intestines. At first a movable piece of intestine of the same structure, the appendix eventually comes to a standstill; and, for all we know to the contrary, is of little further use, for its cavity exhibits a tendency in 25 per cent. to become obliterated. And when we review the anatomy of the outer circle of the intestines, we can imagine that mesenteries here and there—natural stays—are very advantageous. Do they not break off into sections the peristaltic movements of the colon at certain points? Thus the concentrated faeces are carried onward to the outlet by not only a circular squeeze, but also by a detrusor push of contraction similar to the action of micturition. We see in the normal abdominal cavity bends here and turns there, and, if a physical kink can excite an insanity, I am sure there is also associated a neuropathic kink.

It has yet to be ascertained whether short-circuiting of the intestines is as scientific a line of action in constipation and general diseases as the old fashioned aperient treatment, unless it has to be resorted to as a radical line of treatment. Undoubtedly aperients drive muddled ideas and delusions into the closet. No one who has lived in a hospital for the insane for a length of time can contradict me. And that, too, is the reason why I conceive appendicitis is uncommon among the institutional insane. If foul products can be readily expelled from the body by the skill of the asylum physician, how is it the outside physician in charge of the sane population has not yet learnt his lesson of teaching the public the first principles of healthy life to be attained by education rather than by operation?

It is my purpose in this brief communication to emphasize the poisonous consequences of decomposing food, detained and brought to an anchorage in the fermenting vat of the cesspool at the last portion of the intestinal canal. If it is a difficult matter to keep the mouth of the intestinal canal free of septic matter, it is not a difficult operation to rid the tubing of poisonous germs that multiply there. We all know that Epsom salts might answer our object. Now civilization has taught us many things in the medical world; it has certainly taught us comparative pathology. For example, the horse, which persistently has his faeces of a characteristic odour, one day evacuates a foul motion. The teeth are found at fault, and require filing, so that they may meet properly as grinding instruments. The faeces return to their usual odour after this operation, and the balls of motion do not now contain fermenting, half-digested, swollen grains of oats. The domestic fowl emaciates, its feathers droop, and offensive diarrhoea succeeds when there are no teeth in the gizzard from an absence of grit in the run. And in man convulsive seizures, such as epilepsy, are best managed by suitable dieting, rather than by the use of the bromides and other sedative drugs of the *Pharmacopoeia*, which, as chemical restraints, have been stated to encourage degenerative changes.

Of all hospitals I know none where so much attention is given to the action of the intestines as in an institution for the insane. Moreover, the food that is taken into the stomach of an insane person in these hospitals is chiefly of the order consistent in quality and amount with health. The food, too, is of excellent quality, simple and wholesome; not least, it is well prepared by cooking. It is carefully macerated and divided beforehand, and given in this condition to those patients who will not feed themselves; while, on the other hand, it is spoon-fed to those who are without teeth, or who are accustomed to bolt or scramble their food. The indifferent feeders are always personally superintended at meal times. Constipation is never permitted in asylums, and this is the reason why the caecal appendage is less often affected by inflammatory attacks.

If medical men outside insane hospitals could guarantee the condition of a person's bowels beyond hearsay evidence, they would be hideously surprised to find how ignorantly is this essential factor of life carried out. We know of the patient who suffers from noises in the ear and deafness, who quickly returns to normal hearing after two or three days' application of oil and the skilful use of a syringe; and the case of the patient with symptoms of delusions, inclined to mania, in whom the cloud readily begins to lift when a good pill and a smart Epsom draught are given. How readily, too, does he respond to treatment; it is discovered that his rectum was blocked, and before admission we hear that he had been under restraint with such

sedatives as chloral, bromides, hyoscin, paraldehyde, sulphonal, and the like.

The voice of the dentist is carrying weight with medical officers of health to an extent that "toothbrush drill" is becoming a custom in schools. If the mouth of the intestinal tract is often foul, let us imagine what must be the state of affairs lower down. Again, gynaecologists tell us how easily the peritoneum absorbs fluids. Thus auto-intoxication and appendicitis may be explained when intestinal stasis has been prolonged; and especially must inflammation arise when decomposing matter is bottled up in the piece of the intestine called the appendix, just as it occurs in the knuckle of intestine pursed up in a strangulated hernia. Therefore, from an educational point of view in physical hygiene, "intestinal drill" in the school is just as important as "scalp drill" or "toothbrush exercise." If it is difficult to deal with the septic mouths of the insane it is not found difficult to keep their cesspools clean by education. The technique of "intestinal drill" in hospitals for the insane is very judiciously observed, and the mental nurse can notify the condition of the faeces, their odour, colour, appearance, and consistence. Thus the chemistry and bacteriology of the faeces in private and public hospitals for the insane can be made to correspond with the practice of urine analysis. At Earlswood Hospital for Idiots "intestinal drill" is a feature in the management. The operations for chronic constipation or for appendicitis may be very fascinating in the eyes of the surgeon, but to prevent them by "intestinal drill" is the physician's achievement.

GASTRIC ADHESIONS AS A CAUSE OF SUDDEN DEATH.

By G. HAMILTON WINCH, M.B., CH.B.,
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THE following case is of interest on account of the curious pathological conditions which the autopsy revealed, and partly on account of its relation to the Workmen's Compensation Act. The patient, a coal miner, aged 34, was the subject of an accident on November 30th, 1908. While he was lifting, on that day, a large piece of coal into a truck, it slipped and knocked him backwards against a timber prop, injuring his back and left side. He was quite unable to resume work, and so was immediately taken home in a conveyance. There I attended him about two hours later.

State on Examination.

I found him lying on his back on a couch, with his legs drawn up. He complained of "pain in the stomach and across the back below the shoulder blades." He did not look seriously ill. His pulse was 98, temperature 97° F., and respirations 20. There was no vomiting nor hiccough.

There were no marks of injury on the abdominal wall, it moved well with respiration, and there was no distension. On palpation there was some tenderness in the umbilical region, but no rigidity. Percussion revealed nothing abnormal, and there was no evidence of free fluid in the abdominal cavity.

On his back there were some scratches and a bruise 2 in. in diameter immediately below the inferior angle of the left scapula. No ribs were broken, nor was there any injury to the spinal column.

Careful examination of the circulatory, respiratory, urinary, and nervous systems revealed nothing abnormal. It was carefully explained to the patient and his wife that although there was no evidence of serious injury then, yet there might be some internal injury of which symptoms would appear later. On these grounds the patient was strongly advised to come into the colliery company's hospital, so that his case could be properly watched, and have surgical aid if necessary.

Progress.

This advice was not followed, and he was attended at his own home for the next four weeks. At no time during this period were any untoward symptoms or signs detected, and apparently the case was pursuing an entirely favourable course. At the end of this period the man was very anxious to return to work, but my advice was against his doing so. Nevertheless, in six weeks from the date of his accident he returned to work of his own accord.

Result.

In the course of his first morning at work he told his companions that he "felt better than ever before." Shortly after mid-day he suddenly fell down dead. I was hurriedly called to see him at the pit, but on my arrival found life quite extinct.

This man had received compensation during his period of incapacity, and the question now arose, Was his death

due directly or indirectly to the accident or to a natural cause? By order of the coroner a *post-mortem* examination was made, and at this I was present. In the abdomen small recent adhesions were found between the stomach and spleen, and between the stomach and the pancreas. The pancreas showed evidence of recent inflammation of its posterior surface opposite the spinal column. Nothing else abnormal was found in the body, though a very full and complete examination was made.

The coroner's jury returned a verdict to the effect that this man's death was due to the accident. Its suddenness was probably due to a reflex stoppage of the heart, owing to the stomach dragging on the adhesions.

The case brings out two points:

1. How much care must be taken in dealing with accidents, even when apparently not serious, in view of the difficulties that may arise in regard to compensation.

2. The value of keeping full notes, not only of the injuries, but also of the general physical condition of the workman.

For instance, in this case a thorough clinical examination was made when the patient was first seen, and this enabled one to state definitely that he had no organic disease likely to cause sudden death.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ERYTHEMA NODOSUM AND TUBERCULOSIS.

In the *EPRITOME* of June 1st there is a note of an article in an American journal bearing on the relationship between erythema nodosum and tuberculosis. The writers of that article quote a case in which erythema nodosum was an early manifestation of tuberculous meningitis. Various writers have pointed out that an association exists between these two maladies, but there seem to be very few records of the eruption appearing almost as a prodromal sign of tuberculous meningitis. I therefore quote the following particulars of such a case:

The patient was a boy, aged 8, who was put to bed because of pains in his legs and general weakness. On examination he was found to be suffering from erythema nodosum, the spots being scattered over the fronts of both legs and extremely tender to the touch. Under appropriate treatment the boy became apparently well in a few days, and was allowed out. A fortnight later I was called again to see him, this time suffering from headache and vomiting. As there was a strong family history of tuberculosis I at once suspected meningitis. In a day or two the typical symptoms became apparent, including retraction of the neck, cephalic cry, and coma. The coma passed off for one full day but returned, and within a week the patient was dead. There was well-marked papillitis of both optic nerves. I did not connect the two troubles at the time, but later reading has convinced me that the occurrence of erythema nodosum as a prelude to tuberculous meningitis is more than a mere coincidence.

Shettleston, N.B.

JAMES DUNLOP, M.B.

VIPER BITE.

THE case of viper bite described by Dr. Pendred (June 8th, p. 1291) is very interesting, but the writer's conclusion that the quantity of venom of one animal is not sufficient to kill a full-grown man in good health is not fully borne out by facts.

On August 5th, 1909, I was bitten in three places by a viper. At that time I was reading law in the early morning, working hard at my professional duties, and taking much cycling and walking exercise in the course of them, and putting in a couple of hours at carpentry nearly every evening. I had not taken alcohol for months, had reduced my consumption of tobacco by half, was hard as nails and fit to fight for my life. This last was what I had to do after my accident, an account of which by Dr. Edleston appeared in the *BRITISH MEDICAL JOURNAL* of September 11th, 1909. I am convinced that no one not in the pink of condition would have survived the experience, and that any person in only average condition would have died to a certainty.

I may mention that the last man before myself bitten on Big Moor, Ramsley, was a hard-working tenant farmer, who struggled to the nearest farmhouse two miles away, and died before medical assistance could be obtained. The immediate cause of his death was swelling of the glottis and suffocation following his sucking out the poison from his wounds. A similar swelling of the lips, tongue, and fauces troubled me.

In my opinion the severity of the results of a bite depend upon:

1. The age and condition of health of the person bitten.

2. The amount of poison injected.

3. The season of the year and the condition of the snake. A fasting snake at the beginning of spring, when the weather is cold, or one about to change its skin, is less likely to inflict a dangerous bite than a well-fed snake after a few weeks of hot weather.

4. The length of time which elapses between the time of the accident and that of treatment. When Dr. Edleston saw me, three hours after my accident, the pulse was gone and the heart beats could not be heard, so that another half hour without medical aid would probably have seen me out.

5. Possibly the peculiar characters of some of the reptiles may have a bearing on the question. Men living on the moors, whose forefathers have been there for generations, are strong in the belief that the adders in which the usual markings are deficient or absent, as in the case of mine (which has been preserved), are much more dangerous than normal specimens.

In conclusion, I desire to point out that the possible sequelae are rarely if ever heard of. The most immediate in my own case was dilatation of the heart accompanied by mitral regurgitation. The latter disappeared in about four weeks, but the weakness lasted for more than twice that number of months and caused several fainting fits, one as late as the December following the accident. Another was a transverse grooving of the finger and toe nails, some of which came off entire and caused inconvenience. The last, a red discoloration of the skin, came on some months after and still persists. It began near the shins and over the ulnar processes, and gradually spread, threatening to cover the whole body. Expert advice was sought but was followed by little improvement—indeed, all the six consulted said they had never seen a rash like it. It began to fade when I was on a holiday last year and swam daily in the sea, and has now almost disappeared under a course of hot salt-water baths.

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BORAX AND HONEY FOR BOTTLE TEATS.

On April 23rd a male infant, aged 3 months, fed naturally from birth, was brought to me for treatment. It had all the signs of gastro-intestinal trouble, and, as the mother did not appear in the best of health, I advised her to wean the child, and put it on an artificial diet which I prescribed. Two days afterwards it was brought again suffering from "fits" in addition to the bowel trouble. On this occasion I made a more minute examination, and discovered that the child had a long ulcerated foreskin, with retained smegma. After this had been thoroughly cleaned up and the mother instructed how to look after it, I thought this would put an end to the "fits." In spite of repeated and most careful examinations, however, both fits and the slimy offensive diarrhoea got worse. I made changes in the diet, gave bismuth and grey powders, and later morphine, but all to no purpose. From the character of the motions and the rapid wasting I now suspected tuberculous trouble, but I could not account for the very frequent fits, and it struck me that the parents were giving the child something other than I had told them. I questioned them closely and frequently on this point without result. It was not until five weeks after the child was first brought to me that the father, in showing me a jar of virol I had advised him to get for the child, casually showed me also a tin of "borax and honey" to put on the child's soothing teat. It struck me at once, when he admitted that they had been using this all along, that this was the cause of the fits, so I put the box in the waste bucket. The father was incredulous, but I warned him to get no more. The