disease and better prospect of recovery. The result is, that the sick list has been heavier by about 25 per cent., but that acute disease is comparatively rare and seldom fatal, and the downward progress of incurable maladies has been much retarded. The immense majority of the cases (970 per 1,000) terminate in recovery and return to duty. Those who, after some months' treatment, are found to be still incapacitated are superannuated.

The mortality from disease has ranged from five to eighteen *per annum*, and shows for the twenty-eight years an annual mean death-rate of 11.5 per 1,000. Deaths from accident have averaged annually 1.3 1,000. Deaths from all causes have in the period amounted to 12.7 per 1,000.

Retirements from the service by reason of physical or mental incapacity have ranged from 2 to 20 *per annum*, yielding in the twenty-eight years a mean rate of 8 per 1,000 annually superannuated. Combined with deaths, this will give a ratio of 21 per 1,000 for departure from the service through disease and accident: a very moderate proportion when compared with the military and naval services, where, by the mean of ten years' returns of the forces on the home stations, the combined rate was in the Army 43 per 1,000, and in the Royal Navy 37 per 1,000.

TABLE I.—Comparative View of the Annual Numerical Ratio of Disease and Injury in the Army, Navy, and Customs Force.

	Mean daily No. per 1000.	Admissions to Sick List per 1000.	Mean Duration of each Case (Days).	Time lost per Man (Days).	Deaths per 1000.	Invaliding per 1000.	Death and Invaliding per 1000.
Army in the United Kingdom (average of 10 years).....	48	941	18	17	9.5	34	43.5
Navy on the Home Station (average of 10 years).....	41	944	17	15	9.1	28	37.1
Customs Force, Port of London (average of 28 years, 1847-74.)	29	700	15.5	11	12.7	8	20.7

In all these services, it is impossible to dissociate mortality and invaliding, seeing that many of the cases invalided for phthisis, etc., terminate in no long time in death; and, in the military service, such cases are discharged at a comparatively early period. In the Customs force it is different, persons afflicted with chronic diseases often being able to continue at some light duty for many months, with occasional absences in severe weather, and so to defer death or superannuation for a considerable time, in like manner to the bulk of the civil population similarly circumstanced. The ratio of mortality has been tolerably uniform, but that of superannuation has been greatly diminished of late years, more especially for the necessarily fatal diseases. The great majority of those superannuated for rheumatism, insanity, etc., survive for many years afterwards. The combined mortality and superannuation rate for the years preceding 1862 was 24 per 1,000; since that date, it has fallen to 17 per 1,000. Superannuations over the age of 60 for senile debility, etc., do not require medical certificate, and are dealt with in the ordinary way, the officers retiring on a pension proportioned, as in other cases, to their length of service.

[To be continued.]

LARGE VENO-CUTANEOUS NÆVUS TREATED SUCCESSFULLY BY REPEATED INJECTIONS WITH CARBOLIC ACID.

By S. MESSENGER BRADLEY, F.R.C.S.,
Surgeon to the Manchester Royal Infirmary.

A FEMALE infant, about eight months old, was brought to the out-patient rooms of the Manchester Infirmary last November, with a large and prominent nævus situated above and extending into the helix of the left ear. The tumour, which involved the cutaneous capillaries as well as the veins beneath, measured two inches and a half by one inch and a half, and was raised half an inch above the level of the surrounding skin. I resolved to treat the case as Lister advises, by the injection of carbolic acid; but first, to prevent any risk of embolism, I transixed the base of the tumour with two long hair-lip pins at right angles to each other, and strangled the entire mass with a ligature tied tightly beneath the pins. I then injected five minims of pure carbolic acid, dispensing it as evenly as possible in minims doses, here and there over the whole tumour. The ligature was cut, and the

needles removed in ten minutes. Little if any change was apparent three days later, when I repeated the process. After a further lapse of four days, no improvement being perceptible, I ligatured the nævus by means of a Fergusson's knot, and admitted the child into the hospital; its cries, however, were so piteous and continuous, that the house surgeon was compelled to remove the ligature in about six hours, and I do not think that its introduction contributed in any material degree to the successful issue of the case. The following week I again resorted to the injection, and repeated it at intervals of four and five days; but it was not until three weeks had elapsed, and the injections had been employed half-a-dozen times, that any diminution was perceptible. At this period, however, a decrease became manifest, and this decrease steadily progressed, *although no further injection was used*. From week to week until now (March 14th) the tumour is no longer at all raised above the level of the surrounding skin, and the integument has almost entirely regained its natural character and colour.

The point of chief interest here appears to be the gradual but very continuous action of the acid. Probably success would have been equally attained by fewer injections; and, in the next case of the kind, I should allow an interval of a week or ten days between the operations. But the really important fact seems to be, that we can confidently count on success by this safe and little unpleasant method; and when we reflect upon this fact, and at the same time call to mind the potency of electrolysis in the treatment of aneurism, where the long-continued result following the operation closely resembles the action of injections in nævus, we are led to conclude that the entire chapter of the treatment of vascular tumour will have to be rewritten.

The remarkable way in which the stained skin recovered its normal colour in this case induced me to ponder upon the possibility of removing simple capillary nævi, or "mother's marks", which sometimes cover large portions of the body; and, at last it occurred to me, that the desired end might be achieved by "tattooing" such marks with carbolic acid. On this idea I acted, and tattooed the first case that presented itself; the result answered my utmost expectations, for, in about three weeks, the port-wine stains quite disappeared, its place being taken by a tincture of natural colour. It is true that the nævus in this case did not exceed half-a-crown in diameter, and, up to the present time, I have had no opportunity of testing the efficacy of this plan upon large surfaces; but this I shall certainly do the first chance that offers, and will, if permitted, communicate the result to the BRITISH MEDICAL JOURNAL.

I may add, that I used an ordinary subcutaneous syringe for the tattooing, first removing the piston and withdrawing my finger from the top each time I punctured the skin, so as to permit a small drop of the acid to escape.

I am, however, having a little instrument especially made which I think will be more convenient; it consists of a hollow tube of the size of a quill-pen, with a perforated top, and terminating in a somewhat similar fashion to the teeth of certain poisonous snakes, a small groove, down which the fluid runs, opening immediately above the lancet-shaped point of the instrument.

CASES ILLUSTRATING THE SIGNIFICANCE OF VAGINAL EXAMINATION IN OBSTETRIC PRACTICE.

By A. E. AUST LAWRENCE, M.D.,
Physician-Accoucheur to the Bristol General Hospital.

THE following paper is an abstract of one read before the Bristol Medical and Chirurgical Society on October 27th, 1875; and it is intended to show that there are a large number of cases, the true nature of which would be overlooked unless a vaginal examination were instituted.

In the first set of cases detailed, the symptoms pointed to some urinary trouble, either (1) difficulty in passing urine, (2) constant desires to pass urine, or (3) scalding.

The difficulty in passing urine was found to be due in three cases to retroflexion, and in two cases to antelexion, of the uterus; and, upon replacing that organ and maintaining it in its proper position, the trouble entirely ceased.

The symptom of constant desires to pass urine was found associated with ulceration of os and cervix uteri in six cases, with hemorrhoids in two cases, and with polypi attached just inside the os uteri in three cases. The symptom entirely disappeared on the removal of the causes specified above.

The symptom of scalding on passing urine was found to be due in

four cases to varying degrees of prolapsus uteri, not allowing the bladder to be properly emptied, in consequence of which the urine underwent slight decomposition.

The second set of cases pointed to some alteration in the menstrual function; and the patients simply complained of troubles due to the "change of life", to use their own expression. The main symptom was excessive and frequent menstruation in three cases, and no pain was complained of; yet examination revealed extensive malignant disease of the cervix uteri. The absence of pain must not, as is too often the case, throw on one side our suspicions of malignant disease, or negative an examination.

The third set of cases illustrated that pregnant women suffering from rather profuse hæmorrhage when they are about three or four months "gone" should not be looked upon as having miscarried without a proper examination having been instituted; for in three cases an examination revealed denuded and hypertrophied papillæ surrounding the os uteri, which bled freely on pressure, the course of pregnancy not having been interrupted at all. The bleeding surface was in each case healed by applying a little liquor ferri perchloridi and glycerine, equal parts, on cotton-wool.

The other points touched upon in the paper referred to the necessity of making a digital examination as well as by the speculum. This advice was shown to be needed in a case where a small polypus was detected, growing from the os uteri, with the speculum; but a fibroid of the uterus was not recognised until two weeks later, when a digital examination was made. The rule to be observed in making vaginal examinations is, the finger first; after that, if necessary, the speculum, sound, etc.

CASE OF SUFFOCATION FROM THE GASEOUS EMANATIONS OF COAL.

By WILLIAM SNEDDON, M.D., L.R.C.S.E., Beith.

W. H. M., AGED 30, went to bed at 10 P.M. in a small room in which there was a stove which had a lid, and from which the smoke was conveyed by means of iron tubing outside of the gable-wall of the house. It was the ordinary house-coal that was used. A hole had been burned at the bend of the pipe as it merged from the wall, and there was, therefore, no current up the tube. He took a child, aged two years, with him to bed, but it became restless and cried after being in about an hour, and was removed to the kitchen by a nurse who was attending the child's mother, who had been confined of twins ten days before. The nurse observed that the child continued to retch frequently for five hours. A few minutes after the child had been removed, there was a cat in the kitchen, which was disturbing the mother, and which was, therefore, put in the room, and the door was shut. The nurse noticed, when she put the cat in, that the husband was breathing naturally. The nurse slept in the kitchen beside the mother, and, on rising at 6 A.M., she felt a giddy sensation in the head, and a weight over her heart, and was obliged to sit down on a chair, exclaiming to the mother that she never felt so ill, and thought she was going to die. Recovering a few minutes afterwards, she went to call the husband, but got no reply, and on going into the room she found he was dead. When I saw the body at 7 A.M., there was rigor mortis; he must, therefore, have died shortly after he was heard breathing at 11 P.M. The cat was also dead, and it had vomited.

At the necropsy, which was made next day by Dr. McFarlane of Kilmarnock and myself, we observed the following. The external appearance of the body was natural, except the nape of the neck, which was livid. The face was swollen, the eyelids were closed, and the pupils natural; there was frothy mucus in the mouth. On examination of the brain, it was found the membranes were congested, and the larger blood-vessels were distended with fluid and moderately light red-coloured blood. There was not much congestion of the substance of the brain, and its consistence was natural. Each of the lateral ventricles contained about two drachms of a sanious serum, and there were about two ounces of a similar fluid at the base of the brain. The larynx was congested, and there was some cinnamon-coloured mucus in it. The lungs were slate-coloured, with black spots studded on their surface. On section, they were found to be highly congested, and were crepitant on pressure. The bronchial tubes contained some mucus similar to that in the larynx. The heart was healthy; the valves were perfect; both ventricles were nearly filled with fluid and light red-coloured blood. The blood was everywhere fluid. The stomach was normal. The liver had a nutmeg appearance on section, but was otherwise normal. The kidneys and spleen were congested.

CLINICAL MEMORANDA.

CAN TYPHOID FEVER ORIGINATE SPONTANEOUSLY?

In the JOURNAL of March 25th, there is a very able paper by Dr. Fox on this subject. If reasoning by analogy be of any value, the probability, if not certainty, that yellow fever, a strictly analogous disease, can so arise, may be worth something in support of the view that Dr. Fox advocates. Yellow fever, like typhoid, is a local disease, generated in, if not by, decomposing animal matter. In the West Indian Islands, first cases can be traced, and any sources of infection more easily found out than at home, so that many of the sources of fallacy, so confusing to inquirers in England, do not present themselves there.

In the *Edinburgh Medical Journal* for September 1871, I published notes of an outbreak in St. Kitts, which, after careful inquiry, I was led to believe, began with a case originating *de novo*, arising either on the day or a day after the heaviest rainfall for many years, during a period of great and continued high temperature (above the average in September), little or no wind, and low barometer pressure. The rainfall swept away the covering of charred wood from a number of privy-pits, which had lain untouched for fifteen months before, when the town was burned down.

There had been no yellow fever in St. Kitts since 1858,* nor was there any, so far as I am aware, in any of the chain of islands between Trinidad and St. Thomas at that time. The child who died first had come from Grenada a short time before; but I ascertained positively from Dr. McLeod that there was nothing of the kind there.

From a first case of yellow fever others may arise, as in typhoid. I am inclined to think it more infectious than typhoid. Anyone who may think the arguments of the analogy of the two diseases of value in proving that typhoid fever can arise spontaneously may refer to my paper. It is not necessary to take up space by repeating all I have there stated.

W. MUNRO, M.D., Cupar Fife.

ATROPINE POISONING FROM THE USE OF DROPS TO THE EYE.

THE following appears to be a case in which some of the symptoms of atropine poisoning were caused by the use of drops to the eye; and it is, I think, interesting not only on account of the rarity with which this accident occurs, but also because it took place in a person of peculiarly nervous and excitable temperament; in fact, in just such a person as would, we should expect, be easily influenced by agents acting on the nervous system.

Mrs. Sarah S., aged 44, came to me at the South London Ophthalmic Hospital, on January 29th, for an attack of iritis in the right eye. The attack was a mild one, of only a few days' duration, and I was unable to come to a positive conclusion as to its cause; I, therefore, ordered simply strong atropine drops (sulphate of atropine, four grains to one ounce), to be used several times a-day. This was repeated at her next visit, February 2nd. She then did not come again till the 12th, when she excused her absence by saying that she had been ill with a bad "bilious attack". On further inquiry, it transpired that the chief symptoms of the "bilious attack" had been dryness of the mouth and throat, a sour taste in the mouth, dryness and burning in the stomach, repeated vomiting, and partial delirium. These symptoms had not entirely passed off, and she still had the dryness of the mouth and sense of burning at the stomach. The drops had lasted since the former visit, she had been using them all the time, and the pupil of the inflamed eye had become widely dilated. There was no dilatation of the other pupil, nor any failure of accommodation more than her age would account for in it. The atropine was discontinued; and her disagreeable symptoms subsided in a few days.

Of the group of symptoms described by this patient, it may be noted that some were those commonly mentioned as most characteristic of atropine poisoning, viz., the dryness of mouth and throat and the cerebral disturbance; the dryness she described as passing "down to the stomach", and she said that the region of the stomach "felt as if she had had a mustard plaster on it", and the cerebral disturbance she specified as "light-headedness", "so that she could hardly keep herself from going silly". The nausea and vomiting appear also to occur in some cases, but less constantly, while the sour taste is not mentioned as a usual accompaniment. The patient, however, several times mentioned it; and, as the solution of sulphate of atropine has a faintly

* As yellow fever is a kind of bugbear to men wishing to go to the West Indies, I may remark here that in healthy islands, such as St. Kitts, it only appears once every ten years or so. Thus in St. Kitts, there were outbreaks in 1812, 1818-19, 1829-30, 1836 (chiefly among soldiers of the garrison), 1848, 1858.