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The distribution of water between serum and corpuscles in experimental anemia.

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It has been shown previously[1] that in experimental anemia due to acetylphenylhydrazine, the volume of the individual red corpuscle is increased, this being usually accompanied by a disproportionate increase of the unsaturated fatty acid content of the corpuscles. In the present work, we have been especially interested in determining possible changes in the water equilibrium between serum and corpuscles in anemia. We have found that the water content of the serum of normal dogs is about 92.0 per cent and of normal corpuscles about 65.0 per cent. In the anemic condition, there is an increase in the water content of the serum, which, however, is very slight, usually less than 1.0 per cent. On the other hand, in the corpuscles the water increase is much greater. Values of about 5.0 per cent above the normal are frequent. The following data are typical:

Dog No.	Date 1925	Red count in millions	Corpuscle vol. $V \times 10^{-8}$ cm.	Hemoglobin in corpuscle $Hb \times 10^{-8}$ mg.	Per cent water by weight.	
					Cells	Serum
			V	Hb.		
3	Oct. 14	7.76	5.35	1.74	65.25	91.64
	Oct. 22	2.22	9.01	2.46	70.07	92.26
6	Oct. 20	8.64	5.45	2.11	64.90	91.46
	Oct. 23	4.40	7.27	1.74	69.30	91.79
10	Oct. 29	8.19	5.07	2.00	64.70	92.30
	Nov. 2	3.46	5.94	1.49	69.50	92.50

[1] Bodansky, M., *J. Biol. Chem.*, 1925, lxiii, 239.