science. It has been far easier to get funds for types of work which promise early contributions to practice than those which dig deep and lay solid foundations to make the whole superstructure sure. The dependence of the former upon the latter needs to be recognized.

The magnificent work of Armsby and his associates has been the admiration of the scientific world, but in spite of its ultimate practical value, and especially in furthering investigation, it had not within itself the elements of publicity, and was only vaguely understood. It never had an assured permanent income, and in that sense was obliged to live from hand to mouth. The loss this entailed is realized too late; and now the future of the work he so admirably started is under discussion. It would be a calamity if it were allowed to fall to the ground.

The large amount of attention now being given to fundamental and searching inquiry on the soil, the conditions of plant growth, and related subjects, should not fail of mention in this connection, for it illustrates the development of insight into these problems. At no period has there been anything comparable to it. The results which are following from these intensive studies amply justify the expectations of them as constructive means of progress.

With all the facts clearly in mind, it is very important to take an account of stock in the more conventional lines of experiment; to study seriously the long list of the better experiments in order to determine what they have actually shown, what they are competent to show, and the lessons they teach in methods. By all means, let us garner in all the teachings of these field and other common types of experiment; let us profit by both the good and the bad experience, but let not the negative results be overlooked in searching for the more positive ones. Such experiments represent large annual expenditures, and they occupy the time of a large body of workers. They express a confidence on which men are staking their efforts and their prospects. It is important to know the place which such experiments should occupy in future study and the manner in which they need to be supplemented. This may be one of the fundamental lessons to be drawn from them, and may indicate that their most useful field is in supplementing laboratory studies, rather than the reverse as at present.

In a public supported enterprise like agricultural investigation there must necessarily be a happy combination of effort representing different grades of intensity. Some problems or stages of them call more urgently for the full measure of the method of science than others, and it will be for the investigator to govern himself accordingly. But he can not fail to exercise a critical attitude toward all his work and his methods, or to exemplify in them the element of real progress.

E. W. ALLEN
U. S. DEPARTMENT OF AGRICULTURE

THE CONCILIUM BIBLIOGRAPHICUM

IN the issue of *Science* of December 2, I called attention to the critical situation in which I found the Concilium Bibliographicum this summer, when I made a special trip to Zurich to investigate this situation for the National Research Council and the Rockefeller Foundation.

On the occasion of this visit I proposed, after conferences with Mrs. Field (widow of the late Dr. H. H. Field), her business advisers, the chief of the technical staff of the Concilium, and official representatives of the Swiss Natural Science Association, which becomes under Dr. Field's will the legatee, under certain conditions, of Dr. Field's financial interests in the Concilium, a plan for an immediate temporary reorganization of the Concilium to last until January 1, 1922, and a further plan for a provisional permanent reorganization to go into effect as from that date.

The plan for temporary reorganization was put into effect immediately with Professor J. Strohl, of the Zoological Institute of the University of Zurich, as acting director, without salary. The proposed provisional permanent reorganization—by "provisional permanent" I mean a well considered and fully supported organization to run on until international mat-

ters may indicate a desirable change—required, for putting into effect, the approval and definite action of the Field estate, the Swiss Natural Science Association, the National Research Council, and the Rockefeller Foundation. I obtained the formal agreement of the Field estate and Swiss Association before leaving Zurich and now the Research Council and the Rockefeller Foundation have signified formal approval and taken the necessary definite action.

This arrangement, which would require too much space to set out in detail here, provides for the control of the Concilium, until some later arrangement for control by a satisfactory international board can be made, by a special Commission set up by the Swiss Natural Science Association on which there shall be an official representative of the National Research Council whose acquiescence must be obtained for any major activity or expenditure of funds proposed by the commission. In addition, the National Research Council sets up a special committee on Concilium matters to advise and instruct the Council representative on the Swiss Commission. This committee of the Research Council is composed of Drs. R. M. Yerkes and L. R. Jones, and myself as chairman. I am also appointed as the Council's representative on the Swiss Commission.

To clear up the current obligations of the Concilium and help maintain it during the next five years the Rockefeller Foundation has appriated and pledged to the National Research Council the following sums: Appropriated: to meet outstanding obligations, $15,000, and for maintenance during 1922, $20,000; pledged: for maintenance during 1923, $20,000; during 1924, $15,000; 1925, $10,000; 1926, $5,000, after which the Foundation assumes no further financial obligation for the Concilium. This means that the Concilium must arrive at a self-sustaining condition by January 1, 1927, or have found by then other philanthropic assistance.

It is proposed that a staff composed of a director, a competent secretary-bookkeeper, three trained technical assistants, three untrained assistants, and the needed stenographers and messengers, be arranged for at once. To maintain this staff and provide the necessary office expenses (postage, telegraph, telephone, fuel, lighting, etc.) the Concilium has not only the Rockefeller Foundation subvention but an annual subsidy of 5,000 francs (Swiss) a year from the Swiss Government and one of 1,000 francs (Swiss) from the Canton of Zurich. It has also whatever income can be derived from sale of its bibliographic cards and books. It has a building of its own, well suited and fairly well equipped for its work.

Thus the Concilium has, thanks to the generous action of the Rockefeller Foundation, a new lease of life and Dr. Field's noble and self-sacrificing work and his plans for increasing the Concilium's usefulness are not to go unregarded. Plans for extending the bibliographic work to other fields not now covered by it, and for a possible development of an abstracting system in addition to the present subject, title and author references, are under consideration. In this connection the managing board of the Concilium will need and will welcome all the advice that can be given it.

There should be, also, a greatly increased list of subscribers to the cards and books issued by the Concilium. The National Research Council will undertake a campaign to add to the list of American subscribers, and the Director (in Zurich) will institute a similar campaign in Europe. So I shall have occasion to ask the editor of *Science* for space in the near future for still another note about the Concilium.

VERNON KELLOGG
THE NATIONAL RESEARCH COUNCIL

HENRY TURNER EDDY

THE death of Henry Turner Eddy occurred at his home in Minneapolis on December 11, 1921, due to an acute attack of pneumonia, after only a few days' illness.

Dr. Eddy was born at Stoughton, Mass., on June 9, 1844. He was the son of Henry Eddy,