by the steady inflow of specimens, besides important data on the local status of ruffed grouse over a wide area.

For the present, fresh New England material in the form of diseased birds, which may be picked up, or healthy birds, which are shot or found accidentally killed, should be sent to Dr. A. O. Gross, Bowdoin College, Brunswick, Maine. Material from other states should be sent to Dr. A. A. Allen, of Cornell University, Ithaca, New York. Collections of crops and viscera carefully labelled and preserved in 10 per cent. formaldehyde are always valuable, as intensive studies of food habits in different parts of the country are well worth making. Contributions are greatly needed and should be sent either to the Grouse Committee of the American Game Protective Association, Woolworth Building, New York City, or to the New England Grouse Fund, Massachusetts Fish and Game Protective Association, 3 Joy Street, Boston.

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GONIONEMUS

FOR many years investigators at Woods Hole have hoped to see the missing stages in the life history of Gonionemus filled in. Dr. L. Murbach and the writer spent many seasons at Woods Hole in an effort to solve the riddle. I have visited the famous Eel Pond at every season of the year, and have been unable to find a single polyp in the early spring. Late in April or early in May great numbers of tiny medusae appeared, but I was quite unable to discover their source or to rear the larvae long enough in laboratory aquaria to get them through their critical period.

In the light of Dr. Joseph's discoveries it is highly interesting to see how close we came to solving the problem on this side of the Atlantic. In one of my early papers on the "Life History of Gonionemus"[1] I figured polyps which I had reared from eggs on microscopic slides, in which there seemed to be a sort of basal budding going on. Only a few such individuals were seen, and they were looked upon as abnormal or as indicating a peculiar method of asexual multiplication.

At the other end of the hiatus in addition to the multitudes of little medusae with twelve tentacles in three different sizes according to age, a single medusa has been reported which was probably Gonionemus, and which appeared in a salt water aquarium. I was summoned in the middle of the winter by Professor George H. Hudson, of the Plattsburg Normal School, to examine a tiny medusa which had appeared in his laboratory aquarium. I think I am right in my recollection that the water in this aquarium had been compounded in the laboratory, such being the common practice of Professor Hudson. By the time I arrived no sign of the medusa could be found, nor did others appear, but Professor Hudson had examined the one specimen carefully and was probably correct in calling it Gonionemus.

It now appears that, at least in the European species, and we can scarcely doubt that the same thing is true of *G. murbachii,* the basal buds which appear late in the season on the polyps are medusa buds. Professor Joseph describes the polyp as producing a series of planula-shaped vegetative buds which drop off almost exactly like those of the common pond hydra. Later buds near the base of the individual assume a more compact form and develop directly into the tentacled medusa.

So many students at Woods Hole and at institutions in which Gonionemus has been used for laboratory illustration of the coelenterates have been informed in text-books and from the lecture desk that the transformation into the free-swimming medusa was a matter of conjecture only that it may interest a considerable number to know of Professor Joseph's success in closing this annoying gap. It is somewhat of a coincidence also that salt water aquaria furnished him with the first clue of the nature of the metamorphosis. Professor Joseph's articles appear in a series of publications, the last of which was the *Zeitschrift f. wissensch. Zoologie,* 125, 1925, p. 374.

H. F. PERKINS
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[1] Proceedings Acad. Nat. Sci., Philadelphia, November, 1920, Fig. 15.

THE VALUE OF SOCIOLOGY

PERSONAL culture and social efficiency are two very definite objectives in modern education. The study of sociology will help fulfill both of these objectives. Personal culture to-day is not attained by studying topics that do not pertain to modern conditions, but rather by receiving instruction in subjects that have a direct bearing on the conduct and problems of life. No study will necessarily make a person cultured, but since sociology deals with many current problems it will help make the student cultured from the academic viewpoint.

Dr. C. W. Eliot, in his monograph, "Education for Efficiency," after stressing the importance of character and of literary appreciation and expression, says: "The next great element in cultivation . . . is acquaintance with some part of the store of knowledge which humanity in its progress from barbarism has acquired and laid up. . . ." He says further,