

except that in a measure potassium may be replaced by rubidium and cæsium, and chlorine by bromine. Moreover the relative concentrations are of the highest importance. Thus it has become clear that the remarkable relative and absolute constancy of the chemical composition of sea water is biologically far more important than formerly could be surmised. This characteristic of the ocean undoubtedly fits it for living things as they exist.

It is further to be noted that the salinity of sea water is proportional to its osmotic pressure. This important property also is therefore nearly constant.

When a solution is inclosed in a membrane, a bladder, for example, and the latter is immersed in water, both water and dissolved substance pass through the wall of the membrane. Ordinarily, however, the water will move much more rapidly than the dissolved substance, hence the volume of the solution will increase, and hydrostatic pressure will be established. If a well-supported membrane of cupric ferrocyanide be substituted for the bladder, the process will be modified, in that water alone, not the dissolved substance, can pass through the membrane, which is accordingly termed semipermeable.