35.	Gallbladder	Hypermotil.—Pylorospasm
	Duodenum	Hypermotil.—Pylorospasm—Incisura
40.	Parietal Periton	Inhibition
	Gallbladder	0
	Cecum (Appen)	Hypermotil.
41.	Gallbladder	Hypermotil.
	Parietal Periton	Inhibition
61.	Gallbladder	Hypermotil.
68.	Cecum (Appen)	Hypermotil.
	Gallbladder	Hypermotil.
	Duodenum	Hypermotil.
69.	Cecum (Appen)	Hypermotil.
	Gallbladder	Hypermotil.
	Duodenum	Hypermotil.

In these thirteen experiments, there are eleven irritated gall. bladders, eight traumatized duodeni, and five crushed appendices, The respective gastric motor responses may be expressed in percentages as follows:

2. GASTRIC MOTOR RESPONSES IN PERCENTAGES.

Organ Traumatized.	Hypermotil.	Hypomotil.	Retrostal.	Normal.
Gallbladder	61.5	0	23.1	15.4
Duodenum	66.7	0	11.1	22.2
Appendix	100.	0	0	0

After completing these experiments, the clinical records at Bellevue Hospital, Third Division, were reviewed from 1911 to the present time with the following result:

3. GASTRIC MOTOR RESPONSES IN PERCENTAGES (HUMAN).

Organ Diseased.	Hypermotil.	Hypomotil.	Normal.
Gallbladder (19 cases)	68.4	0	31.6
Duodenum (8 cases)	75.	12.5	12.5
Appendix (20 cases)	55.	0	45.

66 (1441).

The nature of osmotic pressure.

By **M. KOSAKAI** (by invitation).

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The hemolytic effect of formaldehyde and that of urea, which were first observed by Eisenberg, are found to be, like that of boric acid, the result of osmotic pressure.

A comparative, quantitative study of the hemolytic action of these three substances shows that

(1) The same degree of osmotic hemolysis is not produced by identical "osmotic concentrations" of boric acid, formaldehyde and urea nor by a corresponding lowering in the concentration of the substances in the medium of suspension of the treated corpuscles.

(2) As the treating concentration of the three hemolytic substances is correspondingly diminished, the ratio between that concentration and the final concentration, in the hemolytic experiment, increases disproportionately with the different substances.

(3) The osmotic hemolysis of corpuscles which have been treated with the three hemolytic substances in the same "osmotic concentrations" is not inhibited by identical concentrations of sodium chloride nor of the hemolytic substances themselves.

All of these facts contradict the usual assumption that osmotic pressure is exerted directly by the solute.

These facts are easily compatible with the alternative view that osmotic pressure is merely the pressure of the water which diffuses through a semipermeable membrane to the side of higher "osmotic concentration," if, as is necessary, the factor of *time* is taken into consideration.

Under this conception, the degree of osmotic pressure developed depends not alone upon the original concentration of the solute but upon the length of time during which an effective difference in concentration is maintained on the two sides of the membrane. If the solutes are diffusible, as are all three of the hemolytic agents under study, the degree of osmotic pressure developed by them, under the conditions of the experiment, must depend, in part, on the *rate of diffusion* of the respective substance.

It is found that the diffusion rates of boric acid, formaldehyde and urea are respectively 90 seconds, 30 seconds and less than 5 seconds. These differences correspond with the differences in the hemolytic action of the three reagents mentioned above and they confirm the view that osmotic pressure is not a direct property of a solute but merely water pressure developed by the process of diffusion.