

the antidotal powers of the substance used; for a human being is never likely to swallow, as this experiment assumes, the poison and antidote together. In the case of prussic acid, more than in that of any other poison, it is necessary that the alleged antidote should produce its effects when administered a few seconds or minutes after the acid has been taken. On adding a small quantity of the mixed oxides to about one drachm of prussic acid, agitating and rapidly filtering, I found the poison still existing in pretty large quantity in the filtered liquid. I have reason to believe, however, that the chemical change would have been expedited by the use of a larger quantity of the mixed oxides; and as they are inert, there is no objection to their being given in very large doses. At any rate, it must, I think, be admitted, that, both in a chemical and pathological point of view, no remedy for prussic acid has hitherto been proposed, with a greater prospect of success than this possesses. If it should fail, its failure cannot be ascribed so much to any defect in its chemical operation as to the extraordinary rapidity with which the poison acts upon the system. The mixed oxides of iron may be prepared from the sulphate, and kept in a closely-stoppered bottle, filled with water previously deprived of air by boiling. Protoxide of iron may be speedily obtained in large quantity by agitating iron filings with a solution of sulphurous acid for a few minutes; filtering, adding caustic potash, and washing the precipitate with well-boiled water. It is important to state, that peroxide of iron, (the substance used in cases of arsenical poisoning,) cannot, in this case, be substituted for the mixed oxides; although it may serve to mix with the protoxide prepared in the way just described. The peroxide of iron alone will not form Prussian blue under any circumstances with prussic acid. In poisoning by the essential oil of bitter almonds, or by cyanide of potassium, the mixed oxides of iron are equally applicable; and in one case related in this Report, of poisoning by the oil of bitter almonds, the antidote might, had it been then known, have been used, and have accelerated recovery. It is possible, indeed, that it may become of more frequent use as an antidote to the oil, than to prussic acid. With respect to cyanide of potassium, we may at once administer a solution of green sulphate of iron to the patient, as the oxides are immediately precipitated by contact with the salt, and Prussian blue is formed. In the short account which I have seen, the Messrs. Smith appeared to have confined their observations to the effects of the oxide on prussic acid.*

Animal irritants. In a late number of the *Edinburgh Medical and Surgical Journal*, (July 1844,) it is observed, in reference to the poisonous properties of the flesh of diseased animals used as food, that "in America there are certain regions, extending for many miles in length and some miles in breadth, on the herbage of which, if an animal feeds, its milk and flesh acquire poisonous properties, yet itself enjoys tolerable health. The disease which the use of the flesh or milk of the animals fed on these districts produces is known over all America by the name of the milk-sickness, or 'trembles.' All the infected spots occur west of the Alleghenies; and it is well known, that of the early emigrants whole communities, on account of the prevalence of this malady in a particular locality, which is generally distinctly circumscribed, were often compelled to seek another; and even at this day, those who venture within the boundaries of an infected district, are constrained, as a condition of their residence, to abstain from the flesh of the cattle living within the same limits, as well as from the milk and its preparations. It appears from the late report of Drs. Hosack, Post, and Chilton on this subject, that in some of these infected districts, the inhabitants, with a recklessness of human life which seems incredible, carry the butter and cheese which they themselves dare not eat to the markets of the towns west of the Alleghenies, and that thus there are frequently produced symptoms of poisoning and even death, for which the medical attendant cannot account, or he is induced to consider as some new or anomalous form of disease. From the same report we learn that the cattle from these districts are sent in great droves over the mountains, but in order to deceive the buyers as to the place whence they come, they bring them to New York by a southern route, and style them 'southern cattle. The flesh of these animals produces, in those who make use of it, symptoms of aggravated cholera morbus. The viscera of the animals are often found diseased, and the livers almost invariably so."

*It will of course be understood, that cold affusion, with stimulants, should be at the same time resorted to; and if the power of swallowing is lost, the antidote may be introduced by a stomach-pump.

Owing to the symptoms of poisoning which have followed the use of such beef, butter, and cheese, the American government, caused a medical inquiry to be instituted into the matter; and it is probable that they will adopt the recommendation of the reporters, i.e., prohibit its sale. In the event of this occurring, it has been suggested as not improbable, that this poisoned food may find its way into England, and from its cheapness, be diffused among the poor. It would therefore be advisable, that practitioners should be on their guard, and note any suspicious circumstances that may rise. As we are without a system of medical police in England, it is not likely that government will have it in its power to prohibit the sale of such food, until many cases of the serious effects produced by it have occurred.

There is another more common article of food, namely, bread, upon which some observations have been lately made by toxicologists. In the *Annale d'Hygiene*, 1843, pp. 35 and 347, will be found communications on this subject from M. M. Guérard, Chevallier, and Gautier de Claubry. The changes which take place in the decomposition of flour and bread, and the production of various kinds of mouldiness, are here investigated, together with the effects of such bread upon the animal system. It would appear that in some parts of France the peasantry manifest no repugnance to the eating of mouldy bread; and that in many instances the practice appears to be attended with no ill effects. The nature of the mould produced, however, is subject to great variation and it is not improbable, as M. Chevallier suggests, that in some cases a poisonous principle is actually developed. In two instances of children, who had partaken of mouldy rye-bread, symptoms resembling those of irritant poisoning supervened. The countenance was red and swollen, the tongue dry, the pulse quick, there were violent colics, with pain in the head and intense thirst. Vomiting and purging supervened with a state of collapse, but the children eventually recovered. These symptoms were ascribed to the production of "*mucor mucedo*" in the bread. In 1823, alarming effects having followed from the use of a certain kind of bread in Paris, M. Burrel was called upon to determine whether or not any irritant poison had become accidentally intermixed with it. The bread was simply in a mouldy state; there was no trace of poison. It is unnecessary to enter further into this subject; the facts adduced, together with experiments performed on animals, show that bread in a state of mouldiness, may not only produce symptoms of poisoning, but actually cause death; and as it is impossible to distinguish the noxious from the innocuous kind of mould, the use of all bread in such a condition should be avoided.

Even fresh bread may occasionally seriously affect the body. The brown bread of London has been known to produce vertigo, lethargy, and other unpleasant symptoms, indicative of an affection of the brain and nervous system. This has been ascribed, with some probability, to the "*folium temulentum*" becoming accidentally mixed with the corn. Rye-bread is not much used in this country, but the presence of the ergot might here, in some cases, account for the symptoms which have been observed.

Sulphate of potash. The question whether this is to be regarded as a poisonous salt, of an irritant nature, has been much debated within the last year among numbers of the profession, owing to a case which was tried at the Central Criminal Court in October, 1843. (The Queen v. Haynes.) The prisoner had given to the deceased, the night before her death, two ounces of sulphate of potash, dissolved in water; and it was alleged that she had, a fortnight previously to this, taken, in divided doses, as much as a quarter of a pound of the salt. The woman supposed herself to be pregnant, which was disproved by an examination of the body; and it was charged that the prisoner had given her the salts with the intention of causing a miscarriage. After the last dose, she was seized with sickness, and died within a very short time. The stomach was found empty, but highly inflamed, and there was blood effused on the brain. One medical witness referred death to the action of this salt as an irritant poison; the other to apoplexy, as an indirect result of a violent vomiting caused by the salt. The prisoner was acquitted of the charge of murder, but subsequently found guilty of administering the drug with the intent to procure abortion. Both of the witnesses admitted that, in small doses, the salt was innocent; but that in the dose of two ounces it would produce dangerous effects. A portion of the sulphate in this case was examined by Mr. Brande, as it was suspected that some poisonous substance might have