It is not the organism that first makes the attack on the hard substance of the tooth, but the waste product of the organism, the lactic acid. This lactic acid is one of the waste products of bacterial life, and in the presence of any fermentable matter, forms one of the so-called ptomaines so destructive to teeth, in the form of caries. Dr. Allan says, that "were it not for the constant absorption of the lactic acid formed by bacteria into the lime salts of the teeth, forming lactate of lime, bacterial life in the cavity of a tooth would soon cease. They would be smothered in their own waste products, and die as naturally as we would die were we compelled to live in a close room in the presence of the waste products of our life, viz., the carbonic acid from our lungs, urine from the kidneys, and the fecal matter from the bowels." Exactly what the ptomaine is that produces this work of destruction, breaking down the animal basis substance, is not yet definable, but is supposed to be some waste product of bacterial life. Bacteria are the smallest of all known organisms, and, though bordering on the line separating animal from vegetable life, are now placed among the plants. It is said that fifty millions would not occupy a space larger than the dot of a pen; they were first discovered by a German, in the year 1675. Yet small and infinitesimal as these micro-organisms are, they are endowed with a peculiar quality called life; they can reproduce their kind, but are not capable of themselves of migrating from place to place only as they are conveyed by the air, in food, or from one mouth to another by instruments, etc.

A filthy mouth may well be said to be a bacterial hot-house, or forest of bacterial algæ. These fungi are composed principally of protoplasm; they are unicellular plants of the simplest form; they reproduce themselves by spores; from one to several may be produced from each cell. Their activity consists in converting sugar into lactic acid. The manner in which they effect an entrance into enamel is quite different to that of entering the dentine. These fungi, as previously remarked, cannot attack enamel; no signs of them are ever found on it until after it has become so far disorganized, that its prisms, crystals, or enamel rods, are so loosened that they begin to fall apart and separate, the lactic acid having destroyed the connecting tissue which unites these rods or crystals into a compact mass. The rods or crystals are not so