were present exposing the vascular loops on the surfaces of the uterine mucous membranes.

We can readily understand how such uteri become the seat of extensive hemorrhage, and that this bleeding can only be controlled by a remedy which influences the vaso-motor nervous system directly, promptly counteracting the irritation that induces the dilatation of the capillary vessels. Such a remedy is the neutral phthalic acid salt of cotarnin. Cotarnin was discovered by Woehler,[2] who obtained it by the oxidation of the opium alkaloid narcotine by means of manganese dioxide and sulphuric acid.

Pharmacology.—Cotarnin phthalate is a yellowish microcrystalline powder containing 75 per cent. of cotarnin. It is readily soluble in water, with a feeble alkaline reaction. Its melting point is 113 degrees C., and it is represented by the formulæ—

$$(C_{12}\ H_{16}\ NO_3)\ 2\ C_8\ H_6\ O_4$$

It contains two active hemostatics, as not only the cotarnin is noted for its hemostatic and sedative action, but valuable styptic properties are also claimed for the phthalic acid. According to Lockyer,[3] cotarnin is chemically related to hydrastine, the latter containing stypticin, the hydrochloride of cotarnin.

Physiological Action.—Cotarnin phthalate exerts no action on normal blood-vessels, nor does it produce a rise of blood pressure, but its action in the main is directed to the capillaries dilated by inflammatory changes. Its physiological action on the uterus has been studied by Mohr[4] and Abel, of Berlin, and by Chiappe and Ravano in Bossi's Clinic at Genoa.[5] These investigators agree that cotarnin displays not only a powerful hemostatic, but also a sedative action. It might be supposed that as a derivative of opium it would depend for its hemostatic action upon central causes, but Vieth and others aver that this is not so, since the drug does not occasion a general rise of blood pressure; he regards the uterine hemostasis as a purely local action, and supports this view by the statement that when used externally it causes hemostasis by vaso-constriction.

Quoting from Lockyer, he believes that after absorption by the blood, "cotarnin has the peculiar property of causing constriction of the uro-genital vessels only." This action, he avers, is caused by the stimulation of their local vaso-motor plexuses. Cotarnin does not affect normal vessels in other parts of the organism, hence a general rise in blood pressure does not occur. While its action is very prompt in the arrest and control of uterine hemorrhage, yet it does not allay the bleeding in hemoptysis and hematemesis.