

fat-globules, and pigment-granules. This constitutes moist gangrene, to which even the blood itself is liable.

2. Or the tissues mummify without breaking up, and shrink together in a black leather-like mass constituting dry gangrene.

The gangrena senilis frequently presents an example of the double form.\* Beneath the mummified skin is often found the moist gangrene.

The mummification of the *fœtus in utero*, and the gangrenous dissolution of the spleen, and the centre of many tumors, are examples of both kinds of gangrene without the immediate influence of the exterior atmospheric air. Where stasis of the blood has occurred, the latter operates very rapidly in producing gangrene. Thus, in the strangulated hernia, the constricted portion of the red injected intestine becomes very rapidly black; as soon as the hernia comes in contact with the air after operation, so that each moment becomes of importance to the life of the patient.

The parts becoming gangrenous at first present a blackish red color, then green, then brown, and then black, he change depending upon the serum, with the dissolved coloring matter of the blood, which exudes from the capillaries, or pours out from such as frequently are lacerated. The blood-corpuscles, when the blood participates in the decomposition, are reduced to minute, scarcely measurable, gray molecules, and the fibrine disappears entirely, or is found only in small quantity converted into a gray dirty pulp. The chemical alterations are quite unknown.

Where no fluid blood is found in a dead organ, no alteration of color occurs, and thus necrosed bone appears almost unaltered, while carious bone is changed in this respect.

Gangrene exhibits an extraordinary variety in its extent and progress; thus I may refer only to the two extremes: the small gangrenous ichor, scarcely the size of a pea, of typhoid ulcers, and the gangrene of entire extremities in the aged.

The gangrenous parts are frequently separated from those which are unaffected by circumscribed inflammation and suppuration, when the gangrene is the result of local causes.

\*The serum evaporates from the surface of the skin; and from the circulation being interrupted, it cannot be restored, and hence the mummification (desiccation), while in deeper parts the watery part of the blood remains, and hence favors decomposition.