

We call them Bacteria cocoration. Bacteria are those Fungi which are one-celled. By the term Fungi we mean all the plants lacking green. They never reach any considerable size nor permanence of structure, but being bathed in liquids which yield them nourishment, they increase rapidly in numbers by the process of cleavage, each splitting into two, and these again in a very short time. By this geometric progression they multiply at a prodigious rate, and we are aware that the poisonous substances they excrete are a menace to the lives of many of the higher creatures which they inhabit. Fortunately for us they have not learned how to protect themselves against light, which when intense, exerts a destructive influence or colorless protoplasm. Another weakness of bacteria, and the same is true of nearly all other kinds of Fungi, is that each individual is literally "a chip of the old block." The parent really becomes rejuvenated in the form of two offspring made from its material. Let me ask you to note that this is a form of immortality. Here there is no such thing as maturity, old age, and death. Each bacteria literally "renews its youth" by making of itself two new bacteria. Each of these young bacteria must therefore retain unchanged the qualities of the only parent it has. There is little chance of its receiving any influence which will cause variation, and each is exactly of the character of the line of parents preceding it. Its qualities are rigidly fixed in the type of its ancestors. In this fixity of type and lack of adaptibility of the race of fungi we have an important character, which aids us when we desire to prevent their growth. If we can modify in any marked degree the conditions surrounding them, we render their existence difficult, if not impossible. An illustration of this is the fact that of all the edible, fleshy fungi known and desired by man, we have learned the conditions of growth of only one, the common meadow mushroom, and in spite of many, long continued efforts at cultivation by botanists and epicures, not another kind has as yet been tamed. The fungi "seek darkness rather than light" and usually the only parts which come into the light are those reproductive structures which quickly break down into minute fragments to be scattered by the wind and water. These colorless plants are able to live only by absorbing other protoplasmic substances, either dead or alive. They are therefore not honest in getting their livelihood, but take it from others, although it is true that in some instances they give valuable service in exchange.

Note that in the forms of life thus far mentioned there is no such phenomenon as sex. But when we turn to those which have learned to tolerate light and protect themselves from its harmful power, we at once come into contact with another method of reproduction, and this method has proved so advantageous that all but the lowliest forms of life have adopted it. Sexual reproduction differs from that described above as belonging to most fungi, in that each offspring has two parents instead of one. In place of fragments or spores falling from one individual, and each pore growing into an individual like the parent—two fragments are necessary, usually one from each of two different individuals—these spores fuse together into one, and this resulting egg has the power of growing into an individual like the parents.