other hand, Bohn states that the rhythm disappears after a time, in laboratory specimens and my failure to observe anything farther indicating a change in phototaxis may be due to the disappearance of the rhythm from the animals. Details of the experiments are published in another journal.

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The vaso reaction of hydrophobic rabbit blood serum in dogs.

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In November of last year we injected into the femoral vein of a dog 5 c.c. of the defibrinated centrifuged blood of a rabbit, which had previously been injected subdurally with a fixed seven days' virus of hydrophobia.

The arterial pressure taken with a mercurial manometer from the carotid artery showed a marked depression. Further trials of the same experiment gave the same results. Since these experiments, we have been able to demonstrate that the blood serum of rabbits, which have been infected with hydrophobia 72 and 48 hours previously as described, possess this depressor substance, and even in the serum of a rabbit which had been infected only 24 hours previous to bleeding, there was a decided indication of a depressor substance.

If the blood of a rabbit suffering from hydrophobia be run into absolute alcohol and the filtered alcoholic extract be evaporated on the water-bath or *in vacuo*, there will be found a water-soluble substance which causes a marked arterial depression. We obtained this depressor effect in the alcoholic extract also from the blood of the rabbits injected only 48 and 24 hours respectively before the test.

Choline is a poisonous nitrogenous base derived from the phosphorized fat of neucleo-protein, in which brain and nerve tissue are very rich. It has been demonstrated that hydrophobia travels along the nerve from the point of injection to the brain. It seems to us quite possible that in the development of the disease neucleo-protein is decomposed; among its decomposition products choline

finds its way into the blood stream. In such case it would naturally act as an auto-intoxicant and would be one of the factors in the death of the animal.

A number of years ago one of us attempted on this assumption to isolate choline from the blood of a hydrophobic rabbit. The amount of blood taken was not more than 30 c.c. and the result was negative.[1] We have repeated this attempt on larger quantities of blood. The blood of three rabbits inoculated 7 and 8 days previously with the fixed virus was run into absolute alcohol. The alcoholic extract was filtered off and evaporated to dryness at a low temperature. Platinic chloride was added in the manner recommended for the production of choline platinic chloride crystals. The precipitate obtained was examined under the microscope. It was made up of six-sided yellow crystals, a large part of which were in plate form. There were not sufficient crystals to determine the per cent. of platinum.

Thus far it would appear that in hydrophobia, as in certain other diseases, where there is destruction of nerve tissue, choline is one of the split products. A number of other experiments are being carried out to check and amplify these results.

Last year Dr. Poor, of the Research Laboratory, and one of us attempted to protect rabbits from hydrophobia by means of injections of atropine, which antagonizes choline on the assumption that choline was present in the blood of rabbits with hydrophobia.[2] The results were unsuccessful but have been undertaken again under a different system. The results of this second attempt will be published later.[3]

[1]J. P. Atkinson, in 1903, unpublished.

[2]J. P. Atkinson, unpublished.

[3]Since these results were presented the following experiment was made: The blood of a normal rabbit, which had been 72 hours previously injected subdurally with an emulsion of normal brain substance was run directly into absolute alcohol and the rabbit immediately autopsied. The autopsy showed signs of considerable necrosis and inflammation at the point of injection. The filtered alcoholic extract of this rabbit's blood was evaporated to dryness at a low temperature and mixed with physiological salt solution. This mixture was injected into the femoral vein of a dog and the arterial pressure as taken with the mercurial manometer from the carotid artery showed a marked depression. Five cubic centimeters of the clear defibrinated serum of this blood also caused a marked depression.