

can scarcely be considered genuine physiological reversion, although it is a species of functional reversion, for the consequences are the same. But in general in both conditions there is an imperfect adaptation to the environment. Moreover, in certain respects the old man reverts rather to the functional condition of lower forms of life than directly to a previous stage in his own existence. Thus the imperfect action of the respiratory, circulatory, cutaneous, and also of the nervous system, by which the functions of the cerebrum and the senses are weakened, are all either physiological or pathological reversions, as we choose to regard the matter. But it is not on such facts, however, that I would rely to establish the principles of this paper.

In the various stages of slow or natural death, we have the clearest evidence of physiological reversion in not one but many different systems of the body.

Normally expiration is largely passive, though possibly less so than the text-books of physiology have represented; but, as is well known, in the dying man this phase, and indeed all phases, of the respiratory act are in turn or contemporaneously modified; there may be a diminution of one phase, and an exaggeration of another, etc. In the frog and turtle both inspiration and expiration are active: in such animals we recognize a function, moreover, of the mouth and pharynx, in respiration, normally unknown in man. Dr. Garland has, however, pointed out that in the tracheotomized dog, and, as he believes, in man under the same circumstances, and also in the moribund, a form of the throat respiration supervenes. He has proved this experimentally in the tracheotomized dog (*Journal of Physiology*, Vol. II). In other words, there is a resemblance to what exists normally in the frog. Garland recognized this, though he has not spoken of it as a physiological reversion. But apart from this minor reversion, it is plain that in general the respiration of the dying bears a resemblance to that of the groups with an active phase in both halves of the act. Further, there is frequently a marked facial and laryngeal respiration, so well seen in the normal breathing of such lower mammals as the rabbit.

Accompanying this alteration in the respiration, there is a great