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SOME PROBLEMS IN THE GENETICS OF THE FUNGI

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THE NEW YORK BOTANICAL GARDEN

INTRODUCTION

Not every one has had an opportunity, or the desire, to study the fungi critically. Most people, however, are more or less familiar with molds, mildews, mushrooms and yeasts. Those of you who were brought up in the country districts may remember how you enjoyed kicking over toadstools and puffing puffballs in each other's faces. The man who collects wild mushrooms in woodlands for food seldom thinks of them as plants. Botanists, on the theory that all living things must be either plants or animals, place the fungi in the plant kingdom. They say that if fungi ever had chlorophyll they have lost it through degeneration, and degenerates make little progress in evolution. It is a very common belief that the fungi are of little economic importance except as they cause decay and disease, and, since they show little evolution, their study would promise little as to throwing light on the great life processes. As a matter of fact, just to mention two examples, the fungi and bacteria are of inestimable value in building the soil and maintaining its fertility. Yeasts rival our boasted billion dollar corn crop, if we count the value of alcohol and other useful products of fermentation.

The old attitude is changing, as witness the interest in sex and genetics of fungi manifested during the past ten or fifteen years. This work will certainly be greatly facilitated in the next decade by the use of growth substances and sex hormones to bring into fertile cultures species of obligate parasites not now at all adapted for this type of genetic study. We may

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