(3) by furnishing fuel for oxidation and the consequent production of heat. It is now seen that alcohol can do none of these things; it cannot make tissue, or supply salts and phosphates, or feed the furnace."

Dr. Lionel S. Beale, M.D., F.R.S., physician to King's College Hospital, in a paper read before the British Medical Association, 1863, says of alcohol as a remedy: "Alcohol does not act as food; does not nourish tissues; it may diminish waste by altering the consistence and chemical properties of fluids and solids. It cuts short the life of rapidly growing cells, or causes them to live more slowly. The remedies which act favorably, really seem to act, not by increasing vital power, but by decreasing the rate at which vital changes are proceeding. The tendency to increased formation of adipose tissue may be explained upon the same view; and the stunting which follows its exhibition to young animals is readily accounted for."

However, in a recent article (1872), in the *Medical Times and Gazette*, he (Dr. Beale), claims that alcohol *is digested* and *assimilated*, augmenting the biliary secretions and increasing the production of bile, fat, liver sugar, amyloid substance or glycogene, and therefore *is food* to the system; although he admits that it does not nourish tissue, and does not raise but lowers the bodily temperature. Now, granting that it does all he now claims for it, what advantage? Does the ability to produce exaltation of function and excessive secretion of an organ without nourishment of tisssue or elevation of temperature constitute an article a food? Evidently not. Besides, are not excesses of bile, (as in bilious disorders) of fat, (as in obesity and fatty degeneration) of sugar, and amyloid substance or glycogene, (as in diabetes) objectionable conditions and unfavourable to the health and well-being of the person in whom they exist. Or even if these conditions can be produced during fever—which he confesses the difficulty of doing without risking congestion of the alimentary canal, brain coverings or lungs,—what advantage is to be gained, if—as he asserts—no heat is obtained from this extra quantity of fat and sugar in the blood, besides the questionable advantage arising from an excessive and disordered secretion and a retention of effete matters in the vital fluid, since it is proven to favour an excess of those decomposing organic compounds which physiology teaches us, are always present in the circulating current, especially in fevers, in which disease elimination and not retention is called for. Hence if alcohol could even be proven to be a food in fever, (which I deny) it must at least be one of doubtful quality.

Professor Lehman (physiological chemistry) says: "We cannot believe that alcohol, &c., belong to the class of substances capable of contributing towards the maintenance of the vital functions." On this point Dr. Ainstie fancies that (in some mysterious way) it does support the system and sustain life, but cannot explain how. Dr. E. Smith, F.R.S., says: "Alcohol is not a true food. It interferes with alimentation (1859). If it were food it would support tissue or produce heat (both of which actions have been claimed for it erroneously). On this latter point Dr. Ainstie, in a lecture to the Royal College of Physicians (1867), abandons the notion that alcohol *warms* the body. He says: "Alcohol, as has been abundantly proven by the admirable researches of Dr. Sydney Ringer, does not elevate but reduces bodily temperature, when given even in the largest non-intoxicating doses, except in cases where the temperature is already below the normal standard. There can be no doubt," he says, "of the correctness of this observation, which I have repeatedly verified." This being the fact, it is evident that the administration of alcohol in cases of collapse, &c., should first be preceded by the employment of the thermometer to ascertain the exact degree of temperature at the moment, and whether it be below 98°, the use of which will also shew the influence of the remedy in this condition. This remark is parti ularly applicable to cases of extreme prostration in typhoid or other low fever, where its administration is resorted to. For that there are conditions or states in typhus and occasionally in typhoid fever where stimulants are beneficial is unquestionable; but the kind of stimulant selected, the time and mode of administration, and the question as to their necessity and safety at particular periods, are questions to be decided by the judgment and experience of the attendant. My own judgment is decidedly in favor of ammonia, either in the form of the spiritus mindererus, or the aromatic spirits; and my experience would favor their early and continued administration, in moderate quantity, in connection with fluid nourishment. On the subject of the therapeutic value of alcohol as a supporter of the system, or food, Dr. Lees says: "General experience, special experiment, the quantitive measurement of the lessened oxidized products of combustion in the blood, and the test of the thermometer, all unite in a demonstration of the fallacy that alcohol is a warming agent or fuel to the body; and, whatever the science of the future may settle as to the destiny of alcohol, it cannot disturb in the least the certainty of this fact."

It is contra-indicated in meningitis and cerebritis