

patient over a difficult time, it means that only for them the patient would die. But as it supplies no force it must, as the illustration implies, act as a whip, spurring nature into greater exertion.

If we accept the theory that alcohol can spur nature into greater exertions, is it not a mad policy thus to squander the vital powers? Would it not be wiser to economize every particle of fuel by running the machinery as low as possible? Are we not like the madman heaping more wood on the fire, lest it go out, till he burns up the house; or like the boy lashing his horse into a gallop lest he would stop? So even if we accept the doctrine of general stimulation, it is an unwise course to follow.

Van Helmont believed that vital force was an immaterial spirit which could be soothed to repose or roused to fury. The physiology of to-day believes that it is the resultant of the various nutritive changes going on in the system. It does not believe in a ghost that can be soothed to sleep or frightened into action. It does believe that medicaments can divert force from an organ or to an organ through the agency of its blood supply. But as blood or force directed to one organ is diverted from another, the idea of general stimulation is unsound.

There is a difference between feeling strong and being strong, between feeling elevated and being stimulated. Have we not been taking the shadow for the substance—appearance or feeling for reality? Have we not been attributing feelings caused by diminished sensibility to increase of power? If the ease and buoyancy experienced after a dose of brandy be really due to increase of power, then it would be of the greatest value during severe exertion. But the opposite is the case.

Many seeing the absurdity of stimulating without nourishment have fallen back on the theory that alcohol is a stimulant because it is a form of food which can be digested and assimilated when no other can. The question of the food value of alcohol has been carefully studied with variable results. Those most in favor of alcohol admit that an average man can only assimilate about three ounces of whisky in twenty-four hours. Even Anstie says that any quantity beyond that becomes a source of

mischief. How then can we defend the enormous quantities administered to patients whose digestion is weakened by disease? Only the most blind fatuity would attempt any such defence.

Again, a wholesome food does not lower temperature as alcohol has been proved to do. N. S. Davis, and many others, have shown that during the active digestion of ordinary food, the temperature of the body is always increased; but after taking alcohol the temperature begins to fall, and in exact proportion to the quantity taken. Dr. Hayes, the Arctic explorer, says that "while fat is absolutely essential to the inhabitants and travellers in Arctic regions, alcohol is positively injurious." Dr. McRae, speaking of Arctic exploration at the meeting of the American Association for the Advancement of Science in 1856, said, "The moment that a man swallowed a drink of spirits, it was certain that his day's work was nearly at an end. It was absolutely necessary that the rule of total abstinence be rigidly enforced if we would accomplish our day's work. The use of liquor as a beverage when we had work on hand in that terrific cold was out of the question."

There is abundant evidence that it does not give muscular strength in any dose. Persons in training abstain from it, although previously accustomed to its use. On severe marches there is general agreement that men do better without it. Ringer, Farquharson, and others, say that nothing is better proved than that alcohol lessens the capacity for muscular exertion. Such an expression, coming after having extolled it as a digestive agent and lauded it as a valuable stimulant and most digestible form of carbonaceous food, is a remarkable illustration of the power of alcohol to blind the judgment. How an article which is a food, a digestive agent, and a stimulant, can lessen the capacity for exertion, I must leave to more powerful intellects than mine to explain.

Many observers seem to think that whilst harmful during exertion, it is useful after the fatigues of the day. The explanation of its action at such a time is plain. In the words of the "Encyclopedia Britannica," it "benumbs or paralyzes the useful sensation of weariness," and causes the men to feel and act jolly when they should be obeying the mandates of nature and