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ALCOHOL IN RELATION TO HEALTH.

BY B. W. RICHARDSON, M.D., F.R.S.

[These notes by Dr. Richardson were in reply to a short series of questions submitted to him by Lady Jane Ellice, President of a Ladies' National Temperance Convention, which assembled in London, May 22, 23, and 24, 1876. Lady Jane had often heard from ladies who spoke of total abstinence certain reasons why they should not or could not abstain. One said her digestion required alcohol; a second, that her feeble circulation required it; a third, that her general feebleness required it; a fourth, that she had tried to abstain from it, but had to fall back upon it for support. Lady Jane therefore submitted the series of questions to Dr. Richardson on these special points, and his replies are placed in the order suggested by the inquiries.]

QUESTION I.

Relating to the action of Alcohol on the Process of Digestion.

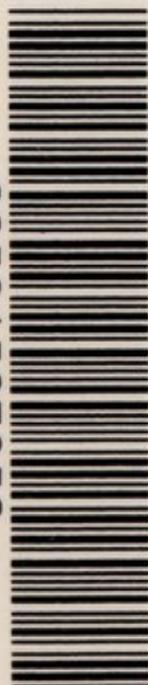
The common idea that alcohol acts as an aid to digestion is without foundation. Experiments on the artificial digestion of food, in which the natural process is very closely imitated, show that the presence of alcohol in the solvents employed interferes with and weakens the efficacy of the solvents. It is also one of the most definite of facts that persons who indulge even in what is called the moderate use of alcohol suffer often from dyspepsia from this cause alone. They ac-

quire the morbid feeling that they cannot take food in the absence of stimulants ; in some instances they are led to take more fluid and less solid food than is natural, and in other instances more of both kinds of food than can be healthily assimilated and applied. Thus, the use of the stimulant leads to flatulency after meals, to tendency to sleep, to indolence of mind and body, and to disturbed rest ; in fact, it leads to the symptoms which, under the varied names of biliousness, nervousness, lassitude, and indigestion, are so well and extensively known.

From the paralysis of the minute blood-vessels, which is induced by alcohol, there occurs, when alcohol is introduced into the stomach, injection of the vessels and redness of the mucous lining of the stomach. This is attended by the subjective feeling of a warmth or glow within the body, and is followed by an increased secretion of the gastric fluids. It is urged by the advocates of alcohol that this action of alcohol on the stomach is a reason for its employment as an aid to digestion, especially when the digestive powers are feeble. At best, the argument suggests only an artificial aid, which it cannot be sound practice to make permanent in place of the natural process of digestion. In truth, the artificial stimulation, if it be resorted to even moderately, is in time deleterious. It excites a morbid habitual craving for a stimulant ; it excites over-secretion of the stomach and acidity, and in the end it leads to weakened contractile power of the vessels of the stomach, to consequent deficiency of control of those vessels over the current of blood, to organic impairment of function, and to confirmed indigestion.

On these grounds alone I infer that alcohol is no proper aid to digestion. I know from daily observation that when it is felt to be a necessary aid, it is doing actual mischief, the very feeling of the necessity being the best proof of the injury that

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is being inflicted. Lastly, on this head, it is matter of experience with me that, in nine cases out of ten, the sense of the necessity, on which so much is urged, is removed in the readiest manner by the simple plan of total abstinence, without any other remedy or method. When, in exceptional cases, total abstinence fails, other remedies, as a rule, also fail, and the indication is supplied that the natural functional activity of the digestive organs is irrevocably destroyed.

QUESTION II.

Relating to Feebleness of the Circulation.

The effect of alcohol on the circulation of the blood is to quicken the circulation. The heart beats more quickly after alcohol is imbibed ; the vessels of the minute circulation are dilated, and at the same time are reduced in their contractile power. A moderate degree of cold applied to the vessels of the body produces the same effects, and hence cold and alcohol go hand-in-hand together in inducing torpidity and general failure of vital activity. During the time when the heart is beating more quickly, and the blood is coursing more rapidly through the weakened vessels of the vital organs, a flush or glow is experienced which, in time, becomes a sensation, if not of pleasure, at least of excitement. By continued use of alcohol, the vessels lose their control, and the heart fails in its power unless the stimulation be renewed. At last the sense of want of power and of languor, when the stimulant is withheld, is transformed into what is conceived to be a natural necessity. The weakened stomach yearns first for what is called its stimulant, and then the languid body craves, in response, for the same. But the rapid course of the circulation leading to the increased action of the vital organs is, after all, the rapid running out of the force of the body. It is like the rapid run-

ning down of the timepiece when the pendulum is lifted. The running down demands, in turn, the more frequent winding up, and the result is premature wearing out and disorganisation of those organic structures on the integrity of which the steady maintenance of life depends.

During these unnatural courses of the circulation under alcohol, the degrees of structural change which occur are most serious. The minute blood-vessels are rendered feeble, irregular in action, untrue to their duty; the membranes of the body become changed in structure; the organs that are most necessary for life, such as the brain, the lungs, the liver, the kidneys—organs which are failures unless their membranes and their vascular parts be kept intact—lose their powers for work, and from their defects disease, in tangible forms, is organically developed.

Another cause of feebleness from alcohol, indirectly connected with the circulation, is the change to obesity which alcohol produces. It is one of the effects of alcohol to check the natural process of oxidation in the body, and for this reason, as I have experimentally proved, it reduces the animal warmth. The influence of this repression does not end here: under it there is an impaired nutrition, and in many instances a great and unnatural increase of fat in the body, what physicians call fatty change or fatty degeneration. In the beginning of this change it is usual that the fatty substance is laid up outside and around the vital organs, or beneath the skin, where it is stored away in great abundance. In later stages, and occasionally from the first, the fatty particles are deposited within the minute structures of organs, in the muscular structure of the heart, or in the substance of the brain or kidney. The fatty degeneration, in this manner induced, is, of necessity, a permanent cause of feebleness, of premature decay, and, not unfrequently, of sudden death.

The view that alcohol is demanded in order to keep up a feeble circulation, is opposed to reason and to practical knowledge. It is a view that rests altogether on the feeling or appetite of the person who, on his or her own experience, defends it. The very fact that such personal experience is felt, is an indication that the alcohol is inflicting injury, and that abstinence from it is absolutely demanded.

QUESTION III.

Relating to the Feebleness of the Body.

The same argument that applies to feebleness of the digestive process and to feebleness of the circulation, in relation to the use of alcohol, applies also to that general feebleness of the body which is commonly referred to when persons say they are not strong enough to do without alcohol. I have found by direct experiment that the effect of alcohol is to reduce the muscular power, and that even during the excitement which alcohol produces in the stage of excitement, there is no actual increase of power, although there may be great muscular disturbance and apparent excess of motion. The strongest men and women living are those who do not take alcohol in any form ; and the experience of persons who fairly try abstinence is, that more work and better work—whether the work be mental or physical—is performed without alcohol than with it. The general evidence on this point is most conclusive, and if I might venture to state my own individual experience, I would say that the evidence is as surprising as it is satisfactory. I have worked actively while indulging in a moderate measure of alcohol daily ; I have worked actively while abstaining altogether. In a word, I have made direct personal experiment on the subject, and I am bound to state that the work that can be done during entire abstinence is

superior in every respect—in respect to amount, in respect to readiness of effort, in respect to quality, in respect to endurance, and in respect to mental ease and happiness—to that which can be done during times of moderate indulgence in alcohol.

Alcohol does not give strength, does not maintain strength, and its use cannot truthfully be defended on the ground that the body is not strong enough to do without it. When anyone feels that he or she requires alcohol to maintain strength, the evidence favours the suspicion that that person is in danger of collapse from the action of the very agent on which reliance is falsely placed.

I have only one more observation to make on this head, an observation I have once before made, but which I venture to repeat. It is that the strongest of our domestic animals, and the most useful of them, work from morning to night, and do all the work that can fairly be expected from flesh and blood, yet require no alcohol, and if they are trained to the use of it they simply fall into feebleness and uselessness. If we could by a grand destructive experiment treat our domestic animals with alcohol as human beings are treated with it, the value of the lower animals would at once decline, and in time we should have none that were edible, none that were workable, none that were tameable.

QUESTION IV.

Relating to the Trial of Total Abstinence.

The long-continued habit of taking alcohol engenders an appetite for it which, it must be confessed, is a very powerful influence in its support. To forget and to overcome this appetite requires faculties of which many persons are deficient, viz., strength of will and determination. In some instances

even courage is required as well as strength of will, in order to vanquish the desire engendered by the habit. But when the will is strong enough for the effort, the trial of total abstinence is certain. It is probable that so long as any alcohol remains in the body, the desire—I may say, the urgent desire—for more of it is severely felt. After a sufficient time for its complete elimination from the tissues, the appetite grows feebler, and at last it ceases altogether. The habit is buried and forgotten; and, this point reached, the new life that is realised is unencumbered by a desire that is as useless as it is masterful when it is allowed to have its sway. Then the ideas that the abstinence produces illness and enforces a return to the stimulant, entirely pass away.

An error often committed by temporary abstainers from alcohol is that ailments, to which they become subject after they commenced to abstain, and which would have occurred with equal certainty if alcohol had been persisted in, are caused by the abstinence. It is specially necessary to warn those who are beginning to abstain from this error. There is no evidence whatever that I can discover in favour of the supposition that any disease occurs from, or is dependent on, total abstinence. I have myself never seen disease induced in such manner, and whenever I have entered carefully into the study of symptoms that have been assigned to the cause named, they have afforded no proof of actual disease; they have been purely subjective in character, and have indicated nothing more than the will, or the idea, or the inclination, of the person who has complained of them. The best evidence on the point now under consideration is, however, afforded in the effects of enforced abstinence on those alcoholics who, under hospital, workhouse, or prison discipline, are rigidly and peremptorily debarred from alcohol. I have failed, so far, to obtain a single instance of the origin of any known and

definable disease from the process of enforced abstinence. No one, I believe, has ever pretended to write out the history of a disease induced by that process; on the contrary, the generally expressed opinion is, that enforced abstinence promotes health, and that it tends, when the appetite for the stimulant is subdued, to promote the after sobriety of professed inebriates more effectively than any other measure that has been tried for the prevention of habitual intoxication.

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