of the representative to the Division from the American Society of Zoologists, chairman, the president of the American Society of Zoologists, the president of the Botanical Society of America and the chairman of the Division of Biology and Agriculture, National Research Council, *ex officio*.

THE College of Medicine of the State University of Iowa announces a gift of $22,500 from the John and Mary R. Markle Foundation, to be spent over a two-year period; $12,500 of the fund will provide for a continuation of the research on inflammatory conditions of the eye in the department of ophthalmology under Dr. C. S. O'Brien, and the remainder will be used to continue the research program on blood clotting and the bleeding tendency in the department of pathology under Dr. H. P. Smith.

THE Committee on Scientific Research of the American Medical Association has recently awarded grants to Dr. Rucker Cleveland, of the department of anatomy, Vanderbilt University School of Medicine, for research on the cytology of the endometrium; to Dr. A. R. Buchanan, professor of anatomy, University of Mississippi Medical School, to be used for research on the vestibular mechanism in monkeys; to Dr. E. Spiegel, of the School of Medicine of Temple University, Philadelphia, for work on "physicochemical factors influencing the excitability of the central nervous system"; to H. D. West, associate professor of biochemistry at Meharry Medical College, Nashville, Tenn., for the continuation of his work on the synthesis of dl-threonine; to Dr. Charles F. Code, of the department of physiology of the University of Minnesota, for his work upon the histamine content of blood in normal and certain abnormal conditions; to Dr. A. Emge, of Stanford University School of Medicine, for further studies on the relation of sex hormones to tumor growth; to H. E. Carter, assistant professor of biochemistry at the University of Illinois, for the study of betaines of aminohydroxyl acids, and to Dr. Alexander Levy, for experimental work in the field of chest surgery, to be carried on in the department of surgery of the Medical School of the University of Oregon.

APPLICATIONS for the position of principal industrial toxicologist (organic compounds) in the U. S. Public Health Service, at a salary of $5,600 a year, must be on file with the U. S. Civil Service Commission at Washington, D. C., on November 28.

THE School of Mathematics of the Institute for Advanced Study each year allocates a small number of stipends to gifted young mathematicians and mathematical physicists for the purpose of enabling them to broaden their scientific outlook and to work on their research programs at Princeton in contact with the members of the institute and university faculties. Only such candidates will be considered as have already given evidence of ability in independent research comparable at least with that expected for the degree of doctor of philosophy. Applications for the academic year 1939–40 should be filed before February 1, 1939. Blanks for this purpose may be obtained from the School of Mathematics, The Institute for Advanced Study, Fine Hall, Princeton, N. J.

ANNOUNCEMENT has been made by the Finney-Howell Research Foundation, Inc., that all applications for fellowships for next year must be filed in the office of the foundation, 1211 Cathedral Street, Baltimore, Md., by January 1. Applications received after that date can not be considered for 1939 awards, which will be made on the first of March. This foundation was provided for in the will of the late Dr. George Walker, of Baltimore, for the support of "research work into the cause or causes and the treatment of cancer." The will directed that the surplus income from the assets of the foundation together with the principal sum should be expended within a period of ten years to support a number of fellowships in cancer research, each with an annual stipend of two thousand dollars, "in such universities, laboratories and other institutions, wherever situated, as may be approved by the Board of Directors." Ten such fellowships were awarded in 1938. Fellowships carrying an annual stipend of $2,000 are awarded for the period of one year, with the possibility of renewal up to three years; when deemed wise by the board of directors, special grants of limited sums may be made to support the work carried on under a fellowship.

A SIXTEEN unit display entitled "The March of Life" will make up the exhibit of the University of California Medical School at the Golden Gate International Exposition in 1939. The presentation will show what medicine and surgery have accomplished since the time of Hippocrates and, in addition, demonstrate the services rendered by the university's medical center to its own students.

DISCUSSION

A MEASURE OF THE FLIGHT CAPACITY OF GRASSHOPPERS

THAT grasshoppers have a most effective means of relieving congestion in one quarter and contributing to it in another is indicated by the results of a recent study conducted by the North Dakota Agricultural Experiment Station.

For some years it has been apparent that localized

outbreaks of grasshoppers, when inadequately checked by control agencies, tend to spread rather rapidly over wide areas. In other words, the problem of controlling grasshoppers may change from that of a few spotted or localized outbreaks to a statewide, regional or international problem in the course of a few years, as is the case in the present grasshopper situation of the Great Plains area.

To secure definite information on the speed and direction of grasshopper dispersal upwards of 100,000 grasshoppers were sprayed with a fast-drying red lacquer and released on July 17 a few miles west of LaMoure in southeastern North Dakota. A cage of the marked grasshoppers kept under observation showed no ill effects of the treatment and appeared to behave similarly to unmarked individuals. Two days following the release, four of the marked speci-

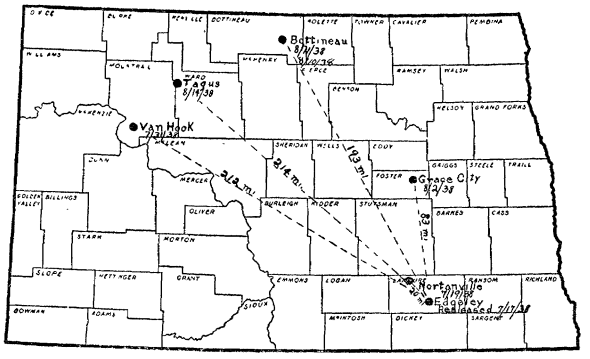

FIG. 1. Flight dispersal of grasshoppers.

mens (three *Melanoplus mexicanus* and one *Melanoplus differentialis*) were recovered near Nortonville at a point 20 miles northwest of the place where the grasshoppers were released. Subsequent recoveries included only the more migratory grasshopper, *M. mexicanus* (see Table 1).

TABLE 1

Number of specimens	Date and place of capture	Distance traveled	Number of days	Name of collector
		miles		
1	July 31—Van Hook	215	14	Mrs. John Murray
1	Aug. 2—Grace City	86	16	Orrin Topp
2	" 10—Bottineau	193	24	Mrs. W. D. Williams
1	" 11—Bottineau	193	25	V. H. Florell
1	" 14—Tagus	214	28	Jean Engen

The few recoveries verified to date have ranged from north to northwest from the point of release. A possible explanation of this may be that winds from the south and southeast, being warmer than those from the other directions, were more effective in promoting sustained flight of the insects. U. S. Weather Bureau records reveal that for 18 days of the 29-day period, beginning on July 17, winds from the south and southeast prevailed with an average daily maximum temperature of 88.9° F. For the remaining 11 days, which included 7 in July and 4 in August, the winds from the north and northwest prevailed with an average daily maximum temperature of 79° F.—a difference of 9.9° F. lower than the warmer winds from the south. The average velocity of the southern winds averaged 7.04 miles per hour, while those from the northerly directions averaged 8.1 miles. The heavy flights were generally observed to be traveling with the prevailing winds from the south.

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AUTHORITY CITATIONS AGAIN

THE discussion of authority citations by Donald Culross Peattie and Arthur Paul Jacot is very timely, for it appears that in some instances this device augments the confusion instead of diminishing it. This is particularly true if the original authorities did not publish their descriptions. In such cases the names get into circulation by exchange of material, and their ultimate publication is by a different author. Thus the specific names of Solander first appeared in Dillwyn's catalogue, and when Solander's name is quoted, as it frequently is, it gives no clue to the location of the original description in print.

Often the real meaning of a generic name is fixed, not by the original description, but by the type designation, which not infrequently is by a later author, in which case it is impossible to refer to the description and designation both without having recourse to a double citation, undesirable and awkward as such a practice may be.

My own feeling is that what is needed is a periodical that would perform the functions of a biological nomenclator, in which might be published references to descriptions, type designations, synonymies, etc., and to which reference might be made in lieu of to an "authority." For lack of such a medium students have been compelled to publish material of this sort in divers scattered places, where it is inappropriate, difficult of access and takes up space that increases the cost of publication.

It is to be hoped that biologists will succeed in devising some way by which material of purely nomenclatorial interest and significance can be concentrated in one place, where it will be available when needed.

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