

enables them to maintain a more constant and increased supply of animal heat, as a defence against the depressing influence upon the vital powers of the chilling cold.

The destructive energies of physical nature in high latitudes is so great that it has been found necessary, by arctic explorers and commanders of whaling expeditions in the north seas, to positively interdict the use of alcoholics. The experience of all arctic explorers, including Ross, Franklin, Parry, Richardson, Kennedy, and Kane, having emphatically demonstrated the positive perniciousness of alcoholics in the intense cold of the arctic regions, where all the powers of life are needed for its resistance. The reason for this forced abstinence by authority, with a view to the preservation of the health and strength of the men, will appear evident, when it is stated that *whatever* tends to lower the vital activity, or to depress the heat-generating powers of the living frame must be specially avoided under the rigorous climate of the poles. This is clear from the testimony of Sir John Richardson, M.D., and Dr. McCrae. The former makes the following statement of his experience with alcoholics in the Arctic regions:—"I am quite satisfied," he says, "that spirituous liquors *diminish* the power of resisting cold; plenty of food and sound digestion are the best sources of heat. We found, in our northern journey, that *tea* was far more refreshing than wine or spirits, which we soon ceased to crave for, while the craving for *Tea* increased." Lebig at one time advanced the idea that spirits were necessary to northern nations, to diminish the waste of the solids of the body, "but," continues Sir J. Richardson, in answer to this,—"my experience leads me to a contrary conclusion."

Dr. McCrae stated at a meeting held in Montreal in 1856, his experience with alcohol, while on an arctic expedition, to have been as follows: "The moment that a man had 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 task. *Its use in that terrific cold was out of the question.*"

The Hudson's Bay Company, too, were obliged to exclude spirits from the fur districts of the far north many years since, and it has been found greatly to the advantage of their servants as regards their health and success.

The Seal Fisheries of Newfoundland and the North East Coast furnish still further evidence of the evil influence of alcoholics in depressing the vital powers of men exposed to severe cold and wet. These men are obliged to leave their vessels in boats and take to the ice to hunt the Seal; but,—as sometimes happens—if one of the number have taken liquor, he will soon become helpless and require to be assisted back to the vessel, in order that his life may be preserved. The part which alcohol plays in the work of destruction, by aiding the depressing action of the cold in our own climate, is only too frequently brought under our notice by the numerous cases of "*freezing to death*" which occur annually; while in almost every such case it is found, upon inquiry, that the action of alcohol has previously prepared the victim to be an easy prey to the influence of cold and exposure. Alcohol depresses the vitality and lowers the temperature of the body, through the nervous system upon which it acts as anæsthetic and narcotic in exact proportion to the dose or quantity taken; in either case lowering the vital powers, and reducing the temperature by depressing, retarding, or wholly intercepting the vital functions.

Much more might be said on this point, but I must be brief. The experiences with alcohol, by persons exposed to extreme cold—under which circumstances every glass taken to "warm," or keep up the heat of the individual, is followed by a still greater lowering of temperature where the exposure is continued,—leads us to infer the dangerous and sedative character of the drug under such circumstances, and prepares us for the assertion that the administration of alcohol is universally followed by a loss of animal heat, or a lowering of the temperature of the body, while Arctic experience teaches us what are the true supporters of heat by combustion in the human body. These we find to be the