in water is not favorable for the best results, its instability is a fatal obstacle.

Such are the physico-chemical facts regarding neutrality regulation in heterogeneous systems by means of carbonic acid and bicarbonates, and, though the exposition is difficult, it has seemed necessary to make them clear. For there is, I believe, except in celestial mechanics, no other case of such accuracy in a natural regulation of the environment. Moreover, the chemist has discovered no means of rivaling the efficiency and delicacy of adjustment of the process. Finally, acidity and alkalinity surpass all other conditions, even temperature and concentration of reacting substances, in the influence which they exert upon many chemical processes.[1]

Almost wholly through this mechanism the oceans are always nearly neutral. Chiefly with its aid protoplasm and blood possess an unvarying reaction. Quite recently the concentration of hydrogen ions in the ocean has been very carefully studied by Palitzsch,[2]

[1] Of all catalytic agents these ions are by far the most important. In their influence upon the stability of colloidal systems they are also unapproached by other substances.

[2] "Etant donné que l'eau de mer a un contact is intime avec les organismes de la mer et que non seulement elle les entoure de ses flots, mais qu'elle traverse leurs branchies et imprègne en partie les corp des invertébrés, il semble assez