Character of Operative Procedure.	Amount of CO_2 Expressed in c.c. per c.c. of Blood Plasma.	Direction of Change in Total CO_2 of the Blood.
Etherization	.490	
Two vertebrals and one carotid occluded. Blood pressure from other carotid. Ether intermitted	.525	
One carotid released	.485	
" " occluded	.460	Fall.
" " released	.480	Rise.
" " occluded	.435	Fall.
" " released	.460	Rise.
" " occluded	.445	Fall.
" " released	.447	44 per cent. of total volume of blood drawn up to this time.
" " occluded	.380	Rapid fall.
" " released	.350	Slow fall.
" " occluded	.311	Rapid fall.
" " released	.247	Rapid fall.
" " occluded	.247	Animal died.

alone, after forty per cent. of the blood has been drawn will give a similar fall in the carbon dioxide of each successive sample of blood without occlusion of the remaining carotid artery.

31 (1406)

The influence of milk upon tetany in Salamander larvæ.

By EDUARD UHLENHUTH

[*From the Rockefeller Institute for Medical Research, New York.*]

As reported in the meeting of the Society held on November 15, 1918, calcium lactate as well as magnesium lactate suppresses the tetanic convulsions of thymus-fed tetanic larvæ of salamanders. Since it has been claimed that milk also has this effect, it was interesting to test its action on tetanic larvæ.

Curves are demonstrated which show the percentage of tetanic individuals among two series of thymus-fed larvæ of the salamander, *Amblystoma opacum*. The animals of one series were kept in a weak milk solution, those of the other series which served as controls were kept in tap water. It is evident from the curves that milk was extremely effective in suppressing the tetanic con-

vulsions, since of six animals so treated only three suffered from convulsions (and these suffering only one attack), while the other three larvæ never showed convulsions at all.

But notwithstanding the favorable influence of milk upon the convulsions, milk like Mg and Ca salts did not prevent the development of permanent paralysis and permanent spasmodic contractions of the muscles.

Therefore, it must be pointed out again that the development of the paralysis of the muscles, in the presence of the salts and in the absence of convulsions, proves that tetany is due to a specific toxic substance which is not antagonized by calcium, magnesium, or milk. Furthermore, it appears that tetany (or at least some of its symptoms) is due to the toxic action of this substance upon the central nervous system, as indicated by the paralysis of almost the entire muscular system. How far these nervous lesions are responsible for the tetanic convulsions and how far the convulsions are due to the deficiency of calcium, remains to be determined.

32 (1407)

The effect of heat, age and reaction on the antiscorbutic potency of vegetables.

By ALFRED F. HESS and LESTER J. UNGER.

[*From the Bureau of Laboratories, Department of Health, New York City.*]

The present communication is a continuation of experiments on antiscorbutics previously reported.[1] It was found that it required 35 gms. of the carrots used to feed our laboratory animals, to afford protection against scurvy to a guinea-pig. After the carrots had been cooked for three quarters of an hour, their addition to the dietary proved insufficient to protect. This was true even if the water in which they were boiled had been acidulated by the addition of 10 per cent. of vinegar. The only difference noted in the latter test was a less marked loss of weight.

A parallel test was carried out with carrots which had been picked only a few days previous to the experiment. It was found that, even subsequent to cooking, 35 gms. of these fresh carrots,

[1] PROCEED. SOC. EXPER. BIOL. & MED., xv., pp. 82; 141; xvi., p. 1, 1918.