

whole plant in decay. Examples of this will be familiar to you, as in the case of the potato disease, which not many years ago brought England to the verge of famine, and in Ireland, which depends almost solely on this crop, was the cause of untold misery and destitution.

The failure of the vine crops in Spain and Portugal was owing to the ravages of another species, the *Oidium Tuckeri*; and in some seasons the wheat crops in this country are to a great extent damaged or destroyed by another of these minute pests, which, under the name of mildew, often in the course of a single night, converts whole fields of waving corn into black useless rubbish. Dry-rot in timber is another example of the destructive power of this group. Nor are these the only commercial interests which thus suffer. The production of silk is often a complete failure, owing to the silkworm being infested by a minute fungus, the *Botrytes Bassiana*, which entering, probably by the spiracles or breathing apertures, insinuates itself into the blood-vessels and destroys the insect. Damp and want of cleanliness are found to be the causes of the attack. Other species again have been found in flies, beetles, eggs, in the air sacks of birds, on fishes, reptiles, and animals, the mention of which would encroach too much upon your time. A great part of these which have received distinct names, as well as nearly the whole of those from the human subject, I have proved to be mere initial or imperfect forms of one or two common species of mould which occur everywhere upon decaying organic matter, as cheese, apples, oranges, &c. The number of plants thus degraded from the rank of species is about thirty-four, and I doubt not that many others might be placed in the same category.

The first discovery of a vegetable parasite on man was, as I have said, made by M. Schönlein, of Berlin, while examining the crusts from the head of a person affected with favus (*Porrigo lupinosa* or scald head). The plant has been since known under the name of *Oidium Schönleinii*. Another parasite was subsequently discovered in the hairs of persons affected with the disease termed *plica polonica*—also a similar one in ulcer was found by Mr. Robin.

Others have been found in Tinea, Porrigo, Pityriasis, Lichen and Sycosis, &c., &c. Others again in the lungs and on the mucous surfaces of the body. Now the whole of these are referable to a common origin; the characters which have caused them to be raised to the rank of species being due to the plant having been retained in a state of immaturity. So singular is this power of being so retained that we might almost reduce it to a formula. Given a certain quantity of sustenance we might predicate the form which the parasite would exhibit, and thus we find no difficulty in accounting for the great variety which is met with on the human subject alone; difference in density and chemical constitution of textures, in degrees of warmth and moisture, in greater or less facility of access to external air, will readily account for these differences in form, and will render it no matter for surprise that microscopists should have given distinct specific names to upwards of thirty plants which are in truth referable to one or two.

There remains one very peculiar variety to be mentioned. This consists of minute square shaped cells arranged in fours. It was discovered by Professor Goodsir, in a disease of the stomach, and was named by him *sarcina ventriculi*. A similar one has been observed by Dr. Gardner and others, from the kidney. There