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The effect of ultra-violet rays on rats in the circular maze.

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The present research was undertaken in connection with the effect of light on the toxicity of quinine and quinidine sulphates for rats trained in the circular maze. In order to study the effects of the drugs it was essential to learn the effects of ultra violet light itself on the animals. The method employed was the same repeatedly described by Macht and his collaborators in various papers. White rats were trained in the circular maze so as to find their way from the entrance to the center without committing any errors and in the shortest period of time possible. After this preliminary training the animals were exposed to the radiations of the Hanovia Alpine Sun Lamp for periods varying from 10 to 15 minutes or longer and the subsequent behavior of the animals was again studied.

Six young adult male rats, age about six months, and three old rats, age about one year, were employed. Thirty experiments in all were made on the young rats and twenty-four experiments on the older animals. A careful analysis of all the data obtained before and after radiation indicated that the effect of ultra violet rays on their behavior in the maze is either negative or more often, slightly stimulating. This stimulating effect was manifested by more rapid muscular activity and persisted for several hours after radiation. All of the animals were found to have resumed their original normal condition within twenty-four hours. It is possible that the increased muscular activity or stimulation is merely the result of irritation, on the other hand no other deleterious effects were produced in the animals, even conjunctivitis occurred only occasionally and was never marked. The general condition of the animals, their nutrition and behavior were not found to be impaired in any way.