turbed heart action on an endocrine basis, but leaves it there without much real analysis. Especially is there no suggestion of the psychogenic obesities on an indolent basis with constitutional hypopituitary syndromes.

Hirschfelder, A. D. DOES ATROPINE ALTER THE EFFECTS OF DIGITALIS UPON THE TONUS OF THE HEART MUSCLE? [Proc. Am. Soc. Pharmacol., XI, 2.]

The effects of digitalis in diminishing the volume of the heart are much more pronounced in dilated hearts than in hearts of normal volume. A convenient method for obtaining any desired degree of dilatation of the ventricles is to procure an aortic stenosis by a ligature around the aorta which can be tightened by a specially devised screw clamp to which the ligature is attached. If a stenosis just sufficient to produce a well marked lasting dilatation is brought about, the administration of digitalis intravenously causes the heart to return to its normal volume. The injection of atropine does not cause the heart to dilate again. Atropine does not antagonize the effect of digitalis on the heart muscle in dilated hearts as is the effect on the vagus and on heart rate in auricular fibrillation, and accordingly, its use does not seem to be contraindicated in dilated hearts with regular rhythm.

Brooks, C., McPeck, C., and Seymour, R. J. ACTION OF EPINEPHRIN ON VASOMOTORS AND HEART BEAT. [Proc. Am. Soc. Pharmacol., XI, 2.]

The method of study consisted in the use of a reservoir of defibrinated blood and salt solution which was kept at the desired temperature and pressure, which reservoir is connected by a T cannula with the carotid artery as described by Brooks and Heard. In addition a vasomotor balance was devised whereby the compensator bottle was placed on a balance and a writing lever recorded on the drum of all changes in general vasomotor tone. That is, when the vasomotors constrict the blood vessels, the blood passes from the animal out into the reservoir bottle. This shows on the balance and is recorded graphically on the drum; and when the vasomotors dilate the vessels the fluid from the reservoir passes down into the dog which likewise is traced on the drum. In this way the blood pressure and temperature of the normal animal are under artificial control. The tracings show all alterations in vasomotor tonus and also all changes in heart rate or force. As regards the action of epinephrin it is noted that when it was injected intravenously while the blood pressure was controlled artificially and kept at the same level so that no rise in general blood pressure followed the injection, then there was slowing and increase of amplitude of heart beat; but not nearly so marked as in the usual uncompensated animal experiment. Also the vasoconstrictor effect was very marked.

In short the vasoconstrictor effect is the main action of epinephrin. The rise in blood pressure then causes increased amplitude and decreased rate of heart beat as a secondary effect, although there is some slowing with some increase in the force of the heart beat as a direct effect on the heart mechanism apart from this vasomotor effect. Artificially raising the blood pressure causes a slowing of heart beat and increase in amplitude; while artificial lowering of blood pressure causes an increase in heart rate with decrease in amplitude. Also it was noted that, within limits, artificially forcing the pressure up to a high level tended to educate the dog's own pressure to the higher level; and artificially forcing the pressure to a lower level tended to educate the dog's own pressure toward the lower level. The method appears to have a wide application in the study of the physiology, pathology and pharmacology of the circulation.

Costellino, G. RAYNAUD'S DISEASE AND TEMPERATURE CHANGES. [Gazz. d. Osp., Feb. 23, 1919, J. A. M. A.]

In Castellino's 1895 compilation of 316 cases of Raynaud's disease, syphilis was incriminated as responsible for the affection in 22 cases; malaria in 19; alcoholism and arteriosclerosis in 16; diabetes in 23; tuberculosis in 14; pernicious anemia in 9; leukemia, nephritis and heart disease in from 8 to 12 each; typhoid, pneumonia and rheumatism in less than 5, and a neurosis in 171 cases. But in all of them the action of cold was the provocative factor. The cold need not be severe, even the change from a warm bed, getting up in a cool room, may be enough to bring on the disturbances. He reviews what has been written on the subject, and then describes a case that differs from all others in that the disturbances came on for the first time in August. The attacks of pain, numbness and cyanosis in feet and hands then returned regularly every morning and lasted from 8 till 10. The young man was of a frail constitution and had been sent to the hospital for disordered heart action but no organic defect could be found except that the spleen was enlarged. The attacks recurred every morning but subsided completely in November under vigorous quinin treatment. The blood was not examined for hematozoa but the response to quinin confirmed the assumption of a malarial origin, as the young soldier had been serving in a malarial region.

Rathery, R. RAYNAUD'S SYNDROME. [Progres Mèd., March 29, 1919.]

Three patients suffering from this syndrome are reported who also had chronic nephritis, tuberculosis, and diabetes. The nephritic patient presented marked phenomena. The entire history of the patient and even the family history showed predisposition to cardiovascular disease for the mother had been a cardiorenal patient and patient had been attacked in youth with scarlatina and acute arthritis. With the