

nesium the direct irritability soon returned, but not the indirect. However, when now the perfusion of calcium chloride followed, the indirect irritability recovered also and quite rapidly. The meaning of these experiments seems to be simply this : magnesium depresses the direct irritability as well as the indirect, the latter, however, somewhat more effectively than the former. Sodium restores the depressed direct irritability and when used alone, exerts no effect upon the indirect irritability. Calcium alone helps neither the direct nor indirect irritability but when it follows sodium (or when given with sodium) it restores promptly the indirect irritability. We can now interpret satisfactorily the results of the lymph sac injections. In these intact animals sodium chloride is present in sufficient quantity in the blood to prevent the depressing action of the magnesium upon the direct muscle irritability and, furthermore, the accumulated quantity of the sodium is still sufficient to assist the subsequent injection of the calcium in the restoration of the indirect irritability. In this connection we may also suggest further that even the striking antagonistic results obtained by Auer and Meltzer with calcium in mammals might not be due to the calcium alone but to the combination of the injected calcium plus the sodium present in the serum.

The last mentioned facts are an instructive example of the difference in the results obtained by injecting into an animal with intact circulation and by perfusion of bloodless organs, a difference which is not always kept in mind by many experimenters.

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On the vaso-motor nerves of the stomach.

By **R. BURTON-OPITZ.**

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In order to demonstrate the existence of vaso-motor nerves in the stomach, the following method was resorted to : Quantitative measurements of the vascularity of the stomach were made by means of a stromuhr; while at the same time attempts were made to vary the normal bloodflow through this organ by means of stimulation of the splanchnic nerves.

The stromuhr was inserted in the vena gastro-lienalis between

the portal vein and the point of entrance of the vena gastrica dorsalis. The venous return from the spleen and pancreas was excluded from the stromuhr.

By stimulating the left splanchnic nerve, very marked reductions in the blood supply of the stomach were obtained. The curve recorded by the stromuhr under these conditions does not differ materially from the curves contained in earlier papers of the writer on the vaso-motor nerves of the spleen, intestine and kidney.

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The change in the venous bloodflow on administration of amyl nitrite.

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Amyl nitrite was injected into the femoral artery, while the flow in the corresponding vein was being measured by a stromuhr. The resulting dilation of the capillaries betrayed itself by a marked increase in the flow and a corresponding rise in venous pressure. The arterial pressure recorded in the opposite femoral artery was not affected if the reaction remained confined to the area of the leg.

When the amyl nitrite was administered by inhalation or when the drug was injected into central venous channels, the venous bloodflow exhibited a decrease in accordance with the loss in arterial tonicity. The venous pressure did not undergo a material change during the period of arterial depression.

Inhalations of amyl nitrite were also resorted to, while the leg was being perfused with defibrinated blood. As in this case no alterations in the quantity of the perfusing liquid could be obtained, the experiment favors the view that amyl nitrite exerts a peripheral and not a central effect.