intracutaneous injection is not merely followed by a prompt increase in capillary permeability; but within a surprisingly short interval of 25 to 30 minutes there is considerable evidence of leucocytic migration into the treated areas. The small vessels are packed with polymorphonuclears closely adhering to the endothelial wall in the act of migrating into the extra-capillary spaces which reveal already moderate infiltration of these cells. Furthermore, the substance is positively chemotactic when placed in capillary glass tubes sealed at one end and introduced into an inflamed peritoneal cavity, the tubes soon become filled with leucocytes. The inactive crystalline material obtained from blood serum and injected intracutaneously, distilled water, or saline are all totally devoid of inducing such prompt accumulation and migration of leucocytes through the endothelial wall. Turpentine, which in the skin causes a rapid increase in capillary filtration as indicated by the pronounced seepage of dye in the affected area, is equally incapable of exhibiting as rapid a migration of leucocytes as the active crystalline material. The implications of these observations are obvious. The studies are being continued and will be reported *in extenso* elsewhere.

Conclusions. For the sake of convenience the name *leukotaxine* is tentatively proposed for this active crystalline nitrogenous substance which is evidently released by injured tissue and is readily recovered in inflammatory exudates. "Leukotaxine" *per se* appears to be capable of rapidly initiating the usual sequences of the inflammatory reaction first by inducing a prompt increase in capillary permeability and secondly by causing an extremely rapid aggregation and migration of leucocytes through the endothelial wall.

9156

Cane Molasses versus Beet Molasses as a Source of Vitamin B_6 and Lactoflavin.

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Regardless of the fact that Nelson, Heller and Fulmer[1] published experimental evidence concerning the value of cane molasses as a source of the whole vitamin B complex, molasses is still generally looked upon as a qualitatively inert food constituent.

In 1935 the experimental data of Nelson, Heller and Fulmer re-

[1] Nelson, V. E., Heller, V. G., and Fulmer, E. I., *Indust. and Engin. Chem.*, 1925, **17**, 199.

ceived substantial confirmation. Birch, György and Harris[2] showed that cane molasses is very rich in vitamin B_6. As molasses is one of the major components of the diet of pellagrins in the cotton districts of the United States, the high vitamin B_6 potency of molasses indicates that vitamin B_6 has no antipellagra action for human beings.

Furthermore, Jukes and Lepkovsky[3] recently have found in cane molasses a fairly good source of the preventive factor for chicken pellagra, the so-called "filtrate" factor; it therefore seems unlikely that lack of the chicken pellagra factor would be responsible for the occurrence of human pellagra.

Nelson, Heller and Fulmer measured the whole vitamin B complex, its composite nature being unknown at that time, and they established the fact that cane molasses is far superior to beet molasses as a source of vitamin B. I have repeated these experiments, using

TABLE I.
Average values for distribution of lactoflavin and vitamin B_6 in molasses.

Molasses Sample Fed to Rats	Amt. Given Daily	Tests for Lactoflavin (Vitamins B_1 and B_6 provided):	Tests for Vitamin B_6 (Vitamin B_1 and Lactoflavin provided):	
		Aver. Weekly Increase in Wt. of Rats	Aver. Weekly Increase in Wt. of Rats	Healing of Specific Dermatitis
	gm.	gm.	gm.	
Cane molasses I, blackstrap (Louisiana)	0.075	—	3	No
	0.125	—	5	Yes
	0.25	—	6.5	,,
	0.5	—	—	—
	0.75	2.5	—	—
	1.5	7.5	—	—
Beet molasses (Germany)	0.25	—	0	No
	0.5	—	-1	,,
	0.75	0	1	,,
	1.0	—	-1	,,
	1.5	-4	—	—
Beet molasses (Michigan)	0.75	—	-1	No
	1.5	—	0	,,
Syrugold	0.25	—	-2	,,
	0.5	—	2	,,
	0.75	—	0	,,
	1.5	-1	—	—
Karo (blue label)	0.5	—	-2	No
	1.0	—	2	,,
	2.0	—	3	Inconstant
	2.5	1.5	2.5	Yes
	5.0	-2	—	—

[2] Birch, T. W., György, P., and Harris, L. J., *Biochem. J.*, 1935, **29**, 2830.
[3] Jukes, T. H., and Lepkovsky, S., *J. Biol. Chem.*, 1936, **114**, 117.

my method for the separate determination of lactoflavin and vitamin B_6.[4] I have also tested Karo (blue label), which contains a molasses preparation, and Syrugold, a refined cane molasses preparation (National Sugar Refining Co.), for potency of vitamin B_6 and lactoflavin. The results are recorded in Table I.

In addition to the sample of blackstrap molasses given in Table I, I tested 8 other samples of crude cane molasses for their vitamin B_6 content. In 7 samples, from Louisiana, the vitamin B_6 titer varied between 0.1 and 0.3 gm. per rat per day (in two it was 0.1 gm., in three 0.15 gm. and in two 0.3 gm.); in the eighth sample, of unknown provenience, the titer was 0.4 gm. per rat per day. In a specimen of commercial blackstrap treacle put up by Fowler (England), the rat-day dose of vitamin B_6 was found[2] in 0.25 gm. Beet molasses samples from Germany and from Michigan were both devoid of vitamin B_6 (see Table I).

The Karo sample recorded in Table I showed B_6 activity at the daily dose per rat of 2 to 2.5 gm., whereas in 2 other samples of blue label Karo I failed to detect any curative action for deficiency of vitamin B_6. The implications of this finding in connection with questions of infant feeding will be discussed elsewhere.[5]

Conclusions. Crude cane molasses is a good source of vitamin B_6, the B_6 titer varying from 0.1 to 0.4 gm. per rat per day, with an average of 0.15 gm. Crude cane molasses also contains small amounts of lactoflavin. Beet molasses is practically devoid of both vitamin B_6 and lactoflavin.

9157 P

Influence of Carbon Dioxide upon Blood Pressure Reaction to Oxygen Deficiency.

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Gellhorn[1] showed recently that CO_2 either completely offsets or greatly diminishes the effects of oxygen deficiency on various sensory and psychic phenomena. This effect may be thought to be due to the effect of CO_2 on respiration whereby the acapnia associated

[4] György, P., *Biochem. J.*, 1935, **29**, 741.

[5] György, P., in preparation.

[1] Gellhorn, E., *Nature*, 1936, **137**, 700; *Am. J. Physiol.*, 1936, **117**, 75; *Proc. Am. Physiol. Soc.*, 1936, p. 59; Sigma Xi Quarterly, 1937 (June), in press.