

is increased by vomiting. Brain tumor may cause vomiting, which, by the straining, may cause hemorrhage into the tumor, increasing its size and hastening the final catastrophe. Obesity usually predisposes to indolent habits; result, increased obesity.

The third group, that of infective circles, is a most familiar one. The pin worm is reproduced and the circle maintained by the transference of its ova by the nails of the child host from the irritated perineum to the mouth; or in tuberculosis, fresh inoculations, as in the larynx or the opposite apex, are due to the sputa coughed up from the primary lesion.

A good example of a mechanical vicious circle is that seen in the ordinary abductor paralysis of the larynx in the horse, known as "heaves," in which over-exertion, by causing deep breathing, causes the sucking together in inspiration of the vocal cords; or in the occasional dyspnoea of some cases of simple goitre, in which the dyspnoea, started perhaps by some casual effort, causes the extraordinary muscles of respiration, especially the sterno-hyoid and the sterno-thyroid to overact and compress the goitre, thus increasing the difficulty and completing the circle, with sometimes fatal results. Or again, in paraphimosis, the preputial band, unless relieved, steadily increases the strangulation and oedema of the glans, each reacting viciously on the other.

A good example of the chemical vicious circle is seen when, in diabetes, the thirst causes abundant drinking. This causes dilution of the blood, and this polyuria, with consequent concentration of the blood and returning thirst and drinking. The knowledge of most of us of the chemical correlations of the healthy body is but slight, but enough is known of physiological chemistry to enable one to express the opinion that the next twenty years will show a great increase of our knowledge of this group of vicious circles.

As to neurotic circles, many, if not most of them, may be said to be functional, as in the case of neurasthenia, in which prolonged repose not only calls for further rest, but is damaging to and impairs ordinary ambition, so as to abolish all inclination for physical and mental exertion. The vicious circle may, and usually does, if the patient be a female, involve the mother, sister or other female relative. Oliver Wendell Holmes has said: "An hysterical girl is a vampire, who sucks the blood of healthy people about her." Weir Mitchell says, in his little treatise, "Fat and Blood," "Nothing is more sad and pitiful than these partnerships between the sick and selfish and the sound and overloving. By slow but sure degrees the healthy life is absorbed by the sick life in a manner more or less in-