

barbital was without effect on the after-contraction although marked mental depression was experienced.

Seven subjects were given chloral hydrate (0.6 G). In 3 there was no effect on the after-contraction, in 2 some lessening and in 2 an appreciable increase. Most of these experienced mental depression.

Strychnine was given to 9 subjects in dosage of 3 mg. Only 2 showed an increase in after-contraction. Unlike caffeine, in every case where depression had been induced, strychnine failed to offset it.

In this report it is shown that of the three depressants studied, the bromide in all instances abolished or markedly reduced the after-contraction, whereas chloral and barbital, as a rule were ineffective. Of the 2 stimulants neither in the majority of instances produced any significant increase in the after-contraction. After it had been abolished by a depressant, caffeine brought the after-contraction back to its original state, strychnine was ineffective. These experiments throw additional light on the selective action of drugs on the central nervous system, and with others in progress should aid in the study of some of the specialized functions of the cerebrum.

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Effect of Liquid Air Temperature on Bacteria.

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1. Twenty-four-hour cultures of *B. typhi*, *B. coli*, *Staph. albus*, *B. subtilis* on agar slants and in beef tea were immersed in liquid air. In addition, strips of sterile filter paper that had been impregnated with the above cultures were also placed in liquid air. At the end of one week, the cultures and the filter paper were removed from the liquid air. They were then transferred to new media. After incubation all tubes showed growth.

2. A suspension of a 24-hour culture of *B. typhi* was made in physiologic saline solution and standardized to one million bacteria per cc. by cytometric count. Five cc. of the suspension were placed in sterile test tubes 150x13 mm. The tubes were sealed in a blast-lamp and then placed in liquid air. Daily, for a period of 10 days, a tube was removed and melted and the number of survivors de-

terminated by the McCrady most-probable-number method, using 3 tubes of beef tea for each dilution. There was a drop from one million to 10,000 bacteria per cc. at the end of one day. The succeeding days gave the same count of approximately 10,000 per cc.

3. The technic was the same as in 2. At monthly intervals a tube was removed and the number of survivors was determined by the most-probable-number method, and by the plate-count. This was continued for a period of 13 months and further counts were made after 16 and 19 months.

The plate-counts and the most-probable-number sometimes agreed and at other times disagreed widely. There was shown no consistent decrease in bacterial numbers over the period of 19 months. The counts varied from 2.5 per cc. to 9500 per cc. over the period. The difficulty in getting consistent counts was apparently due to this: In the process of freezing, the liquid in the tubes freezes from the bottom up; as ice crystals form, the bacteria are pushed toward the surface and finally there is a layer of frozen bacteria at the surface. On standing this film becomes tough and a uniform suspension of bacteria is not obtained when the contents of the tube are melted and shaken.

Saline suspensions of bacteria that survive the mechanical effects of freezing are still viable after 19 months at about 83° absolute.

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A Study of Milk Coagulation as a Differential Feature of *Monilia albicans* and *Monilia candida*.

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Though *Monilia albicans* and *Monilia candida* have so far been shown to give the same serological reactions,¹ nevertheless in disagreement with Stone and Garrod's conclusion,² we consider^{3, 4, 5, 6}

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¹ Almon and Stovall, *J. Infect. Dis.*, 1934, **55**, 12.

² Stone and Garrod, *J. Path. and Bact.*, 1931, **34**, 429.

³ Stovall and Bubolz, *J. Infect. Dis.*, 1929, **45**, 463.

⁴ Stovall and Bubolz, *J. Infect. Dis.*, 1932, **50**, 73.

⁵ Stovall and Bubolz, *J. Lab. and Clin. Med.*, 1933, **18**, 890.

⁶ Stovall and Pessin, *J. Clin. Path.*, 1933, **3**, 347.