

increase greatly in length, and in two weeks attain the full larval size. After wandering about for some time they roll up in small coils, a wall of connective tissue is gradually formed around them, and in this way they become encysted. The cyst wall thickens and is rendered opaque and white by the deposition of the salts of lime. It is in this condition, as oat-shaped calcareous cysts, that they are usually met with in the muscles, and in order to see the enclosed worm, it is necessary to employ a dilute acid to dissolve out the salts of lime. After a time—the exact period has not been determined—the worms degenerate and die; eventually the process of calcification involves them, and their remains may be detected as dark irregularly coiled fragments. The intestinal trichinæ after having given birth to a single brood of embryos, also degenerate and die.

In addition to man, the trichina infects the pig, rat, cat, and several other animals. Experimentally they have been reared in rabbits, sheep, calves, and dogs. From this it is not difficult to see how man becomes affected; in the vast majority of cases it is through eating the partially cooked flesh of the pig, in which animal, above all others, trichinæ abound. The disease, trichinosis, is consequently most prevalent in those countries in which, by the customs of the natives, raw or partially cooked pork forms part of the dietary. This holds good in North Germany, for example, where the malady was first discovered, and where all the formidable epidemics have occurred.

The disease begins with gastro-intestinal disturbance, which, after lasting for nearly a week, is followed by prostration, high fever, and extreme painfulness in the muscles. These symptoms last a variable time, according to the severity of the attack; in mild cases, *i.e.*, cases in which few trichinæ exist, the patient may be convalescent in three weeks; in more severe forms many weeks or months may elapse. Death usually occurs in the fourth or fifth week from paralysis of the respiratory muscles, caused by the enormous number of trichinæ in their substance. The proportion of deaths varies in the different epidemics; in some it has reached 30%, in others it has been as low as 3 and 5. The prognosis in individual cases depends entirely on the number of living trichinæ which find their way to the muscles; the more abundant these are, the greater the danger. This, in turn, depends in great measure on the amount of parasites in the meat eaten, and the proportion which arrive at maturity in the intestines. When recovery takes place, it does not mean that the worms have died, but simply that they have

become encysted, which is nature's mode of cure, for in this state they may remain living, yet harmless, for years. In north Germany, epidemics are of annual occurrence, owing to the barbarous custom of eating half-cooked or wholly uncooked sausages, which, even in respectable restaurants, are upon every bill of fare. In South Germany they eat quite as much pork, yet the disease is comparatively rare, the natives preferring their "wurst" thoroughly cooked. On this continent the malady is almost entirely confined to the German inhabitants who have not abandoned, in their new home, the semi-cannibalism of the "Vaterland." In the Dominion we have had very few cases; three occurred in Hamilton, in the year 1869, in a German family, and of three, two died.* They had partaken of a partially cooked ham in which, as I had an opportunity of judging, encysted trichinæ existed in abundance. The only other instances I know of, were in this city a few years ago, the circumstances of which will be fresh in the minds of many.†

(To be continued.)

THE MCCONNELL CASE.

BY JOSEPH WORKMAN, M.D.

"In the interest of the State it would be better to hang a murdering madman once in a while than to permit it to be understood that if a man will only foster and cherish his murderous impulses until they become ungovernable, he may escape the full penalty of his offence. For the good of the insane, the insanity law of the doctors is the best: for the safety of the lives of citizens, the judge's insanity law is indispensable."—Vide Hamilton Times of the 21st Feb. 1876.

"Fiat experimentum in corpore vili."

To the Editor of the CANADIAN JOURNAL OF MEDICAL SCIENCE.

SIR: The above enunciation of the editor of the *Hamilton Times* is so frank and explicit a concession of the entire question at issue between him and me, on the just appreciation of the mental condition of Michael McConnell, at the time of killing Mr. Mills, that I might very safely allow it to pass unnoticed, were it not that having already drawn him down from his lofty perch, I cannot avoid hoping that his returning reason may permit him, in the end, to descend to the level of sound common sense. It must not be denied that the High Priest of the *Times* has a notable precedent to offer in support of his penal theory. A long time ago, on

* Vide.

† Vide Canada Medical Journal, Montréal, 1869.