in Table II. This shows that electrical conductivity, like freezing-point lowering, and the ratio K/Δ is higher in parasite than in host.

Thus it appears that there is some mechanism not as yet determined by which the mistletoe accumulates and retains in solution larger quantities of dissociated salts or organic acids than does the host.

It is possible that higher transpiration from the parasite might result in the accumulation in a purely mechanical manner of larger amounts of salts from the transpiration stream, but this is merely a suggestion requiring further investigation.

45 (1627)

Chemical and molecular behavior of casein.

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Two kinds of casein were used, both prepared according to Van Slyke and Baker, the one from skimmed milk, the other from a solution of purchasable "pure casein." Since albumin is soluble near a P_H of 4.7 while casein is not, in both cases, casein practically free from albumin was obtained.

It was possible to show that when HCl or H_3PO_4 are added to isoelectric casein, three times as many c.c. of 0.1N H_3PO_4 as of 0.1N HCl are required to bring 1 gm. of isoelectric casein in a 1 per cent. solution to a given P_H. On the other hand, it required equal numbers of c.c. of 0.1N $Ca(OH)_2$ or $Ba(OH)_2$ as of 0.1N KOH or NaOH to raise 1 gm. of isoelectric casein in 100 c.c. solution to the same P_H. Hence H_3PO_4 combines with casein in molecular proportion while $Ca(OH)_2$ and $Ba(OH)_2$ combine in equivalent proportions with casein. In other words, acids and alkalies combine with casein by the same purely chemical forces of primary valency as they combine with crystalloids. The same fact had been shown by the writer for the combination of these acids and alkalies with gelatin and crystalline egg albumin.[1]

[1] J. Loeb, *Journ. Gen. Physiol.*, 1918–19, i, 483, 559; 1920–21, iii, 85; *Science*, 1920, lii, 449.

According to the writer's experiments on these latter two proteins it was expected that the curves for the osmotic pressure and viscosity of 1 per cent. casein chloride and casein phosphate solutions should be practically identical when plotted over P_H as abscissae. The experiments confirmed this expectation.