of Lake of the Woods. The hare populations in these regions were afflicted with shock disease to varying degrees. Since animals from these districts rapidly succumbed to shock disease in captivity, and hares were dying from the same disease in the wild, there would seem to be no doubt that the hare population throughout Minnesota was in a process of destruction from shock disease during the winter and spring of 1936. The evidence that shock disease is almost wholly responsible for the decimation of hares is greatly augmented by our extensive attempts to demonstrate a significant mortality from other diseases which might be a factor in the area of the die-off. Such infectious diseases as tularemia we have found to play but a minor role in the mortality of hares. Moreover, the general picture of the decline, continuing until populations are extremely low, is not one typical of the course of an epizootic disease. In the sphere of our investigations both positive and negative findings point to shock disease as the primary cause of the periodic decimation of the snowshoe hare.

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## PRODUCTION OF WHEALS IN THE HUMAN SKIN[1]

UNPUBLISHED data of Abramson, Sookne and Moyer have indicated that there is in ragweed extract an active amphoteric constituent of high molecular weight which is negatively charged at pH 7.4. We have therefore attempted to elicit allergic wheals by the electrophoresis of ragweed extracts from absorbent cotton into the skin of individuals hypersensitive to aqueous extracts of ragweed pollen. It was discovered that wheals were obtained after five to ten minutes with current densities of 0.3 to 0.5 milliampere not only with the negative pole but also with the positive pole used in the same fashion. Large wheals with pseudopods were obtained following electrophoresis of dialyzed extracts. The same technique employed on subjects not hypersensitive to ragweed did not result in whealing. To account for the fact that the positive pole gave as large if not larger wheals than the negative pole, we may hypothesize either the presence of positively charged active constituents, or invoke the notion that the positively charged water molecules which set up an electro-osmotic stream through the pores of the skin may be responsible. Similar results have been obtained using extracts from the pollen of timothy grass. In unpublished experiments with Lubkin, it has been shown that positively charged histamine ions can be electrically transported from the skin from wheals produced by histamine by application of the negative electrode. Prior to the formation of an allergic wheal by means of the electrophoresis of pollen extract using the negative pole, the formation of histamine is the generally accepted theory. It should then be possible to remove the histamine from an allergic wheal by applying the negative pole. A recovery of histamine in this fashion has not as yet been achieved.

Similar experiments on the electrophoresis of insulin through the skin are in progress.

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## SAUROPOD DINOSAUR REMAINS IN THE UPPER CRETACEOUS

AN expedition from the Smithsonian Institution working in the Wasatch Plateau region of central Utah during the summer of 1937 made a discovery of more than ordinary interest. In the type section of the North Horn formation, in Emery County, a considerable portion of a very large sauropod dinosaur was found in beds carrying horned (Ceratopsian) and duck-billed (Hadrosaurian) dinosaur remains. These animals fully indicate the Upper Cretaceous age of the lower eight hundred feet of the North Horn formation.

The Sauropod specimen is of special interest not only because of its unexpected appearance here, but also because it pertains to the family Titanosauridae, the first recognized occurrence of this family in North America. At this time only a scapula and a section from the mid-caudal region has been prepared, but the latter are sufficient to show the caudal vertebrae to be procoelus with small neural arches confined to the anterior half of the centra, both typical features of the family as known at the present time.

The genus *Titanosaurus* was established by Lydekker on caudal vertebrae from the Upper Cretaceous (Lamenta Beds) of India, and the same authority was the first to report the genus from the Upper Cretaceous of Patagonia.

The specimen under discussion has not been sufficiently prepared as yet for proper comparison with the type of *Alamosaurus sanjuanensis,* from the Upper Cretaceous (Ojo Alamo) of New Mexico, but such comparisons as have been possible appear to show its affinities to be near, if not belonging to that genus.

It should be recalled that *Alamosaurus* was the first sauropod dinosaur to be recognized from the Upper Cretaceous of North America, and the skepticism with which that announcement was received may now be dissipated by this second discovery under circumstances that are even more convincing than the first, if that is necessary.