

responding phosphorus analyses. The deviations from the normal values increased with the time of the anesthesia.

Experimental evidence has been established that metabolic changes are 2 to 3 times as intensive in the gray substance as they are in the white. The pathological changes in the composition of the lipins during ether narcosis run parallel to this difference in intensity between gray and white under normal conditions.

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Ultraviolet Transparency of the Various Layers of Human Skin.

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Frozen skin sections obtained from the sole of the foot of fresh bodies were placed over the slit of a quartz spectrograph; the surface of the skin was at right angles to the length of the slit. The spectrum of the Kromayer lamp through the visible and the whole ultraviolet was obtained on a photographic plate with the widest variation of exposure, with and without the skin sections interposed. Every spectral line showed the transmission of the various skin layers from the stratum corneum to the corium, in closest comparison for the same thickness of every layer, from 10 to 70 μ , with various sections on different plates. The absorption coefficients were calculated from these observations for every layer. These were found to vary slightly with the thickness of the section, for which observation an explanation can be found by reflection and scattering.¹ The absorption curves showed marked differences for the various layers. The corneum and the granulosum exhibited a maximum of absorption at 280 $\mu\mu$, coinciding with the maximum of the antirachitic effect as observed by Sonne.² This suggests that the antirachitic effect takes place in one or both of these layers. The corium and stratum germinativum do not show an increased absorption at this wave length, but exhibits a gradual increase of absorption. The production of an erythema occurs in these layers in the shadow of the upper layers. This explains the decrease in sensitivity as was observed by Hausser and Vahle at 280 $\mu\mu$.³

¹ Bachem, A., and Kunz, J., *Arch. Phys. Ther.* 1929, x, 50.

² Sonne, C., and Reckling, E., *Strahlenther.* 1927, xxv, 552.

³ Hausser, K. W., und Vahle, W., *Strahlenther.* 1921, xiii, 41.