

views may be, the common physiological processes, and the structural conditions which depend for their integrity upon constancy of the concentration of hydrogen and hydroxyl ions are certainly manifold.

The principal conditions and processes, both inorganic and organic, which rest upon the acid nature of carbonic acid and its characteristic distribution between the atmosphere and aqueous solutions have now been indicated. In their origin at least they are nowise due to the agency of organic evolution. Yet directly, because of the nature of carbon dioxide as a gas, because of its solubility in water, and on account of the precise degree of its weakness as an acid, they possess the highest possible efficiency. This conclusion might be established with rigorous accuracy by means of a mathematical analysis, but the above discussion is sufficient for the present purpose.<sup>1</sup>

In this manner carbonic acid shows itself in its physico-chemical traits variously fitted for the organic mechanism. Less various, to be sure, and less obvious than those of water, such fitnesses as it does possess are quite as

<sup>1</sup>Henderson, *American Journal of Physiology*, XXI, 173, 1908.