

ample, the effect of various descriptions of skilled manual labor upon the artisan class; of the mode of life in factories upon mechanics; of the outdoor life upon laborers; and so on.

That the transformations are minute and extremely gradual, is, of course, true; but it is to such small and slow-moving tendencies (added to climatic influences) that the wonderful differences between races have been brought about. The nymphæ and the nates of the South African women famed for the large size of these parts doubtless owe their existence to some such processes. It is but scientifically correct to expect anatomical abnormalities to occur. And if anatomical, then, too, physiological. Their practical import is naturally at present almost *nil*; but to the physician and the surgeon of some centuries hence they will not be so. And the physician and surgeon of some centuries hence will perhaps thank us of this generation for having noted changes which will explain to him otherwise inexplicable facts—as the astronomers of the nineteenth century owe much to Chinese annals written some thousands of years before. A thorough and exhaustive view of this subject extended to all the races of mankind, and including every phenomenon which in any way acts upon the human frame may bring to light very many various and important facts hitherto unknown. That this is partially recognized is seen by the careful, accurate and minute investigations yearly prosecuted by the Anthropological Section of the British Association. We are not aware, however, that this Section has paid any particular attention to the group of changes to which we have above adverted. Here is an excellent field for our anatomists.

### CHEYNE-STOKES RESPIRATION.

In Cheyne-Stokes respiration, named after the observers, whose name it bears, and who first described it, we have a form of dyspnoea characterized by a peculiar rhythmical change in the breathing. After a period of apnoea lasting from ten to forty-five seconds or more the respirations commence, at first very shallow—so shallow as to be perceived with difficulty, but gradually they increase in depth and rapidity, till the breathing is loud and violent, the breast heaves and the nostrils are dilated. In some cases the patient now suddenly

rouses, perhaps with an exclamation, has an excited and anxious look, which soon gives place to a placid expression; the patient usually dozes off again, the respirations grow weaker and shallower, until eventually they cease altogether. After a period of apnoea, they begin as before and the cycle of phenomena is repeated. In cases where the patient does not rouse at the acme of respiration there is a gradual decrease as before, ending in the cessation of the respiratory efforts.

This symptom is regarded as a most serious one, being almost always followed by a fatal issue of the disease which occasions it. It occurs in uræmia, organic heart disease, especially in fatty degeneration; certain cerebral affections, as tubercular meningitis, lesions which involve the respiratory centre, etc., etc.

Goodhart draws attention to a modified form of Cheyne-Stokes breathing often observed in infants, which has not at all the same diagnostic import as in adults. He regards it as a paroxysmal type of respiration—at one with the paroxysmal manner in which children perform many of the ordinary acts of life. A nervous discharge occurs—then a pause, another discharge and so on. As the nerve centres reach a high state of training they work more regularly and the discharges are more or less continuous.

Various theories have been advanced to account for this form of breathing, none of which can be considered satisfactorily to make clear why it should occur in certain forms of heart disease, though it may be easily understood why irregularities of breathing should follow lesions of the medulla, affecting the respiratory centre. There seems to be a scarcity of information on the subject, but few autopsies having been made with a view to clearing up the pathological condition giving rise to this symptom. While we have no sufficient accounts of the lesions observed, one or two cases have been reported in which the nervous lesion was located. In one case where Cheyne-Stokes respiration had been observed but a few days previous to death, the pathological change was observed in the upper portion of the bulb, and both pneumogastrics were healthy. This is delightfully vague. In another, the vagi were found diseased, the left but slightly at its periphery, while in the right nerve, the lesion extended into the bulb. At the same time the medulla was the seat of con-