

tivities. But the last required accomplishments in his experience, the last developed faculties of his mind, the most susceptible and complex processes in his cerebration are the first to go under the influence of the dose of alcohol with which he has bathed his brain centres.

Now give him another dose and watch the progress of the paralyzing process. This dose acts first and most upon the centres already suffering, and they consequently suffer still more, and a larger measure of self-restraint is gone. Probably it is all gone, and every impulse that arises has full sway. But the next series is affected paralytically. His knowledge of his environment is disturbed. He misinterprets the remarks of his companions. He puts a wrong construction on a perfectly innocent remark and wants to fight. He calls a paragon of truthfulness a liar! He loses his notion of time and place. He loses all sense of proportion and environment. His friends are his enemies and his enemies his friends. Those regions of his brain that he used in making observations and acquiring knowledge are confused, disturbed, paralyzed. All those faculties of his mind concerned with the accurate knowledge of affairs are in a state of paralytic stupefaction.

Repeat the dose. The highest series of brain cells is still further affected and is now hopelessly paralyzed. The second group too is affected and is on the verge of complete temporary paralysis, while the third has yielded to the same paralytic influence. He loses control over the muscles of locomotion. He staggers, heaves, rolls and falls, not because his muscles are not there, not because they are functionless, paralyzed or dead, but because the nerve centres which control these muscles are poisoned and paralyzed and fail to transmit the impulse of action to the muscles over which they normally preside and with which they are anatomically connected. He is now on the floor. His heart is beating; his breathing, though irregular, is capable of sustaining life.

He has lost the power to ask for a repetition of the dose, but, for the purpose of our experiment and the demonstration of the great truth we

have enunciated, let us supply him with another dose and see what happens. If the dose has been large enough, and this is not an uncommon experience in the catalogue of disasters with which alcohol is connected, his breathing stops. Another series of brain cells has now been paralyzed and the second system of brain centres in the order of development, is the second last to yield to the poison. If we listen with a stethoscope we will find that though the breathing has stopped, the heart still beats and continues to beat for an appreciable time before death ends the scene. True to the grim consistency of this alcoholic law, the first developed brain centre has suffered last.

#### Acute and Chronic Paralysis

We have been studying the case of acute alcoholic paralysis of brain centres, that is, the acute case of intoxication spread over hours. Let us examine what happens if more moderate doses of the poison are taken and spread over years. All other things being equal, acute intoxication lasting for hours is an epitome of chronic intoxication lasting for years. The same selective affinity is manifested by alcohol over the nerve centres and they suffer to the degree and in the order already outlined. But all other things are very seldom equal, and collateral diseases of all kinds, and native organic resistance of various degrees, profoundly alter the phenomena of chronic alcoholism. Let us ignore the incidental alcoholic diseases of the various organs and tissues of the body for the meantime, and concentrate our attention on the specific paralyzing effect of alcohol on the brain centres.

The moderate drinker who tipsles regularly, has his nocturnal nightcap and his matutinal refresher, is subject to the inexorable law of alcoholic affinity. Let it be frankly admitted at once that under certain circumstances and with certain people unadulterated alcohol may be taken at certain times after food and in certain extremely moderate doses without getting into the circulation as alcohol, and without producing the deleterious effects connected with this alcoholic law. This dose may be so small and the digestion so vigorous that the alcohol as such may be