Entomology, Warren Knaus, McPherson, Kansas.
Physics, C. V. Kent, University of Kansas, Lawrence.
Psychology, O. W. Alm, Kansas State College, Manhattan.
Zoology, Claude Hibbard, University of Kansas, Lawrence.
Junior Academy, Oscar Klingman, Junction City.

Among the new committees appointed by President George Dean was a new Junior Academy Committee, consisting of J. R. Wells, Pittsburg, John M. Michener, Wichita, and Edith Beach, Lawrence, and a new committee to study the issuance of a series of natural history hand-books by academy members, consisting of Frank C. Gates, *chairman,* E. J. Wimmer and W. H. Schoewe.

A total of 307 members registered for the academy meetings, 52 for the university professors meeting and 72 for the entomological meetings.

The next annual meeting of the academy will be held during the spring of 1938 at the Kansas State Teachers College, Pittsburg. It was also agreed that the seventy-first meeting will be held at the University of Kansas, Lawrence, during the spring of 1939.

ROGER C. SMITH,
Secretary

REPORTS

THE UNION OF AMERICAN BIOLOGICAL SOCIETIES AND BIOLOGICAL ABSTRACTS

AT a meeting of the Council of the Union held in Atlantic City on December 28, 1936, E. V. Cowdry was elected president; G. W. Hunter, III, secretary; Ivey F. Lewis, treasurer; and W. C. Curtis, E. B. Krumbhaar and E. D. Merrill additional members of the executive committee.

The members of the Union are:

American Association for the Advancement of Science
  Section F, Zoological Sciences
  Section G, Botanical Sciences
  Section N, Medical Sciences
  Section O, Agriculture
American Association of Anatomists
American Association of Economic Entomologists
American Association of Immunologists
American Dairy Science Association
American Genetic Association
American Ornithologists' Union
American Physiological Society
American Phytopathological Society
American Society of Agronomy
American Society of Biological Chemists
American Society of Clinical Pathologists
American Society for Experimental Pathology
American Society for Horticultural Science
American Society of Ichthyologists and Herpetologists
American Society of Mammalogists
American Society of Naturalists
American Society of Parasitologists
American Society for Pharmacology and Experimental Therapeutics
American Society of Plant Physiologists
American Society of Zoologists
Botanical Society of America
Ecological Society of America
Entomological Society of America
Genetics Society of America
National Research Council
  Division, Biology and Agriculture
Poultry Science Association
Society of American Bacteriologists
Society of American Foresters
Society for Experimental Biology and Medicine

According to its constitution, the objects of the Union are ". . . to stimulate investigation in the field of biology, to organize and promote the interests of bibliography and publication, to deal with questions of general interest in the field of biology and in general to promote the solution of those broad problems which the specialized societies are not in a position to support effectively, and to do anything else which may serve these ends."

Under the presidency of W. C. Curtis, the Union sponsored *Biological Abstracts* and it is proposed to continue giving all possible assistance to this important project. A very encouraging feature of the Atlantic City meeting of the American Association for the Advancement of Science was wide-spread approval of the editorial management of *Biological Abstracts* and of the service which it renders. The biological sciences include many divergent specialties. To have them integrated in this way is highly desirable and one of our greatest needs if civilization is to profit by the so-called "life-sciences." That biologists generally are eager not only to give time and energy to the arduous task of careful abstracting but, in addition, to actually contribute financial support for necessary expenses was abundantly demonstrated. Of the societies meeting during the Christmas holidays, the American Society of Zoologists, the Botanical Society of America, the American Society of Parasitologists, the Genetics Society of America and the Ecological Society of America all voted an assessment on their members, in some cases mandatory, in others not mandatory. The American Genetic Association issued an informal request for aid. Moreover the Society of American Bacteriologists, the American Society of Naturalists, the American Limnological Society, the

Poultry Science Association and the Society of American Foresters made generous contributions from their treasuries; others still have the matter under consideration. A special committee of the National Academy of Sciences is cooperating with the Union and the National Research Council in a vigorous campaign to raise sufficient funds to permanently establish *Biological Abstracts* on a secure foundation. The membership of this committee is: Ivey F. Lewis, *chairman,* A. Parker Hitchens, C. E. McClung, Herbert Osborn, G. H. Parker and L. B. Wilson. The Union has requested the board of trustees of *Biological Abstracts* to submit a statement of the present status of *Biological Abstracts.* This is appended.

Last year the Union appointed, and decided to sponsor in the same way, a committee on biological science teaching, consisting of Oscar Riddle, *chairman,* E. V. Cowdry, H. B. Glass, B. C. Gruenberg and F. L. Fitzpatrick, whose efforts are directed particularly toward improvement in the teaching of all branches of biology in secondary schools.

Suggestions are invited from the member societies, and from all who are interested as to other services which the Union of American Biological Societies may properly perform.

PRESENT STATUS OF BIOLOGICAL ABSTRACTS

The members of the Board of Trustees of *Biological Abstracts* are: C. E. McClung, president; A. F. Woods, vice-president; J. R. Schramm, editor; Chas. M. B. Cadwalader, treasurer; I. W. Bailey, H. C. Bazett, A. F. Blakeslee, A. Parker Hitchens, C. A. Kofoid, Walter Meek and Herbert Osborn. Frederick V. Rand serves as secretary to the Board. The following statement is offered:

Underlying *Biological Abstracts* is a broad principle. Increasing volume and specialized character of new information has elevated integration and synthesis to the position of commanding problems. Among the many ways in which this integration is fostered in biology, none appears to be as permanently effective, economical and free from geographical limitations as a comprehensive abstracting service provided with excellent indexes. *Biological Abstracts* was therefore undertaken not as a passive bibliographic tool but as an instrument susceptible of development into a constructive force in the integrated development of the science.

The service, issuing its first volume in 1927 and its eleventh in 1937, was made possible by support from the Rockefeller Foundation. This subsidy expired in 1935. A review of the situation in 1935 by a special Committee on *Biological Abstracts* of the Science Advisory Board led to the conclusion that the value of the instrument was thoroughly established and that every means would be sought for its permanent support. This special committee, now a subcommittee of the Government Relations and Science Advisory Committee of the National Academy of Sciences, is endeavoring to develop a stable and adequate financial basis for *Biological Abstracts.* In these efforts the Union, the Board of Trustees of *Biological Abstracts* and the Division of Biology and Agriculture of the National Research Council are lending their fullest cooperation. Meanwhile the service is in a very precarious position, being maintained by temporary emergency measures, including financial contributions from the member societies of the Union, either through membership assessments or treasury grants.

Biological Abstracts may be said to be in process of development, with its objectives at the moment only partly realized but distinctly in sight. Not having been able to pay honoraria for abstracting, it has not achieved the desired uniform promptness. Payment of honoraria, long recommended by the editors, would correct this shortcoming. Availability of funds for honoraria would also enable *Biological Abstracts* to bring the abstracting of the research literature within its scope to satisfactory completeness.

Probably most serious has been the delay in the indexes. The editors rightly adhered tenaciously to the principle that the permanent reference value of the service depended almost entirely upon the quality of its indexes. The original organization of these indexes was a colossal task. Handicapped by inadequate funds, delays occurred. But the thorough ground work in the earlier indexes is reflected in more rapid progress on the later ones. Only one index is now in arrears, and it will appear in the summer of 1937.

It is generally agreed that these highly integrated indexes have achieved an unusual standard of excellence. Inconvenient as has been the delay in their appearance, the thoroughness of the work assures to the volumes of *Biological Abstracts* extraordinary permanent reference value. And now that the essential organization work is completed and the technique mastered, serious delays in indexes of future volumes are unlikely.

Biology is a diversified science. But the interdependence of its several branches is increasingly evident. Advances are linking together fields in fruitful and unpredictable ways, with a wholesome disregard of boundaries between traditional disciplines. The comprehensiveness of *Biological Abstracts* with its interlocking indexes is powerfully promoting this salutary integration. At the same time its sectional arrangement and detailed indexes adapt it to meet analytical needs.

Biology thus has an instrument which appears to

be admirably adapted to serve constructively its best interests, requiring only further development along the general lines indicated. The problem now is almost wholly a financial one. Contributing as volunteer abstracters and section editors, and often as subscribers as well, biologists individually, both here and abroad, have from the beginning lent very impressive support. This, and the increasing material contribution from the organized societies of biologists, is indicative of the wide-spread determination to maintain and develop *Biological Abstracts*. But, as clearly foreseen from the beginning, such support, including subscription income, probably at best can not provide more than one third of the funds necessary to maintain *Biological Abstracts* adequately, even in the immediate future. At the same time, such support on a still broader basis is indispensable to the present efforts to secure the necessary additional permanent funds from other sources.

The adequate solution of the financial problem of *Biological Abstracts* is admittedly difficult. But in view of the investment made, the service already rendered and the great potentialities ahead, it is incredible that it should now fail for lack of adequate financial support.

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SPECIAL ARTICLES

EXPERIMENTAL DETERMINATION OF THE ANTICONVULSANT PROPERTIES OF SOME PHENYL DERIVATIVES[1]

THE introduction of bromides and later of phenobarbital may well be considered the two greatest steps forward ever made in the practical treatment of the convulsive state. In view of the prevalence of the condition and the urgent need for better means of controlling it, there have been surprisingly few attempts to survey the field for even more effective medication. One difficulty has been to devise a standard means of producing convulsions in animals for preliminary studies. The use of convulsant drugs (for example, in the hands of Keith,[2] Elsberg and Stookey[3]) have not been thoroughly satisfactory. Fulton and Keller[4] have compared the effect of various anesthetics on the excitability of the cerebral cortex to electrical stimulation. Krasnogorosky[5] has used an arrangement of electrodes somewhat similar to ours for the purpose of producing experimental convulsions, and Spiegel[6] has designed an apparatus for determination of the convulsive reactivity by gradual electrical stimulation of the brain with the skull intact, using electrodes placed upon the eyeballs. We are indebted to Dr. Frederic A. Gibbs for suggesting that a modification of these methods could be used for our purposes and to Dr. Paul Hoefer for help in devising one which has proved simple and practical.

As used at present, the stimulator consists of a 45-volt radio battery, discharging through a commutator operated by a motor and through a potentiometer of 50 ohms. One end of the potentiometer is wired through a 0–50 milliammeter to an occipital electrode and the sliding connection is wired to a mouth electrode. Thus, it is possible to apply shocks at various speeds and at various amperages (Fig. 1).

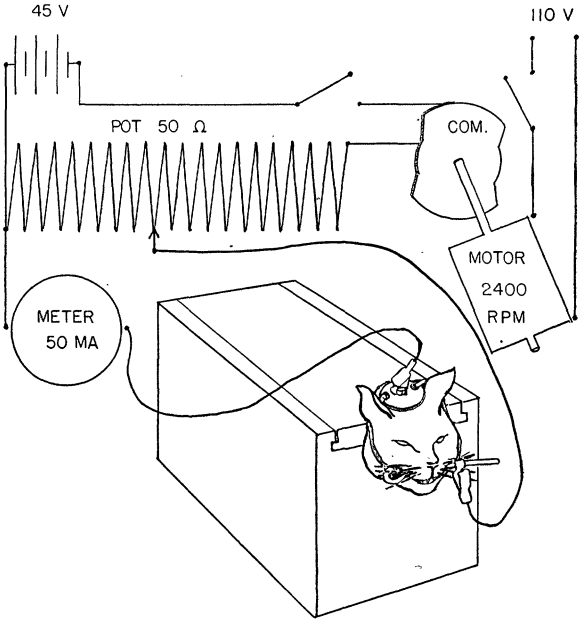

FIG. 1. Diagram of the wiring employed, permitting an interrupted current of determined amperage to be applied through an animal's head to determine the threshold for convulsions.

[1] From the Department of Neurology, Harvard Medical School, and the Neurological Unit, Boston City Hospital, Boston. This work was aided by a grant from Parke, Davis and Company.

[2] H. M. Keith, *Am. Jour. Dis. Child.*, 41: 532, 1931. Also, *Jour. Pharmacol. and Exper. Therap.*, 44: 449, 1932.

[3] C. A. Elsberg and B. P. Stookey, *Arch. Neurol. and Psychiat.*, 9: 613, 1923.

[4] J. F. Fulton and A. D. Keller, *Surg. Gynec. and Obstet.*, 54: 764, 1932.

[5] N. I. Krasnogorosky, International Physiological Congress, Leningrad, Moscow. August 9–17, 1935. Summaries of Communications, p. 213.

[6] E. A. Spiegel, "Quantitative Determination of the Convulsive Reactivity by Electrical Stimulation of the Brain with the Skull Intact." *Jour. Lab. and Clin. Med.* (to appear).