THE EFFECT OF ADRENIN ON THE PIGMENT MIGRATION IN THE MELANOPHORES OF THE SKIN AND IN THE PIGMENT CELLS OF THE RETINA OF THE FROG.

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(Author's Abstract)

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The frogs used were mostly Rana pipiens Schreber. The adrenin employed was that prepared by Parke, Davis & Co., and sold under the name of Adrenalin Chloride, in strength 1 to 1,000.

In the melanophores of the skin, the pigment in the light expands, while in the dark it contracts. On injecting adrenin in frogs which had been in the light for six hours, it was found that the melanophores were strongly contracted. The effect being opposite to that of light. The adrenin 1:1000 and 1:10000 strength gave the best results.

The migration of the retinal pigment is outward in the light and into the cell in the dark. On injecting .06 cc of adrenin, 1:1000 into frogs kept six hours in the light, the pigment was found to be fully expanded after 7-15 minutes exposure. Then other frogs were kept in the dark six hours and injected with same amount of adrenin and the pigment was also expanded. Control frogs in the dark showed the pigment contracted. So the conclusion was reached that the adrenin has the same effect as light. The retinal pigment was sensitive in solutions from 1:1000 to 1:1000000 and remained for three to four hours.

The effect on the dermal melanophores is just the opposite to that on the retinal pigment. This is new to science.

In the above experiments, the frogs were decapitated, eyes removed, hardened in Perenye's fluid, imbedded, sectioned, and mounted unstained.