As controls 5 mice were kept for 90 days and 4 mice for 102 days. No amyloid was found in liver, spleen, or kidney.

The mice reported in Tables II and III were examined for amyloid in liver, spleen, and kidney. The organs were stained with hematoxylin and eosin, and with methyl violet. Contrary to other workers no amyloid was found in the mice on the cheese diet. In the mice injected with nutrose amyloid was found in 46.6% of the cases.

These experiments illustrate the resistance of the white rat to amyloid production. Although nutrose injections produced amyloid in 46.6% of mice; it was ineffective in adrenalectomized rats, both double and single, and even in those rats where the factor of infection was added.

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A Method for Staining Unfixed Brain Tissue With Silver.

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In attempting to find an agent that will stain fresh brain tissue, various dyes were tried out. Those which are ordinarily employed in routine staining were first experimented with, as methylene blue, eosin, cresylviolet, janus green, neutral red, gentian violet, alum hematoxylin, etc., as well as black writing ink. None of these gave the clearly defined outlines which were desired, and all gave almost no staining of nerve cell processes. Metal impregnations were next experimented with, in which the reagents used with fixed tissue were employed. Both gold and silver were tried out on fresh tissue following the prescribed technical staining formulae for fixed material, but without success. The nearest to desired results among these was obtained by putting a very small fragment of brain cortex in a weak solution of silver nitrate, followed by washing in photograph developer solution. Even this method proved inadequate. In looking for something further to use a bottle of argyrol was happened upon, and this was tried only as a matter of curiosity. The result was so much better than that obtained in any other way, that it seems of sufficient interest to present to others wishing to pursue similar means of study.

Microphotographs are presented showing high power appear-

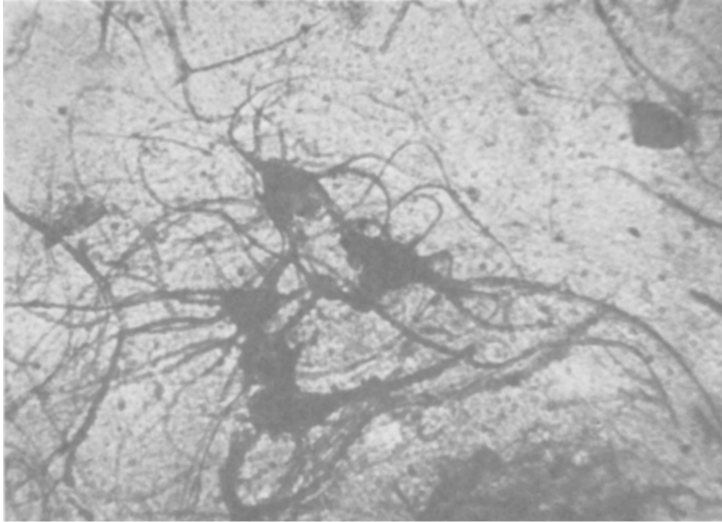

FIG. 1.
A group of brain cells, showing many processes, stained by the method described. Rat.

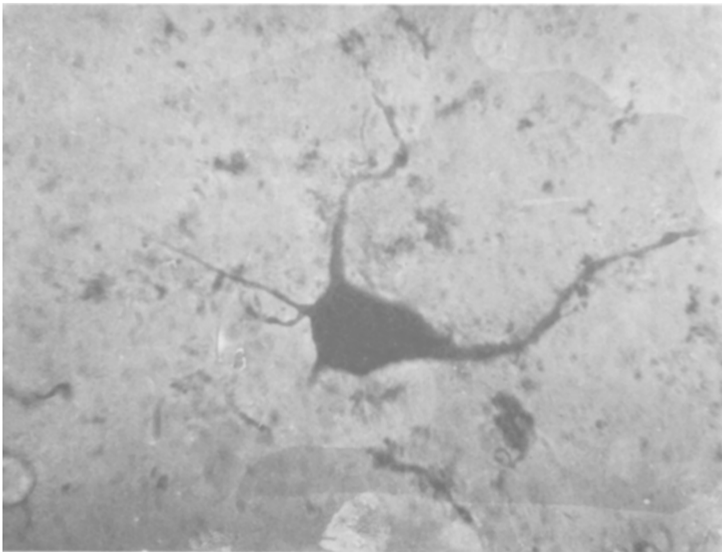

FIG. 2.
A single cell stained with argyrol, as described. From the brain of a day-old white rat.

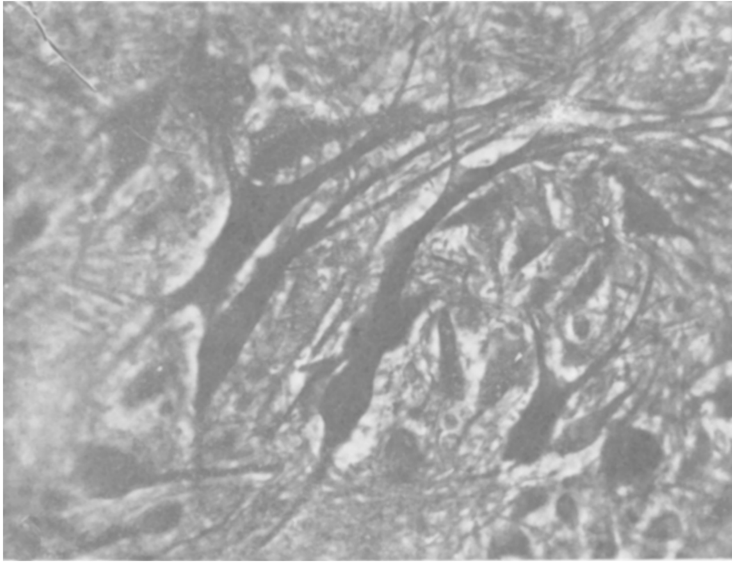

FIG. 3.
Fixed and embedded specimen. Cajal stain. Human spinal cord.

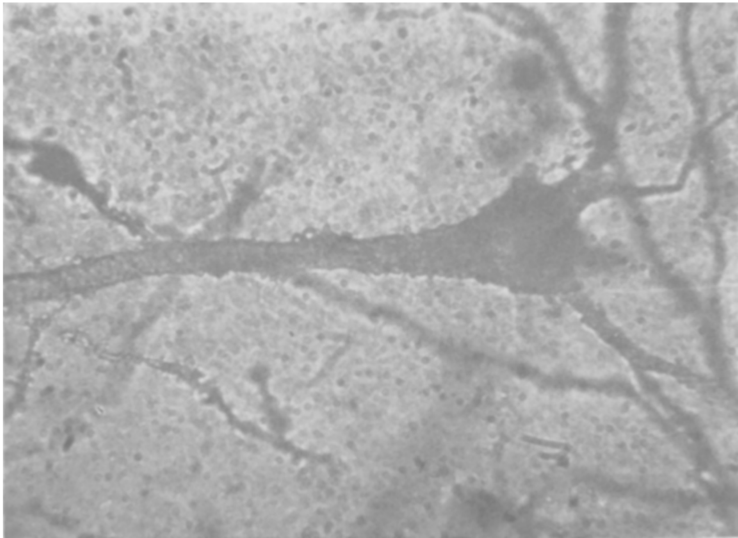

FIG. 4.
Fixed and embedded specimen. Golgi stain. Human brain cortex.

ances of the tissues examined, and to contrast with them similar pictures are included of brain tissue stained both by the Cajal and Golgi methods, after fixation and embedding. Our method has the advantage of no distortion of the protoplasmic structure. With the ultramicroscope, it has the same appearance as in fresh tissue.

The details of the method followed in using argyrol as a means of staining brain tissue are quite simple, and are as follows:

The top of the skull was removed from the head of a freshly decapitated chicken, or of an etherized rat, and the fresh brain tissue placed at once in 10% argyrol.

The length of time staining is continued seems not to be of importance after the first 6 to 24 hours; that is, tissue left in argyrol longer than 24 hours shows no better staining than at the end of that time.

The next step was to wash in distilled water. To do this a fragment is put in water and left indefinitely. No change is distinguishable after having been in water a period of several days.

From water, a very small fragment, not larger than half the size of an ordinary pinhead, is placed in a small drop of water on an ordinary glass slide, and covered with a number one cover glass. Slight pressure on the cover glass flattens the tissue fragment into a thin film which can then be examined with oil immersion as well as with low power. The appearances are shown in the accompanying microphotographs. These photographs were made with direct illumination, as the dark field has given unsatisfactory results with stained material. The black and white of unstained specimens, on the other hand, photograph equally well, as they appear in the ultramicroscope.

This brief consideration of the use of argyrol as a means of staining fresh nerve tissue is a preliminary report which will be enlarged upon by further work. Its aim is to suggest a means for the immediate study of fresh tissue at surgical or postmortem operations.

Acknowledgement is made to Professor Addison of the Department of Histology in the University of Pennsylvania for generously loaning the mounted sections stained by the Cajal and Golgi methods, which appear in the photographs.