

selves the right of guiding the public in all that concerns the welfare of the bodily fabric, whether in health or disease. Their influence for good or evil in this matter can scarcely be too highly estimated. If they are able, after careful consideration of the evidence on each side, to give their sanction to the statements of the advocates of the Total Abstinence cause, that sanction ought not to be withheld, since its weight in the scale of social order and morality demands the open and unqualified expression of it, unrestrained by any fear of ridicule or loss of the world's approval. That they would knowingly place their influence in the opposite scale, cannot for a moment be admitted; but there is too much reason to fear that, either from actual ignorance of what the experience of multitudes of all ranks and conditions has now demonstrated, or from a natural tendency to persist in that sort of *laissez-faire* system which it is so easy to practise and (in this matter especially) so agreeable to their patients, the generality of medical men are at present lending their sanction to a system of most pernicious error. Having long since made up our own minds on this subject, we have determined not to forego this opportunity—the last in our power—of recording our earnest convictions in regard to it; in the hope of leading our readers, if not at once to view the matter in the light in which we see it after many years of observation and personal experience, at any rate to inquire and observe for themselves, and to prudence before they again recommend or sanction practices which, though comparatively innocent in themselves, and in perpetuating the direst evils with which our country is infected. \* \* \*

In the exercise of our own duty as cool judging critics, we now propose to inquire in the first place into the present state of our knowledge as to the physiological action of alcohol on the human body; next, to consider how far the results of the comparative experience of those who make habitual but moderate use of fermented liquors, and of those who entirely abstain from them, under a variety of circumstances, warrants the assertion that total abstinence is invariably (or nearly so) compatible with perfect health, or is even more favorable to health than habitual but moderate indulgence; and finally, to endeavor to deduce from these data such conclusions with regard to the therapeutic use of alcohol, as may cause its employment by medical men to be attended with the greatest possible amount of good and the least admixture of evil. \* \* \*

All our present physiological knowledge, then, leads to the decided conclusion that alcohol cannot become the pabulum for the renovation of the muscular substance, which process can only be effected by the assimilation of albuminous materials in the food; and that the habitual use of alcohol, therefore, cannot add anything to the muscular vigour. And this conclusion receives most striking confirmation from the well-known fact, that, in the preparation of the body for feats of strength, the most experienced trainers either forbid the use of fermented liquors altogether, or allow but a very small quantity to be taken; their trust being placed in a highly nutritious diet, active muscular exertion, and the occasional use of purgatives, which purify the blood of the products of decomposition, or draw off superfluous alimentary materials.

That alcohol has some peculiar relation to nervous matter, would appear from its power of stimulating the nervous system to increased action; but this power, although coincident with a certain relation in their chemical composition, could not be predicted from the latter, since ordinary fat, which has no such stimulant effect, has a closer chemical relation to nervous substance than is possessed by alcohol. Whether alcohol is capable, by any transformation, of being converted into nervous matter, is a question which we have at present no data to determine; but there can be no doubt that this tissue may be formed equally well from other ingredients of food, which have not, like it, a stimulating effect. It cannot, therefore, be a necessary pabulum to the nervous system; and its peculiar virtue as an habitual article of diet, if such there be, must be looked for in its stimulating qualities.

But, it may be maintained, although alcohol is not requisite or useful as a pabulum for the tissues, it is most efficient as a combustible material, serving to keep up the heat of the body in extreme cold, and to defend it against the effects of vicissitudes of temperature,—in common language, “to keep the cold out.” Now, this at first sight appears a very cogent argument for its use under certain circumstances; and if not its regular employment, but when its effects are more closely examined, it will be found

that neither physiological science nor the results of experience sanction such a proceeding. The maintenance of the animal heat chiefly depends, as all our readers must be aware, upon the formation of carbonic acid and water by the oxygenation of hydrocarbon contained (probably in various forms) in the blood. Now, the ingestion of alcohol, so far from promoting, checks the oxygenating process; as was shown long since by the result of the experiments of Dr. Prout, who invariably found the quantity of exhaled carbonic acid to exhibit a marked decrease after the ingestion of alcoholic drinks, other circumstances remaining the same. Subsequent experiments upon the respiratory process have met with the same results; and they are confirmed by the fact ascertained by Bouchardat, that when alcohol is introduced into the system in excess, the blood in the arteries presents the aspect of venous blood, showing that it has not undergone the proper oxygenating process. Now, although we may not understand the reason of this (although it seems to be referable to the well known power of alcohol to prevent or retard chemical changes in organic substances), the fact is of the utmost importance.

The inference to which we are thus conducted by physiological reasoning, instead of being negated by general experience (as it is commonly supposed to be), is fully confirmed by it. The Eskimoes, Greenlanders, and other inhabitants of the coldest regions of the globe, effectually maintain their animal heat by the large consumption of fatty matter; and whatever may be the temporary effect of an alcoholic draught, we believe that all arctic and antarctic voyagers agree that continued resistance to cold is most effectually maintained without alcohol, or at any rate with a much smaller quantity of it than is commonly thought necessary. A very striking proof of this is afforded by the arrangements recently made for the overland arctic expedition, on which the best authorities have of course been consulted by Government. In the programme of these arrangements it is expressly stated, that no fermented liquors are to be used by the parties who proceed upon it. \* \* \*

It appears, then, that the physiological influence of alcohol upon the system, under all ordinary circumstances, cannot be attributed to anything else than its stimulant character; and it is almost a self-evident corollary from this proposition, that its habitual use even in moderate quantities can exert no beneficial effects. For the healthy fabric should be quite capable of containing itself in vigor upon a proper diet and with a due quantum of sleep, exercise, &c., without any adventitious assistance; and if it be not, assistance should be sought from alterations in diet or regimen, or from remedies which tend to promote the regular play of its functions, rather than from stimulants, which may produce in some of these a temporary excitement, but which thus tend to destroy the balance of the whole. The very nature of a stimulant is to produce subsequent depression, and to lose its force by frequent repetition. The depression is proportional to the temporary excitement; and the loss is thus at least equivalent to the gain. And when a stimulus loses its effect as such by frequent repetition, it is still felt as being necessary to bring the system up to par, an increased dose being required to elevate it higher. Thus, as is well known, those who habitually employ fermented liquors for the sake of their stimulating effects, are led on from small beginnings to most fearful endings; and the habit, growing by what it feeds on, becomes a necessity. No pretext is more commonly given out as an apology for the habitual use of fermented liquors, than the aid which a moderate employment of them is thought to afford to the digestive process. But we maintain that, where a man duly observes the laws of health, the appetite will always desire the amount of food which the system needs, and the stomach will be able to digest it. If health is to be measured by the capacity for eating, then the habitual moderate use of fermented liquors may be conducive to it; but if the increase in this capacity which they produce be of no service to the economy at large, they cannot have any other than an injurious effect, by leading us to overtask the powers of our digestive apparatus. Thus, as Liebig has very well pointed out, the residents in warm climates, who take stimulants before their meals, in order to make up for the deficiency of appetite, act upon a most unphysiological and ultimately injurious a stem; forgetting or being ignorant that the real demand for food is much less when the surrounding temperature is high, and that the diminished appetite really indicates the diminished wants of the system. In a large proportion of cases in which the habitual employment of fermented liquors has really a show of utility, we are quite certain