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**Some properties of cholesterol and phytosterol activated by irradiation.**

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In a previous communication<sup>1</sup> it has been shown that cholesterol and phytosterol can be activated by means of ultra-violet irradiation so as to acquire protective value against rickets. Further experiments have demonstrated that irradiated cholesterol also evinces this potency when given by the subcutaneous route. By employing selective filters it was ascertained that rays of approximately the same wave lengths were effective in activating cholesterol as had previously been found of value in protecting rats by direct exposure. Irradiated cholesterol prevented the occurrence of rickets in rats on a low calcium rickets-producing diet as well as on the low phosphorus diet.

When human or calf skin was fed to rats daily in 1.0 gm. amounts it did not protect them against rickets, but when skin was fed which had been irradiated for a half hour the rats failed to develop this disorder.

Irradiated dry milk, patent flour and spinach were rendered antirachitic by means of irradiation with the mercury vapor lamp; the spinach was found to retain this quality after it had been subsequently boiled for one-half hour. Oleic acid and egg phosphatide failed to be activated by the rays.

Dihydro-cholesterol and dihydro-phytosterol, which are completely saturated and contain no double bonds, remained inert after irradiation. Nor did spectograms show any alteration in their absorption of ultra-violet rays as is the case with cholesterol and phytosterol. The unsaturated terpenes, cymene and citronellol, were not activated by irradiation.

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<sup>1</sup> Hess, A. F., Weinstock, M., and Helman, F. D., *PROC. SOC. EXP. BIOL. AND MED.*, 1925, xxii, 227.