coming off the S-wave before the base line is reached. Except for the fact that the T-wave comes off the S-wave instead of the R, it is precisely the type of curve described as characteristic of left coronary occlusion.

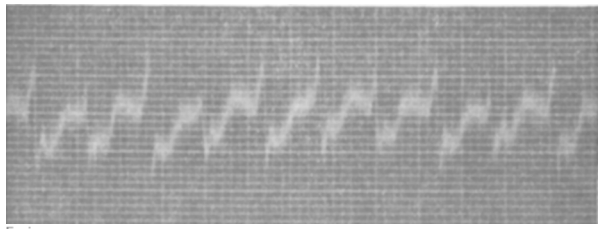

FIGURE 2.

This type of T-wave is by no means the normal type produced by digitalis, but it is interesting to note that digitalis can produce it.

[1] Rothschild, M. A., Mann, H., and Oppenheimer, B. S., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiii, 253.

[2] Cold, H., DeGraff, A. C., and Edwards, D. J., *ibid.*, 1926, xxiii, 664.

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The Relation Between the Virus of Epithelioma Contagiosum and the Vaccine Virus.

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As the result of a recent study of the relationship existing between the virus of *epithelioma contagiosum* and the vaccine virus, the author concludes that while the vaccine virus is definitely pathogenic for the fowl, the *epithelioma contagiosum* virus is only mildly pathogenic for the rabbit. The lesions which the vaccine virus evokes in the fowl are characteristic of vaccinia, while those which the *epithelioma contagiosum* virus produces in the rabbit, are not specific. While the vaccine virus will give rise to the formation of typical Guarnieri bodies both in the skin and

in the cornea of the inoculated fowl, the *epithelioma contagiosum* virus produces no Bollinger bodies in either the skin or the cornea of the inoculated rabbit. It is especially noteworthy that the fowl's skin and cornea are capable of producing both Guarnieri and Bollinger bodies and that they respond to the introduction of the two viruses in question in a perfectly specific manner.

Fowls develop a definite and specific immunity to both the virus of *epithelioma contagiosum* and to the vaccine virus, but a preliminary infection with either does not protect against a subsequent infection with the other. A preliminary inoculation of the rabbit with the *epithelioma contagiosum* virus will similarly not protect the animal against a subsequent infection with the vaccine virus, and a previous infection with the vaccine virus is without effect against the slight response which the rabbit may normally offer to the *epithelioma* virus. The rabbit responds to infection with the vaccine virus with the production of virudicidal antibodies against that virus, which appear free in the blood; such blood, however, is without manifest effect upon the *epithelioma contagiosum* virus. The fowl is apparently incapable of producing either free or sessile antibodies against either the vaccine virus or the *epithelioma contagiosum* virus.

The author's results support the claims of Loewenthal and his coworkers[1] regarding the lack of identity or even of a close relationship between the vaccine virus and the virus of *epithelioma contagiosum,* and stand in opposition to those of Van Heelsbergen[2] and Toyoda.[3]

The experiments were conducted with two strains of the *epithelioma contagiosum* virus, one obtained from Dr. J. R. Beach of Berkeley, California, and the other from Dr. O. de Blieck of Utrecht, through Dr. H. A. Gins of the *Koch institute für Infektionskrankheiten.*

Of the vaccine virus four samples were available, all of which were obtained from Messrs. H. K. Mulford and Company of Glenolden, Pennsylvania.

Since the conclusion of the author's experiments, a note by J. Basset[5] and one by G. Blanc and C. Melanidi[4] have appeared, in which the writers, the last mentioned working with the American strain of the *epithelioma contagiosum* virus from Dr. Simon's laboratory at the School of Hygiene and Public Health of the Johns Hopkins University, with which the author's experiments

were in part carried on, likewise arrive at the conclusion that the virus of *epithelioma contagiosum* and of *vaccinia* are not identical.

[1] Loewenthal, W., Kadowaki, Y., and Kondo, S., *Centbl. Bakt. Parasit. u. Infektk.*, 1925, xciv, 185-200.

[2] van Heelsbergen, T. 1920. Reprint from Tijdsch. vergelijk, geneesk., 3 Afl. 3, 1-35.

[3] Toyoda, T., *Zeitsch. Hyg., u. Infektk.*, 1924, cii, 592-612.

[4] Blanc, G., and Melanidi, C., *Comptes rend. de la Soc. de Biol.*, 1926, xciv, 825.

[5] Basset, J., 1926, *ibid.*, 525.

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A Preliminary Study of Leonurus Sibiricus (I-Mu-Tsao).*

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The seeds and stems of *Leonurus sibiricus L.* or I-Mu-Tsao (meaning "grass to benefit the mother" in Chinese) are widely used in China for post-partum hemorrhages and menstrual disorders.[1] Peckolt-Rio[2] states that the juice of the leaves is good for hemoptysis, and an infusion for hysteria and menstrual troubles. The same author succeeded in isolating a crystalline substance from the leaves which he called *leonurin.* No chemical or pharmacological study was made with this substance.

Our study is pharmaco-chemical in nature. An intravenous injection in dogs of 2 to 5 cc. of a 10 per cent decoction (*i. e.*, each 10 gm. of material to 100 cc. of water), made from the leaves and stem, resulted in a brief fall of blood pressure, decrease in kidney volume, contraction of uterus, and stimulation of intestinal peristalsis. An attempt was then made to isolate any active principle by percolating the powdered leaves and stems with alcohol, distilling off the latter from the percolate under reduced pressure, and removing the ordinary plant constituents (resins, pigments, etc.) by lead acetate, the excess of which was

* This work was planned at Peking Union Medical College, Peking, China, and concluded by K. K. Chen at the University of Wisconsin, Madison, Wisconsin.