that is the question as to the relation of the increased pressure and softening to the symptoms and tendency to death. In order to try and answer this question I have prepared a table² of the *post-mortem* changes and the more serious symptoms associated with these in ten cases of meningitis—seven of tuberculous meningitis, three of non-tuberculous to compare with them. With regard to the relation between the amount of softening and the duration of the coma, out of the ten cases in five the softening was not marked, and in one of these the duration of both the drowsiness and the actual coma exceeded their duration in cases where the softening was very marked; in the other cases the drowsiness and coma were both of short duration; so that we find in cases where the coma is not marked little softening, but it must be observed that two of the cases were non-tuberculous, and therefore free from infiltration of miliary tubercles and inflammatory products in the brain tissue. But still I think the fact that half the cases in which there was little or no softening were cases in which there was no marked coma shows a certain relationship between the softening and the coma.

It seems to me very difficult to understand why we get unilateral spasm or convulsion or paralysis or conjugate deviation in a bilateral affection like tuberculous meningitis. In those cases in which such conditions occurred there was no difference in the pathological appearances on the two sides and no evidence of thrombosis, and a hemiplegia, or hemispasm in arm and leg could not be caused, as a squint might, by a little more matting together of the parts about the base on one side than the other. We cannot at any rate put these unilateral affections down to increased intraventricular pressure.

Sometimes the convulsions were bilateral, but one would hardly think even bilateral convulsions were caused by pressure. Convulsions of any kind are not common in surgical compression.

In surgical compression we generally have slowing of the pulse. In these cases, as a rule, there was marked slowing, with often extreme irregularity, but this was chiefly during the early stage of vomiting and headache, and, when drowsiness and coma had set in, rapidity of pulse was rather to be noted.

As a rule the pupils were dilated to enable a frequent examination for miliary tubercles to be made; but in the six cases in which their condition is noted they were widely dilated in five, a condition common but by no means invariably present in surgical compression.

Although the relation between the softening and coma is such as to faintly encourage us, the nature of some of the more serious symptoms would not lead us to hope that they are merely due to compression, and that by diminishing the intraventricular pressure we could relieve them. But we understand so little of the intimate connection of brain changes and symptoms that it is rather to the pathological changes which seem to be largely the result of pressure than to symptoms as indicating compression, that we must look for guidance in trying to determine the probable value of this new method of treating tuberculous meningitis, by tapping the subarachnoid space of the cord.

What symptoms can be relieved by it only the practice of the operation can show; that out of four cases operated on in the Middlesex Hospital, in one there should have been contraction of the unduly dilated pupils, and in another slight improvement in the general condition, is encouraging when we remember that drainage was not maintained in all the cases. The operation does no harm, and as the patient is already comatose no anæsthetic is required.

But in any efforts we may make to remove the more serious symptoms of tuberculous meningitis by draining the intraventricular fluid we must remember it is nearly always only part of general tuberculosis, which may, and probably will, prove fatal in other ways, though if in this rapidly fatal meningitis we can prolong life it may be some time longer before the general tuberculosis does its deadly work.

² Not here reproduced.

PROFESSOR NOTHNAGEL celebrated his 50th birthday on September 28th. He succeeded Duchek in the Chair of Medicine in the University of Vienna in 1882.

A CORONER'S NOTES ON SUDDEN DEATHS.

Read in the Section of Medicine at the Annual Meeting of the British Medical Association held in Bournemouth, July, 1891.

By W. WYNN WESTCOTT, M.B.LOND.,
Deputy Coroner for Central Middlesex.

THESE observations are founded on the records of deaths which have taken place during the last three years in London, and which have been investigated by me. Broad principles alone can be sought out, and strictly accurate minute pathology or exact inference is not procurable in these inquiries. But even with such limitations these notes, I believe, give indications which may not safely be neglected.

The latest 1,000 inquests have been selected from my register, and have been tabulated. I have collected from this 1,000 all the cases that could be described as "sudden deaths," excluding, however, violent deaths, murders, manslaughters, and suicides, and also accidental deaths; I have excluded also all deaths under the age of 12 years, so as to avoid the great number of infantile deaths in which the cause may be doubtful. For example, when a baby is found dead in bed, although the death is probably sudden, and no doubt unexpected, yet there is very great difficulty in deciding whether such a death is from accidental suffocation, or from spasm of the glottis.

Of the 1,000 deaths upon which inquests were held, there were 303 which might be properly called sudden, unexpected, and natural in cause. Of these 303 cases, there were 185 males and 118 females; and of these 303, the medical witnesses affirmed that in 88 of them, or in 29 per cent., the death was either directly or indirectly attributed to excessive use of alcoholic liquors; of the 185 males, 57 were alcoholic; of the 118 females, 31 alcoholic; that is, alcoholic excess caused almost one-third of the male deaths and more than one-fourth of the female deaths, or, more accurately, 30.8 per cent. of the men, and 26.27 per cent. of the women died suddenly, unexpectedly, and without warning from the effects of intemperance, in addition to the very large number who died during the same period of slower but no less surely fatal alcoholic poisoning.

I was somewhat in doubt as to how I should classify these cases, as to cause of death, in order to provide a useful result. Only a few of the deaths had occurred in hospitals, or had been examined and inquired into by pathologists, so that any attempt at highly scientific methods was useless. *Post-mortem* examinations had been made in a great majority of the cases, but not in all; but even when made, the examinations were, of course, conducted by ordinary practitioners, and made no pretence to being exhaustive. Yet, inasmuch as the same or very similar conditions will be maintained for many years to come, the results of even these superficial examinations may give us much valuable and real information, and may supply the profession (and could, indeed, enlighten the public) with some details concerning ever-present dangers, and afford some hints of necessary and desirable precautions tending to the preservation of life. My purpose is not specially to carry on the crusade against alcohol; but the immense importance of the drink question forces itself on our notice, and cannot be set aside, so I will add the figures relating to this cause of mortality, after the specification of the pathological causes of death.

Bearing in mind that the majority of the above-mentioned medical practitioners would be likely to be most familiar with the old-fashioned classification of the causes of death into the three classes of death commencing at the heart, lungs, or brain, and believing that they had in cases of doubt been influenced by this method in assigning causes of death, I decided to divide these 303 deaths into (1) those assigned to syncope, or failure of the heart; (2) those marked by coma; and (3) those apparently due to asphyxia, or suffocation—although it may be true, as Stevenson teaches, that coma itself ends in either syncope or asphyxia.

This division showed:

1. Syncope	210 cases.
2. Coma	64 "
3. Asphyxia	29 "

COMA.

The 64 deaths due to coma were almost all spoken of—to suit the capacity of jurymen—as caused by apoplexy, and were described either as due to excess of serum on the brain, or effusion of blood; in a few cases congestion of the brain was alone detected at the *post-mortem* examination. Of these cases, 20 were described as occurring either during a fit of intoxication, or as mainly due to alcoholic excess; of these 20, ten were women. The majority of these apoplexies seemed to form a climax to a gradually increasing career of inebriety, while a few of them were the result of almost a single gross debauch.

ASPHYXIA.

The 29 cases grouped as caused by asphyxia were of miscellaneous character; 8 persons died in convulsions, apparently epileptic; 1 man died suffocated in a very sudden acute attack of oedema of the glottis from laryngeal catarrh; 1 from pleuritic effusion; 4 died suffocated during the spasms of asthma; 1 person died suffocated when dead drunk; 3 were gradually suffocated during the fogs; and 13 died unexpectedly and suddenly, and were subsequently found to be suffering from various stages of pneumonia and bronchitis. Three of the epileptics were confirmed drinkers, as were the man who died of oedema, and 2 of those who died in the fogs.

Broncho-pneumonia.—With regard to the 13 deaths of a sudden nature associated with broncho-pneumonia, surprise is often expressed at the suddenness with which they occur. It is generally supposed that while a man may remain at work and walk into a surgery when he has acute pleurisy, acute pneumonia lays him up at once; still we do come across these cases of men dying without warning at their work or in the streets, whose lungs are subsequently found far advanced in pneumonic inflammation, and without further apparent cause of death. I am prepared to admit that many of these cases might have been placed under syncope, for they died perhaps as much of asthenia as from the effects of dyspnoea, but I have placed them here as the main disease was respiratory.

SYNCOPE.

The 210 cases of syncope admit of the most extended study; 15 followed rupture of aneurysms of the aorta; 2 rupture of the ventricles of the heart; 1 rupture of the right auricle; 20 were described as caused by diseases of the cardiac valves; and 3 by dilatation without obvious valvular disease. In 77 cases *post-mortem* examinations showed fatty degeneration of the muscular substance of the heart; these were all described as weak hearts, but 18 others were described as weak and flabby hearts without fatty degeneration obvious to the naked eye; in 1 case a cyst was found in the cardiac walls; 10 were assigned to senile decay of the heart and great vessels. External hæmorrhage accounted for 15 cases of syncope; there being 10 who died suddenly from hæmoptysis, chiefly phthisical patients; 3 cases of hæmatemesis, all alcoholic patients; and 2 who died from uterine bleeding; 2 cases were referred to embolism, 1 of them following inflammation of a vein in the leg; 2 cases happened in sufferers from angina pectoris or cardiac neuralgia, 1 in a patient whose heart's action was embarrassed by a large ovarian tumour; 3 cases of syncope followed perforations of the stomach and bowel due to ulceration; 2 cases occurred in the course of delirium tremens; 1 died fainting from sunstroke; 3 deaths occurred during the debility of chronic Bright's disease on attempting slight exertion.

Determining Causes of Death by Syncope.—The secondary or determining causes are a matter of great interest, showing us what dangers need to be avoided by those whose circulatory organs are defective. One man died while playing lawn tennis with the champion player; 1 died in a Turkish bath; 1 case of fatal fainting was assigned to over-suckling, acting on a weak heart; 5 occurred during attempts at defæcation; 13 cases of fatal syncope were due to unusual exertion, such as going up stairs, getting into cabs, and digging; 5 were due to shock and excitement, and 1 to anger, acting on a weak heart. One lady, who was both aged and weak, was asserted to have died from the want of an accustomed night draught of hot gin-and-water on a very cold night last winter. One man and 1 woman fainted and died during the act of sexual intercourse. While, sad to relate, 6 persons died of syncope while suffering from want and destitution—almost all in the

streets of London. In 5 of the cases of weak and fatty heart the determining cause of death was said to be over-distension of the stomach. There was one very curious case, apparently of syncope from shock or fright—a patient in an asylum fainted and died when attempting to strangle herself with a towel attached to the bedstead; the neck had not actually been subjected to any pressure.

Alcohol and Syncope.—Of the 210 deaths by syncope, there was clear evidence of the excessive use of alcohol in 57 cases, that is, in between 27 and 28 per cent. Of the 77 cases in which fatty degeneration of the muscular tissue was observed, no fewer than 33 were chronic inebriates, or 43 per cent. This record is of a very important character, and demonstrates very clearly the extreme danger of drinking habits, more especially because of all the diseases set up by alcoholic excess, fatty degeneration of the heart is notable as affording so few reliable symptoms, and is capable of so little efficient treatment. This consideration seems to me to be one which temperance advocates would do well to insist on, for there are many who are not ashamed to drink to excess who yet shrink from the extreme risk of sudden death, which is certainly closely associated with inebriety.

Heart Disease and Sudden Death.—These cases of heart disease form a most difficult problem to solve, whether as to diagnosis, prognosis, or treatment. It is a certain fact that on my receiving medical attestation of death from heart disease as shown by *post-mortem* examination, in the majority of cases I also hear that such disease was not recognised during life. Physical recognition of dangerous heart ailments is still lacking in definition. Has not Dr. Walshe said that the amount of cardiac murmur is unimportant, and again, that freedom from complication increases the liability to a sudden termination? How, then, are patients and friends to be warned of danger, and should a patient, when possible, be so warned? I have never held an inquest on one who died from being warned. I have held many on persons who needed a warning.

I am in hopes that I have offered some food for thought, and have shown in which directions dangers to life lie the thickest, as demonstrated by so considerable a group of inquiries as 1,000 inquests held in London and Central Middlesex over an area which supplied an average of thirty inquests before the Coroner every week.

OSTEOTOMY GENERALLY; WITH SPECIAL REFERENCE TO TARSECTOMY IN ADVANCED AND INTRACTABLE CASES OF TALIPES EQUINO-VARUS.

Read in the Section for Diseases of Children at the Annual Meeting of the British Medical Association held in Bournemouth, July, 1891.

By JOHN EWENS, L.R.C.P.LOND., L.R.C.S. EDIN.,
Surgeon to the Bristol Hospital for Sick Children and Women.

ONE of the most remarkable features of the progress of the surgical art in the present day is the rapid advance made in conservative surgery, due to the introduction of anæsthesia and the antiseptic treatment of wounds, whereby (1) prolonged operations can be performed without the dread of pain otherwise involved; and (2) the risks of dangers following operations are greatly diminished, and therefore they are readily submitted to by thousands of persons who would never under other circumstances have thought of doing so.

We are, therefore, as a profession deeply indebted to Morton and Simpson for the discovery of ether and chloroform. To the use of antiseptics in their present improved state we are mainly indebted to Sir Joseph Lister, and although there are now many surgeons who ignore their use, and claim as good results without, yet when we look back twenty-five or thirty years, and remember the dread which compound fractures and wounds of joints inspired, and consider the favourable results obtained by the comparatively rough-and-ready methods first introduced, and still more marked by the more elegant methods of dressing now