

inished tension. During the ascending stage of the breathing the pulse diminishes in frequency and the tension increases, so that during the deepest inspiration we have the lowest pulse and the highest blood-pressure. There is a case mentioned by "Hesky," where the heart came to a complete stand-still during the pause, and when the stage of full dyspnœa was reached the pulse was normal.

Powerful electric irritation of the phrenic nerves during the pause, to the extent of producing contractions (several in number) of the diaphragm, has no effect on the after ascending and descending course of the breathing. This shows that the phenomenon is not dependent on any want of oxygen in the blood, which is a very important point. In diseases where Cheyne-Stokes phenomenon has been present in slight degree, such has been observed to be greatly increased by the exhibition of narcotics, as opium, chloral and potass. bromid. Nitrite of amyl, on the contrary, has a most beneficial action.

Cheyne-Stokes respiration is liable to occur in those cases where the nutrition of the brain is interfered with; appears in cerebral compression from hemorrhage, tuberculosis and purulent meningitis; in œdema of the brain from anæmia and in cases of tumor of the brain; in various diseases of the heart, muscle insufficiency, fatty heart, insufficiency of the valves, especially of the aorta; in severe diseases of the lungs, such as croupous pneumonia (especially of drunkards) and bronchitis of children; and, lastly, in severe blood losses. The phenomenon may in some cases disappear for weeks and then reappear, as in the renal case just presented. Such, also, has been observed in chronic heart diseases. Nearly always seen when a patient is partially or completely comatose. This condition is not absolutely fatal. Recovery has been noticed in some cases of œdema of the brain from uræmia, as well as in the case just reported.

It is interesting to note some of the views as to the nature of this phenomenon. Filchner favors the view that it is due to changes in the circulation. He considers that contraction of the arterioles of the medulla oblongata is at the bottom of it; that owing to contraction of these vessels less blood goes to the medulla, and that in consequence there is an accumulation of