

they only prevent or inhibit their growth. A germicide may be all three, antiseptic, germicide and disinfectant.

To the physiologist, bacteria are subjects of the greatest interest. Only think of the occult manner in which they produce the deadly and poisonous ptomaines, the mysterious character of fermentation, which is in numerous instances produced by them, lactic fermentation or the souring of milk, ammoniacal fermentation, vinous fermentation, the rotting of fish, meat and other nitrogenous substances: in fact, all putrefaction is the result of the ceaseless activity of these countless organisms.

When we investigate or carefully examine bacteria and their doings, from a pathological standpoint, we reach the very climax of wonder, wars, pestilence and famine. In fact, nature's most dire cataclysm sinks into insignificance compared with the destructive work of these pathogenic and infinitesimal organisms. It is fortunate for the human race that only a small proportion of bacteria, comparatively speaking, are pathogenic; the great majority are benign, their great work being for good in the world's economy. In acting the part of scavengers, they simply return the elements of organization back to their original source with renewed activities for newer and higher combinations.

Every man among us lives by changes wrought in the chemical constituents of his environment. Each one of us is daily producing changes in quantities of chemical compounds known as food material, and constantly giving it back to the material world in chemical forms completely changed. The microbe is doing no more or no less.

The pathogenic germ is man's enemy, the benign germ is his friend. Bacteria are necessary as well as useful, for without them our farmers and gardeners would have little better than a desert or barren waste to till. Even our digestion is to a certain extent dependent on the family of benign germs, and millions occupy every portion of our bodies, no doubt for a beneficent purpose, although we may not realize it.

Paradoxical as the above may appear at first sight, it is nevertheless true that many of these germs are physiological. Pasteur isolated no less than seventeen different micro-organisms in the mouth; some of these dissolved albumen, caseine, and others converted starch into sugar. It therefore follows that the fermentative