added creatinine inhibits the reaction, or if added in sufficient quantity causes it to proceed in the opposite direction. Pure solutions of creatine and creatinine experience the same transformations, although much more slowly. On the long standing of pure solutions there seems to be a slight loss in total creatinine (from both creatine and creatinine). This appears to be due in part to a transformation to urea. Whether or not these phenomena are vital factors in the formation of creatinine in the body, we are unprepared to say.

To obtain further light on this point, experiments have been conducted on nephrectomized animals. The creatine and creatinine content of the various body tissues have been determined several days after a double nephrectomy. In certain of these experiments creatine and creatinine have been injected. Somewhat similar deductions may be drawn from our experiments *in vivo* to those *in vitro;* although there are certain differences between the two types of experiments, the significances of which are not as yet entirely clear to us.

25 (957)

Statistics of pellagra in Spartanburg County.

By **J. F. SILER, P. E. GARRISON** and **W. J. MACNEAL.**

[*From the Robert M. Thompson Pellagra Commission of the New York Post-Graduate Medical School and Hospital.*]

Up to September 15, 1914, we have recorded about 1,165 cases of pellagra, which have been recognized in Spartanburg County, S. C., the large bulk of them since 1910. The population of this county in 1910 was 84,000. The comparative study of the distribution of that portion of these cases recorded up to the end of 1913, in respect to geographical location, race, age, sex and occupation, has shown the disease to be most prevalent in the larger centers of population and especially in the cotton-mill villages. Pellagra has been about three times as prevalent among the white population as in the negroes. It was very rare in children under the age of two, uncommon in the five years following puberty in both sexes, and only slightly prevalent in adult males under fifty

years of age. On the other hand, it was enormously prevalent and severe in females from twenty to forty, somewhat less prevalent, but nearly always mild, in children of both sexes from two to ten years, and almost equally prevalent in old people of both sexes. The greatest pellagra morbidity was observed among persons engaged in housework or remaining at home without occupation, indicating that the causative agent or agencies are present in or near the home. Nevertheless, the women mill workers suffered as much as, or even more than, the housekeepers of the same age when due regard is given to the total number of persons thus engaged.

26 (958)

The vascular response in poisoning from diphtheria toxin.

By H. B. MYERS and GEORGE B. WALLACE.

[*From the Laboratory of Pharmacology, University and Bellevue Hospital Medical College.*]

From recent work it would appear that neither the heart nor the vaso-motor center is the chief factor responsible for the circulatory changes in diphtheria toxin poisoning. The work we have to report is the result of an attempt made to determine what this factor is.

We have studied first the reactions of the larger blood vessels in poisoned animals. This was done in the following manner: At the height of the poisoning, at a time when the blood pressure was extremely low, the animal was killed, sections of various arteries removed and placed in cold Ringer-Locke solution, where they were kept until ready for use. For comparison sections of arteries from an unpoisoned animal were removed and preserved. A strip of artery from the poisoned animal and one of similar size from the corresponding artery of the normal animal were then prepared, placed in a vessel containing fresh oxygenated Locke's solution, and attached to an apparatus for recording contraction and relaxation. To the solution was then added either adrenalin 1 : 1,000,000; barium chlorid 1 gm. : 255 c.c., or amyl nitrite (.1 to .3 c.c. in 250 c.c.) and the contraction or relaxation of the