

been added to the celomic fluid. The reactivity of Moore and Wilson (7) or the buffer value of Sørensen (8) was determined by titrating from the phenolphthalein to the methyl orange point using 0.5% sulfuric acid. 0.2 N acid was used in those instances where the reactivity was of large proportion. The results are shown in Table IV. It will be noted that the rate of increase in the reactivity of the celomic fluid is in close agreement with the rate of increase of calcium and also of the combined carbon dioxide content of the same.

Effect of Exposure to Air Followed by Submersion in Fresh Water.

Table V illustrates that, whereas exposure to air causes a rapid increase in the alkali reserve of the celomic fluid, the subsequent immersion in fresh sea water causes a return to approximately the normal value for this factor.

TABLE V.

Specimen.	CO ₂ content of 100 cc. of fluid equilibrated with atmos- pheric air.	Remarks.
	cc.	
<i>Mya arenaria</i> ..	8.2	Fresh.
" " ..	32.0	72 hrs. in glass container in laboratory.
" " ..	23.3	Submerged 4 hrs. in fresh sea water.
" " ..	14.9	" 16 " " " " "
" " ..	9.2	" 64 " " " " "

Effect of Submersion in Sea Water in a Sealed Container.

Several fresh specimens of *Mya arenaria* were immersed in a relatively small volume of sea water in a cylindrical glass container which was then tightly sealed. After varying periods of time the celomic fluid of the specimens was examined. An analysis of the sea water which was used in the experiment was also made. The results are expressed in Table VI. A few experiments were carried out in which boiled out sea water was used in place of fresh sea water. In one instance sea water, the buffer value of which had been greatly increased by the addition of 5 gm. of basic sodium phosphate per liter, was used. It will