being what they are, it is impossible to imagine the presence of vast amounts of ammonia in an atmosphere, while the loss of the greater part of the energy which can be stored by tearing apart hydrogen and oxygen would be a very serious difficulty; but the loss of substantially all the incomparable chemical activity of oxygen is to all appearances an insurmountable obstacle to the substitution of ammonia for water in biological processes.

From time to time, loose discussion has arisen among chemists as to the possibility of substituting another element for carbon in the organic cycle. Such speculations have never been serious, but they have at least

all those properties which give to water its unique position among solvents, such as its abnormally high boiling point, its high specific heat, its high heat of volatilization, its high critical temperature and pressure, its high association constant, its high dielectric constant, and its low boiling-point elevation constant, its power as an electrolytic solvent, and the facility with which it forms compounds with salts, liquid ammonia shows a remarkable similarity to water."

"While the boiling point of liquid ammonia is 33.46° below zero, it still appears abnormally high when compared with the boiling temperatures of phosphine, arsine, stibine, methane, ethylene, hydrogen sulphide, hydrochloric acid, etc. The specific heat of liquid ammonia and the heat of fusion of the solid are greater than the corresponding constants for water or any other known substance, while its heat of volatilization, with the one exception of water, is the highest