The existence of sex intergrades is no bar to the conception of sex relations in dioecious plants here outlined. The distinctness of predominantly male and predominantly female individuals ordinarily is marked and may well be ascribed to a pair of differential genes distributed with homologous chromosomes at the reduction division. The difference between this and instances of absolute dioecism, if such exist, is to be sought in the nature of the respective genes rather than in chromosome behavior. Even the occasional appearance of sex intergrades approaching the condition of typical hermaphrodites may well be due to the influence of several heterozygous sex factors of relatively minor influence—the geneticist's old friends, modifying factors, in a somewhat unfamiliar rôle.

I have reserved for this, the position of emphasis at the close of my discussion, the strongest evidence against my view of sex relations in dioecious plants. When, as not uncommonly happens, an otherwise female plant produces a few male flowers or a male plant a few female flowers, it is possible to obtain self-fertilized seeds. If, then, one sex is heterozygous for a strongly differential pair of sex factors and the other sex is homozygous for the recessive allelomorph, the latter should, of course, breed true and the former presumably throw the two types in the numerical relation typical of a Mendelian monohybrid. Results reported for at least one form, Mercurialis, indicate that individuals exhibiting a predominantly female condition breed true when self-fertilized. But there is no evidence, so far as I am aware, that predominantly male plants of this form throw the two types. Indeed, the available evidence is quite the opposite of this.

Unfortunately, Mercurialis is not well adapted to an investigation of this kind. When relatively few female flowers are produced by a male plant and such flowers produce only a few seeds, the number of plants resulting is correspondingly small. Perhaps, however, the numbers actually reported for Mercurialis are sufficient to carry conviction to one who does not have preconceived notions contrary to the observed results. The results with Mercurialis, as well as the striking departure from normal sex ratios in the progenies of certain individuals of Lychnis, emphasize the importance of thoroughgoing analyses of similar material to the end that such possibilities as the presence of differential gametic lethals, and the like, may be checked.

It is just here that one finds Mercurialis, and in fact most dioecious plants, unsatisfactory material at the present time. The genetic complex of none of these forms is at all well known. If for some dioecious species of plant we could know the chromosome *loci* of numerous genes, we should hold a much more favorable position than at present from which to attempt an analysis of its sex behavior. I am not suggesting that we wait until such material is available, but I am not optimistic about the possibility of obtaining crucial evidence from any species until its genetic analysis has proceeded to a point that makes available the tools essential to any critical genetic investigation of its sex expression.

Finally, let me observe that, even though this missionary epistle to the brethren who dwell in darkness fail to convert them, it should at least afford them a somewhat unfamiliar point of attack. And, if their subsequent efforts result in my own conversion, I, at least, shall feel that I have not labored in vain.

R. A. EMERSON

CORNELL UNIVERSITY

REORGANIZATION OF THE NAPLES ZOOLOGICAL STATION

AMERICAN biologists will rejoice in the good news that the Zoological Station of Naples is in course of reorganization, with Dr. Reinhard Dohrn as its executive head. We owe a large debt to the station. An opportunity now offers to make some repayment by helping in a process of reconstruction that will be of far reaching importance for biological research in this country. Detailed information recently received from several sources, including Dr. Dohrn himself, makes it seem desirable to direct attention to the following facts.

Under the direction of Anton Dohrn from 1875 to 1909, and of his son Reinhard from 1909 to 1914, the station held an undisputed position as the leading internationl center of biological research in the world. It was originally founded and equipped with funds derived from the private fortune of Anton Dohrn and of his personal friends (including about 25,000 francs from English friends, among whom were Darwin, Huxley and Francis Balfour). These funds were supplemented at various times by other contributions, including 50,000 francs from the Berlin Academy of Sciences, 100,000 francs from the Italian government (for the first enlargement of the station), 400,000 francs from private subscriptions in Germany, England and the United States (for second enlargement) and about 100,000 francs raised by a subscription started by the International Zoological Congress in 1910 for renewal of the exploration steamers. The city of Naples generously provided a site in the public garden for a building to be constructed at Dohrn's expense, a contract being signed in 1875, and extended in 1894 and 1903, under which the station and its contents was to become the property of the City of Naples in 1965. Under this arrangement the station was established as an essentially private en-

terprise, with Dohrn, and after him his sons, as its legal proprietors.

The income of the station for costs of operation was derived from various sources. These included entrance fees to the splendid aquarium and the sale of preserved material; yearly subventions of 5,000 francs from the Italian government, and of sums varying from 25,000 to 50,000 francs from the German empire; and, above all, yearly subscriptions for investigators' tables from various governments, universities, scientific academies and other bodies, amounting to 2,500 francs per year for each table. The use of these tables brought to the station biological investigators from nearly every country in the civilized world; and Dohrn's broad-minded and generous attitude towards all comers, without regard to distinctions of nationality, gave to the station an international spirit of friendly cooperation and scientific fellowship that formed one of the most powerful factors in the long continued success of the enterprise.

Before the war about fifty investigators' tables were regularly rented, distributed as follows: Germany 12, Italy 11, United States 5, Russia 4, England 3, Austria 3, Belgium 2, Holland 2, and one each from Hungary, Switzerland, Rumania and Japan, besides two from the City and Province of Naples (these do not include the abovementioned subventions from the Italian and German governments). Upon the entrance of Italy into the war a great change took place. Reinhard Dohrn, the director, and other foreign members of the staff were obliged to relinquish the administration of the station, which was then placed in the hands of a commission of three members appointed by the Italian government. During the war nearly all of the foreign table subscriptions lapsed (including the five from the United States), only the British three being retained; and although the station was nominally kept open, its work was practically at a standstill.

At the end of the war strong efforts, supported especially by Benedetto Croce, the minister of education, were made to restore the *status quo ante*, including the complete reinstatement of Dr. Dohrn. Such action was actually taken in 1920 by royal decree; but this was contested in the courts, and after a period of litigation the situation was greatly modified by renewed governmental action. The outcome of all this has been the recent establishment of the station on a new basis by governmental decree, as a special form of autonomous public corporation (*"ente morale"*) the control of which is vested in a board or "Administrative Council," composed of the mayor of Naples and six other members to be appointed every five years by the minister of education. Dr. Dohrn, in addition to membership in this council, is to be appointed director and administrative head of the station. It is the intention both of the Italian authorities and of Dr. Dohrn to preserve as far as possible the international character of the station and to carry forward its work along the lines laid down by its distinguished founder and adhered to with such brilliant results for more than forty years.

Dr. Dohrn is anxious to reestablish the cooperation between the station and the scientific institutions of other countries; and all who have the advancement of biological science at heart will cordially share in this desire. Before the war the United States was represented at Naples by five tables, two subscribed for by the Carnegie Institution of Washington, one by the Smithsonian Institution, one by an association of public-spirited American women, and one by Columbia University. We believe that the time has come when this country should join with others in renewing its support of the station and in upholding the policy of its director in every possible way. No one is so well fitted as Reinhard Dohrn to keep alive the ideals of Anton Dohrn and to perpetuate the traditions of international scientific fellowship that he upheld in so large and generous a spirit. And we believe that cooperation with him towards that end will be in a line of accomplishment which, in the existing state of civilization, means more by far than the advancement of science in any narrowly technical sense.

EDMUND B. WILSON

COLUMBIA UNIVERSITY

SAMUEL PHILIP SADTLER

SAMUEL PHILIP SADTLER was born in Pine Grove, Pa., July 18, 1847, and died in Philadelphia, December 20, 1923. His father was a Lutheran minister and he received his early education in various communities, wherever his father happened to be stationed. He was graduated from the Easton (Pa.) high school in 1862, and from Pennsylvania College, Gettysburg, Pa., in 1867. He took a year of instruction at the new Lehigh University, Bethlehem, Pa., and then went to Harvard, where he did advanced work under Dr. Wolcott Gibbs, graduating with the degree of B.Sc. from Lawrence Scientific School in 1870. He then went to Göttingen, Germany, where he studied under the famous Professor Wöhler, earning the degree of Doctor of Philosophy, which was granted him in 1871.

Returning to America he accepted the professorship of chemistry and physics in Pennsylvania College and served three years, when he removed to Philadelphia to take the chair of general and organic chemistry in the University of Pennsylvania, which position he held until 1891. In 1878 he helped Dr. Robert Bridges with his lecture work at the Philadel-