

of food; if it was all one kind, a larger quantity would be necessary. If a child were to have placed before it, of the kinds of food named, what it would eat in seventy years, it would overlook something like this: 30 oxen, 200 sheep, 100 calves, 100 lambs, 50 pigs, if he used that kind of flesh, 1,200 fowls, 200 turkeys, 200 pigeons, 260 trout, 80,000 oysters, 5,735 pounds of vegetables, 243 pounds of butter, 24,000 eggs, and $4\frac{1}{2}$ tons of bread. If he were a tea and coffee drinker he would probably use 3,000 gallons.

These amounts are given for the sustenance of an average, healthy man. To do this work the stomach needs to be taken great care of. The effects of stimulants upon it have been shown by actual cases, as I know from my personal observation, having witnessed the dissection of many men thus affected. The inside of the stomach is of a delicate, rosy tint, and blood vessels cannot be seen. A few glasses of beer cause inflammation, and the stomach looks as if red silken cords or a sharp knife had been drawn across it. It looks something like the nose of a drunkard, the painting of which is inimitable. I once saw a man with a nose thus disfigured, whom I asked to bequeath it to me when he died, that I might dissect it. He replied that it had cost him too much to paint to dispose of it in that manner.

One of the figures on the chart shows the condition of the stomach after its owner has been on a spree. Part of it has become decomposed; the tissues are inflamed and become purple or red in color; they are unable to digest food, and a man in that condition does not crave anything to eat, though he afterward becomes ravenous. The stomach of a man who dies a drunkard is baldly ulcerated, and is usually partly filled with blood. Men, when they become subject to *delirium tremens*, have only a few patches of the interior tissue left, it having been torn out by the alcohol; one in this condition can live but a short time.

About five years ago I was in Baltimore, and saw an officer taking a drunken man to the police station. I became interested and watched them. On the way a butcher stall was reached. The sight seemed to enkindle the feeling of hunger in the drunkard, and he seized and greedily devoured some sausages. The expression on his face made him look like a wild beast devouring the entrails of an animal. He was taken to prison and his trial set for 6 o'clock next morning—the

hour when such cases are heard. My interest brought me there at the appointed time. The man was dead. I witnessed the dissection of his body in the hospital later, and his ulcerated stomach was fully as bad as that depicted in this chart.

But it is not alone the stomach that is affected by alcohol. With moderate drinking blood vessels become visible in the intestines, and as drinking of liquors continues they become decomposed in part. Under this condition, a sudden movement, a violent cough, or anything of that nature may rupture the intestines or stomach and cause death.

In the kidneys, whose office is to separate impure matter from the blood, there is naturally little or no fat; alcohol brings fatty degeneration of the kidneys so they cannot work, and the matter that should be thrown off, but is not, gives rise to many distressing diseases. The use of alcohol also produces "hobnail liver," in which the liver becomes hardened and filled with lumps, and the portal vein becomes contracted. This retains the water in the body, and abdominal dropsy follows in many cases.

The brain in its natural condition is most delicate in its structure. Those whose brains have become degenerated never have strong and healthy minds. The brain is not the mind, any more than the clothing is the body; but the brain is an adjunct to the mind, and if it is injured serious results follow. The brain is provided by nature with means for protection, in the skull, and the effect of blows is partially deadened by the covering in which it is wrapped and rewrapped; it also fills every cavity in the skull, there being no spaces left. One-seventh of the blood in the body goes regularly to the brain, and with alcohol carried there by the blood, a large proportion is taken. Dr. Cutler once examined a man who died in *delirium tremens*. He found on the brain several spoonfuls of a fluid smelling of gin, and strong enough to burn, carried there as alcohol. If this stimulant hardens the albumen of the egg, as you have seen, what of its effect on the brain? It is analogous, and the mind is correspondingly impaired. Thus the brain is shrunken and pulpy, and the head becomes to an extent empty; this renders the brain liable to be shaken about, and causes dizziness.

Fatty degeneration of the heart also follows the use of stimulants. The muscular part becomes replaced

by fat in a liquid or oily condition. The heart is a wonderful engine, or machine, if we may so term it, and is constantly working. It beats about 100,000 times during the day, and propels over 500,000 tons of blood in a lifetime. Injurious effects follow the slightest interference with its regularity. In a drunkard the beating is increased to 106,000 times a day; it is called to do more work and therefore wears out earlier. The eminent Dr. Richardson remarks that it is harder working against alcohol than engaging in rowing, walking, coal-heaving, or even working the treadmill.

Food is craved by nature in regular quantities. Not so with stimulants. More and more is craved as time goes on, until the desire is only satisfied by Richardson's bitters, the strongest that can be found. The idea that a man can take stimulants in moderate doses is fallacious. Take for instance the brilliant De Quincy. For an affliction his physician prescribed ten drops of laudanum; as time went on he had to increase the amount before the pain would cease, until, in the latter part of his life, as testified to by himself and by Samuel Coleridge, also subject to the opium habit, it took 8,000 drops, or 80 teaspoonfuls to satisfy him—enough to kill 75 or 80 men who are unused to it. But De Quincy could not do without it, it had obtained such a powerful hold upon him, and he died in consequence of it. The same fate awaits others addicted to the use of stimulants.

In Hungary, arsenic is used as a stimulant, and takes the same place there as condiments here. It is sprinkled on the food as we do pepper. Among the Siamese *asafoetida* occupies a similar position.

Some people urge that alcohol is a food. Dr. Liebig, than whom there is no better authority, says that he can prove with mathematical certainty that there is more nutriment in as much flour as can be taken up on the point of a knife than there is in eight quarts of Bavarian beer.

It is also said that alcohol relieves thirst. In the laboratory the chemist uses it to extract water. It extracted water from the white of the egg, and hardened it. It creates thirst. You remember the story of the old lady who defended her sons from the charge that they had been on a spree, by saying that she knew they could not have been because they were so thirsty when they arose in the morning.

Some have said that alcohol en-