eng. Chem.*, 17: 612, 1925.