unknown foreign substance. A fact which strengthens the view that a proteid substance is responsible for the toxicity of uramic, as of normal serum, is that the removal of the proteids by means of absolute alcohol almost wholly deprives the serum of toxic properties.

In trying to form an estimate of the significance of an increase inthe toxic properties of uræmic as contrasted with normal serums, it is. important to recognize that such an increase in toxicity does not constitute proof that the cause of this augmented toxicity is the cause of the obtrusive cerebral symptoms of uramia. It is conceivable that alterations may occur in the blood which possess little pathological significance for the human organism, but which are nevertheloss capable of rendering the serum more toxic than normal when introduced into the circulation of rabbits This does not, however, seem a probable explanation of the phenomenon of augmented scrum toxicity, and is especially at variance with the fact that our uræmic serums have, in some instances, exhibited very striking toxic properties when introduced into dogs and monkeys, which do not possess the peculiar susceptibility to normal human serum that is observed in the case of rabbits. It is much more rational to regard the increase in the toxic properties of the blood in certain, if not in all, cases of uraemia as evidence of a toxæmia, which is in some way connected with the symptoms of the uramic state. It is possible that this toxamia is distinctive of unemia and always of the same character, but there are certain differences in the behaviour of different serums which make it. likely that the toxeenia is not always the same. It is, moreover, certain that the toxic properties of the blood are augmented in conditions not uræmic in nature, for example, in acute lobar pneumonia. in scarlet fever, etc.

<sup>•</sup> Urea being by far the largest and most important constituent of the urine and representing the terminal product of proteid metabolism, it is not singular that this substance should have been for a long time regarded as the main factor in the production of uramia. It is thus of the highest importance to determine the actual relation of urea to uramic states. The conclusions reached by me in reference to this relation are based upon a considerable number of determinations of urea in the blood of uramic persons, of persons with other pathological conditions than uramia, and of entirely normal persons. Many of these observations were made upon blood drawn during life, but these were supplemented by others upon post-mortem blood, after it was demonstrated both in man and in animals that the urea content of ante- and post-mortem blood corresponds closely in the case of blood taken from well preserved bodies. In addition to making seventy