

the acid color change and accompanying cytolysis characteristic of free HCl.

When NaHCO_3 was introduced into a stained egg the injected area immediately turned yellow and cytolysis with liquifaction took place. The change to a yellow color and accompanying cytolysis spread throughout the cell. This showed that NaOH, which can not penetrate the surface film, will exert its characteristic effects if introduced directly into the interior of the cell.

The semi-permeability of a living cell is a function of its surface film. It is immaterial whether this film be that of the original cortex, a film newly formed over a cut surface, or a film that surrounds an artificially induced vacuole within the cell. As long as a surface film exists, neither the acid group of the NH_4Cl nor the alkaline group of the NaHCO_3 can penetrate protoplasm. On the other hand, if injected beneath the surface film they freely permeate the protoplasm.

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Fat transport in the body—changes in the lipid content of the blood and lymph during fat absorption in the dog.

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After alimentary absorption of fat the content of both the total fatty acids and the phosphatides of the blood is increased. According to Bloor the phosphatides are synthesized from neutral fats by the blood corpuscles. It is also conceivable that phosphatide synthesis occurs during the passage of the fat components through the intestinal wall. To test this hypothesis the thoracic lymph and blood collected before and after introduction of olive oil into the duodenum of dogs previously starved for 18 hours was analyzed as follows:

DOG, 9 KILOS IN BODY WEIGHT—A TYPICAL EXPERIMENT
 (The analyses are expressed in milligrams per 100 c.c. of blood or lymph)

Period before or after fat injection	Lymph			Blood	
	Total fatty acids	Phos- pha- tides	Volume of lymph	Total fatty acids	Phos- pha- tides
Before	280	160	11 c.c.	600	440
0.2 hours after.....	270	180	39 c.c.	570	430
2.4 hours after.....	480	210	19 c.c.	660	550
4.6 hours after.....	1,550	240	45 c.c.	630	500
6.8 hours after.....	1,670	230	8 c.c.	810	490
8.10 hours after.....	1,600	200	47 c.c.	800	510
10.12 hours after.....	1,700	200	20 c.c.	800	550
12.14 hours after.....	2,400	200	11 c.c.	790	520
14.15 hours after.....	1,720	200	14 c.c.	560	490

The results show clearly that while the total fatty acids of the lymph increase rapidly during fat absorption, the content of phosphatides remains unchanged. Hence there is no reason to believe that synthesis of phosphatides takes place before the fat leaves the thoracic duct.

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The inorganic phosphorus and calcium in maternal and foetal blood.

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This study included examinations of the blood of pregnant women in the latter months of pregnancy, of the cord blood of infants, and of mothers' blood within forty-eight hours after labor. The calcium was determined on serum by the Lyman method,