

following the principles of localization laid down by Ferrier; yet for these experiments the eminent physician was hauled before the magistrates as if he were a malefactor.

Thousands of patients died from malignant affections of the kidneys till Simon at Heidelberg demonstrated on animals the possibility of its extirpation and the performance of the excretory function by a single organ.

By the experiments of Gerlach, it has been shown that tuberculosis in cows can be communicated to healthy animals, such as man, fed upon their milk; that the disease may be induced by tubercular matter being inhaled or taken into the stomach, facts of importance in relation to the prevention of the disease. By the sacrifice of a few dogs and rabbits information was obtained which may have, and as a matter of fact has had, an important bearing upon the safety of the human race.

These results were arrived at by making on a few animals experiments which men for generations have in blind ignorance been making on themselves. Cholera has already been referred to, and since 1884 Freire, in Brazil, has been working to obtain a specific against yellow fever along vivisectional lines, and is only waiting for an epidemic to put his results at the service of mankind.

Dr. Wood, by "baking alive," at 120 degrees, two pigeons, ten guinea pigs, twenty rabbits, and six dogs, that is, subjecting them to a temperature of 120 degrees, a degree of heat which laborers often experience in summer, proved that sunstroke is due to the coagulation of the bodily fluids, and from this he deduced the proper treatment, abstraction of heat from the body. The "moral-ity" that will take offence at experiments such as these deserves the pitying contempt we would accord to personal cowardice. The only gleam of hope that has ever come to a patient affected with that terrible malady diabetes has been through Bernard's experiments on the formation of glycogen in the liver, and until the mystery is cleared up by the death of more animals the treatment of the disease must remain a matter of empiricism.

Whatever of good Pasteur has conferred on mankind he has accomplished by vivisectional methods, and yet the results are out of all proportion to the pain inflicted. There is a danger of becoming technical in pointing out that it was through observations made upon the tadpole by Arnold it was found out that blood vessels are formed by the hollowing of protoplasmic cells, and to enter upon a discussion of what embryology owes to vivisection would take one far beyond the present limits and the needs of this discussion.

The modern method of pharmacology is based on vivisection.