PART III.

SPECIAL REPORTS.

REPORT ON FORENSIC MEDICINE.

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THE LIABILITY OF ACCIDENT INSURANCE COMPANIES.

THE recent discussion at the Derbyshire Summer Assizes in the case of *Holmes v. The Scottish Life Assurance Company* is not calculated to raise the spirits of directors of companies for insurance against accident. The facts of the case are briefly these. Mr. H. J. Holmes, a coachbuilder, 66 years of age, had an insurance policy for £1,000 against accidents in the company in question. On November 27th, 1890, he slipped down in the road; on returning home he was nearly doubled up with pain. He went to bed, and never left his room till he died. On cross-examination of the widow it was elicited that her husband had suffered from sickness and flatulence, and that he had been gradually getting thinner for some little time before the accident.

Mr. C. B. Dalton, who had attended Mr. Holmes for eight or nine years, deposed to the existence of bruises on the right ear and right shoulder. These marks were consistent with his having had a heavy fall. He gave instructions to those who were nursing Mr. Holmes to watch for the appearance of blood in anything that came from him. He saw a motion that was passed by Mr. Holmes a few days after the accident, which contained digested blood. Vomiting of altered blood shortly afterwards set in. The patient continued to vomit and pass blood for about three weeks, and then the hæmorrhage completely ceased. After this the patient improved slightly, but constipation and nausea existed. He died on January 24th. At the *post-mortem* examination the liver was found slightly fatty; the stomach showed no signs of organic

disease, but was slightly dilated. At the pylorus there was a scirrhous mass, which, however, did not obstruct the passage.

Dr. Samuel Wilks, who was called on behalf of the defendants, attributed Mr. Holmes's death to disease—cancer of the stomach. "In his opinion it was not due to the fall, but was an ordinary simple case of cancer in the stomach. . . . The state of this cancer was sufficiently advanced to kill, and it was not at all necessary to bring in the fall to account for his death."

Mr. Justice Vaughan Williams, in summing up, said the jury had a very simple statement of fact to try—namely, whether Mr. Holmes came to his death by reason of a personal injury caused by accident, or whether it was due to previously existing disease dangerous to life. If they thought that death was due to the accident, although Mr. Holmes was in delicate health at the time, arising from cancer, then their verdict would be for the plaintiffs. If, however, they thought that death was due to previously existing disease, although hastened and accelerated by the accident, then their verdict would be for the defendants.

The special jury, after a very short consultation, gave a verdict for the plaintiffs.

This case certainly seems to stretch the liability of companies insuring against accidents to a most serious extent. Here we have a man stricken with a mortal disease which had already made considerable progress, as was shown by the *post-mortem* examination. He meets with an accident which is followed by hæmatemesis and melæna—very common symptoms of cancer of the stomach. As Dr. Seymour Sharkey (who gave evidence on behalf of the defendants) pointed out, had it not been for the existence of cancer of the stomach, the deceased might have fallen down repeatedly in the way described, and recovered. The medical evidence indicated very clearly that death was due to cancer of the stomach, and the utmost that can be said for the accident is that it may have determined the onset of the hæmorrhage.

LAW FOR THE PREVENTION OF BLINDNESS.

The legislature of New York has adopted a law, the substance of which is given below, for the prevention of that element of the causation of blindness which follows ophthalmia neonatorum. The statistics of institutions for the blind show that not far from one-fifth of all the cases arise from that disease, and the sufferers belong largely to a class of population that is attended by mid-

wives and untrained nurses. The New York law, which went into effect on September 1st, is as follows:—Section I. Should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant to report the fact in writing within six hours to the nearest health officer or some legally qualified practitioner of medicine, of the city, town, or district in which the parents of the infant reside. Section II. Any failure to comply with the provisions of this Act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

VACCINATION AND LOCAL OPTION.

There are rumours afloat, says the London correspondent of the *Manchester Guardian*, that the Royal Commissioners of Vaccination in their fourth report, which it is understood is now in the press, recommend some modification of the existing law, one being that the principle of “local option” should be adopted, and that sanitary districts should be at liberty to relax the administration of the vaccination laws within their respective jurisdictions, provided that they have adopted the more recent legislation relating to infectious diseases, and have built a sufficiently commodious isolation hospital. The other proposal is that parents who conscientiously object to the operation should be permitted to sign a declaration to that effect on the form now given after the registration of a birth, and that they should then be left alone, with the exception that the medical officer of the district would keep such cases specially under his eye.

THE ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD FOR IRELAND.

In the previous annual report attention was drawn to the fact that there had been a decrease in the average daily number of persons relieved both in and out of the workhouses as compared with the year preceding; and the present returns show a further decrease in the average daily number of persons relieved in the workhouses, and also in those who received out-door relief, the former being 41,793, and the latter 62,235, a total of 104,028, which is less than the average daily number relieved in and out of the workhouses in the year 1889–90, by 1,794. There was an increase of 3,358 in the

total number admitted to workhouses in sickness, while in those suffering from fever or other contagious disease there was an increase of 452. The total deaths in workhouses from February 1890 to March 1891 were 11,577, or a decrease of 321. Fever caused 333 deaths, or a decrease of 44; lung disease, 2,211, as against 2,218; but no death from small-pox took place in any workhouse during the year. There was a decrease of 156 in the cases of fever treated by dispensary medical officers, and a decrease of 579 as regards scarlet fever. In consequence of the attention recently drawn to the subject of ether drinking as an intoxicant, in portions of the north, Dr. Stafford, medical inspector, made inquiry respecting its alleged prevalence, and the board received an exhaustive report from him on the subject. The total expenditure for medical and educational purposes, and for salaries under the Public Health (Ireland) Act, amounted to £99,604 12s. 2d., or an increase of £3,673 9s. 9d., while the Medical Charities Expenditure came to £161,341, as compared with £157,955.

IRISH LUNATIC ASYLUMS.

Sir Arthur Mitchell, Mr. Holmes, and Dr. MacCabe, who were appointed by the Lord Lieutenant to report on the management of Irish lunatic asylums, have just issued their report. They recommend that the inspection of these institutions should be transferred to the Local Government Board, but that an entirely new system should be created. They think there ought to be an improved classification, that is to say, that certain asylums should be set apart for the reception of certain classes of patients—the curable, the dangerous, &c. With regard to the lunacy laws, they think the existing laws do not sufficiently guarantee the treatment of the insane, nor do they safeguard the public against unnecessary detention in asylums. Lunatics in asylums in Ireland increased from 8,587 in 1875 to 12,383 in 1889, but this increase they do not regard as an increase of mental disease, but rather that it is due to the sending of persons to asylums who would not be sent under other circumstances. As to taxation, the commissioners think that the maintenance of the poor and of the insane ought to fall on one and the same tax.

LUNATIC ASYLUMS, IRELAND: ANNUAL REPORT.

The fortieth report shows that of the 16,251 patients mentally affected on January 1st last, 11,488 were located in district asylums,

3,961 in workhouses, 621 in private asylums, 2 in gaols, and 179 in the Central Criminal Asylum. As contrasted with the number of the insane on January 1st, 1890, there has been an increase of 225. This summary does not include the number of insane in private dwellings, or wandering at large. Of the 11,488 under treatment in district asylums, 3,095 were admitted during the year. Of these, 2 451 were first admissions, while the remainder (644) had been under restraint previously. The discharged amounted to 1,849, of whom 1,255 had recovered, while 480 were relieved, and 114 not improved. The deaths were 936 in number, giving a percentage of 8·2, which is somewhat higher than the past few years, consumption being the disease which proved most fatal, accounting for 255 of the total deaths in district asylums, or a percentage of 27·2. The inspectors call attention to the few *post-mortem* examinations held by medical officers, and they state that with the exception of the Richmond Asylum they are hardly known. The importance of these investigations cannot be too strongly urged, tending as they do (1) to protect the insane, since by them any injuries inflicted during life may be discovered; (2) to safeguard the asylum staffs, preventing after-accusations of ill-treatment being brought forward; and (3) to advance our knowledge of brain disease, and afford the means to the medical officers of asylums for the study of pathology. In reference to the physical causes of the mental diseases in the inmates of district asylums, 251 were attributed to intemperance in drink, 617 to hereditary influences, 155 to bodily diseases, and 36 to sunstroke, out of a total of 2,535; while 560 were due to moral causes. The average cost per head on the total expenditure was £22 7s. 8d.

THE FRENCH LUNACY LAW.

The reform of the existing law relating to lunacy in France has been for some time before the Chamber of Deputies, but from the opinion expressed by the Congress of Alienists recently held at Lyons it would appear that at any rate that section of the medical profession which is particularly concerned with the administration of the law is on the whole satisfied with the present state of things. At the last meeting of the congress the following resolution was passed unanimously: "The members of the Congress of Alienists at Lyons, being of opinion that the law of 1838, which has been in daily application for the last fifty years, meets the wants of patients, and has only given rise to abuses extremely few in number and of very questionable genuineness, express the hope that the law of

1838, subject to certain improvements in its details, may be maintained in its general provisions."

SUICIDES OF SCHOOL CHILDREN IN GERMANY.

During the last eight years, 289 school children committed suicide in Germany; of these 49 were girls. The causes assigned were, fear of punishment, 80; mental disease, 26; morbid ambition, 19; fear of examination, 16; practical joking, 7; disappointed love, 5. In view of the severe educational *régime* which obtains in the fatherland, this record scarcely comes as a surprise. It is a terrible indictment against "over-pressure," the effects of which can scarcely be expected to be limited to those hapless children who are driven to destroy themselves.

THE RIGHTS OF AN UNBORN INFANT.

One of the most curious questions that has ever come before a court of justice was that of *Walker v. Great Northern Railway*, which recently occupied the attention of the Queen's Bench Division, Dublin. The plaintiff was a passenger in an excursion train that was wrecked in 1889 at Armagh, and was *enceinte*, the child being born deformed. She alleges that the child which she was carrying at the time of the accident was injured, and as a result born deformed. The railway company, by counsel, demurred, alleging that an unborn child had no right of action or interest to recover damages for personal injuries. The plaintiff's case was lost, the demurrer being allowed. It may be mentioned that a sum of £800 had already been given to the mother by the company, as a compensation for injuries received by her.

CREMATION.

Cremation is coming more and more into favour in Germany. In addition to the crematorium which has been in operation at Gotha since 1877, and where from five to six hundred bodies are now burnt every year, and another which was recently established at Hamburg, a new one was consecrated at Ohlsdorf on August 22nd. Another will be opened at Carlsruhe in October.

THE EFFECT OF EXPLOSION PRODUCTS ON THE SYSTEM.

As little or nothing has previously been written on this subject, Dr. Thomas Darlington's remarks (*Medical Record*, Dec. 13, 1890) may be received with some interest, being the result of five years'

experience in mining districts, where explosives, such as dynamite and nitro-glycerine are in constant use. Two classes of cases were observed:—First, where a considerable quantity of the products was inhaled at one time—acute cases; secondly, where the men constantly breathed a small amount—chronic cases. The acute cases varied according to the amount inhaled. In cases where a small amount is inhaled, the men being then placed beyond its influence, the results are as follows:—Giddiness, a trembling sensation, flushing of the face, succeeded sometimes by pallor, frequently nausea, sometimes vomiting, with throbbing through the temples and fulness in the head, as if it would burst, followed by an intense headache characteristic of poisoning by nitrites—similar to that of nitrite of amyl—only not so violent, but more persistent, frequently lasting forty-eight hours. The heart's action is increased, and the pulse full and round, though somewhat compressible. Where the toxic effect is considerable, the giddiness is followed immediately by unconsciousness, the patient presenting appearances of asphyxia. The coma soon passes off, and is succeeded by drowsiness, languor, cold sweats, intermittent pulse, and often nausea and vomiting. Frequently there is hiccough and severe headache. Such are the symptoms of acute poisoning. Nearly all these cases seem to recover. Two fatal cases are noted, where death was due to paralysis of respiration. Chronic cases present four prominent symptoms—headache, cough, indigestion, and disturbances of the nervous system, but the first three are in reality the outcome of the fourth. Rapid improvement takes place if the men affected with it get to work on top. Attention is drawn to the fact that, while the products of dynamite explosions are water, carbonic acid gas, nitrogen di-oxide, none of the symptoms described, save asphyxia, are those which might be expected of those compounds. Cases, however, are cited where small portions of dynamite having been swallowed accidentally, the toxic symptoms which followed corresponded with those above enumerated, as due to the explosion-products. From this Dr. Darlington infers that suspended in the air, after an explosion, there are certain particles of the explosive material in a volatile state, which are inhaled and subsequently absorbed in the lung. With regard to treatment, as a preventive, the use of such apparatus or machinery, whether by blowing or by sucking, that will rapidly clear the tunnel or cavity from noxious gases or fumes, is recommended. Of course, such measures as are generally used in cases of asphyxia, are of service. But in addition

to these, the use of cold to the head, and of atropin, ergotin, or other vaso-motor stimulants, administered subcutaneously, are of necessity indicated and exceedingly efficacious. Special stress is laid on the use of ammonia, both as an inhalant and as an internal remedy, and it is suggested that workmen in mines should invariably carry with them small vials of this drug.

ARSENIC AS A DOMESTIC POISON.

Dr. J. J. Putnam, in a paper read before the Massachusetts Medical Society (*Boston Med. and Surg. Journ.*, June 25th), urges the importance of this subject. His first point is that the actual absorption of arsenic in consequence of the exposures of daily life is extremely common. He caused the urine of a number of his hospital out-patients to be examined, some of whom presented symptoms which might possibly have been due to arsenical poisoning, though they were not characteristic of it, whilst others were selected as not presenting such symptoms. Of more than 150 such cases, arsenic was found in the urine in about 30 per cent. This would indicate a very widespread exposure on the part of the community at large, as of many of these patients it could be positively stated that they had taken no arsenic as medicine, and it may further be stated that the discovery of arsenic in the urine does not prove that a given patient's symptoms are of arsenical origin. The next point is that arsenic accumulates in the tissues, so that the elimination of a certain quantity implies the presence of a far larger quantity in the body. The daily elimination represents only a small fraction of that present in the body, and arsenic has been discovered in the bones and liver six months after the cessation of medicinal treatment; it is, therefore, not rapidly eliminated from the body. Clinically Dr. Putnam divides cases of poisoning into three groups: those where arsenic causes acute irritation of the mucous membrane without necessarily being present in the tissues in any large quantity; those where the accumulated arsenic exerts all at once a poisonous action; and those where simple disorders of the general or local nutrition are gradually set up through the action of minute and repeated doses. Under this head he deals chiefly with neuritis, and he points out that paralysis is only the final and gross symptom of a neuritis which may have been going on for a long time. The next point is that poisoning is liable to occur during the therapeutic use of arsenic; here he particularly warns against the dangers that may arise in those who are peculiarly susceptible to arsenic, in whom ordinary doses

may prove highly dangerous. The exact mode in which the poison enters the body—that is, whether in the gaseous form or not—is still uncertain.

DEATH UNDER METHYLENE.

The *Brit. Med. Journ.* quotes the following paragraph from the *St. James's Gazette* of September 1st:—

“*Death while under Chloroform. (Sic):*—An inquest was held at Carlisle yesterday, by Mr. John Hewetson Brown, city coroner, on Mrs. Margaret Oxley, 27 years of age, wife of a waggon inspector on the Caledonian Railway, who died on Saturday while under the influence of an anæsthetic. The deceased went on Saturday afternoon by appointment to Mr. Parker, chemist and dental surgeon, to have her teeth extracted. Her husband accompanied her, and by arrangement Mr. Parker, before performing the extractions, proceeded to administer 3 drachms of methylene, a preparation of chloroform (*sic*), which he had administered with success in thousands of cases before, and even double the dose used in this case. The patient had not taken more than half a dozen inspirations when she moaned and fainted. Mr. Parker, finding her pulse failing, used restoratives, but without success. Medical assistance was sent for and artificial respiration tried, but the woman never regained consciousness, and died within half an hour. The *post-mortem* examination showed that the heart was healthy, and that death resulted from asphyxia. The jury returned a verdict of ‘Death while under the influence of methylene, properly administered by a qualified dentist surgeon,’ who, along with his assistant, was acquitted of blame.”

It will be seen that there are one or two peculiarities in this statement. In the first place methylene is spoken of as a preparation of chloroform, and then it is stated that Mr. Parker had administered it with success in thousands of cases before. This is rather a remarkable statement considering the locality, and the position which he holds. On referring to the *Dentists' Register* for 1890 we find the entry against Mr. Parker's name to be as follows: “Parker, William, 1 Warwick Street, Carlisle. *Date of Registration* 1878 December 31st. *Description and Date of Qualification:* In practice before July 22nd, 1878.” We are not aware of anything in the Dentists Act which authorises a gentleman registered under the Act, in virtue of his having been in practice before July 22nd, 1878, to describe himself, or to cause himself to be described, as a dentist

surgeon, and perhaps under the circumstances some further explanation will be forthcoming.

A "PERFECTLY HARMLESS" POWDER.

An inquest was recently held by the deputy coroner for East Surrey on the body of an infant, aged 11 weeks, who died from vomiting and diarrhœa following the administration of a powder by a chemist. As usual the chemist attended and swore that the powders in question were perfectly harmless, consisting only of one grain of calomel and a little jalap. The administration by a medical man of so enormous a dose to an infant of such tender age would, if followed by death, certainly deserve a verdict of manslaughter, but then, as is well known, it is only qualified practitioners who may not kill people with impunity under pretence of treating their ailments. We cannot but think that there must be some other way in which the folly of his conduct may be permanently impressed upon the chemist than the very slight scare (if any) occasioned by the coroner's inquest.—*British Medical Journal*, August 15th, 1891.

POISONING BY TINNED SALMON.

With regard to the cases of irritant poisoning after eating tinned salmon, which were referred to in the *British Medical Journal* of July 11th, 1891, p. 84, Dr. C. Stormont Murray, of Gloucester Place, thus writes :—"On June 28th, 12 A.M., I was summoned to a house in the neighbourhood with a message that a whole family had been poisoned. On my arrival I found six persons in bed—a lad aged 12 years (since deceased), three daughters, and mother, and the cook. I ascertained that the patients had all partaken of tinned salmon for supper on the previous evening, and were seized towards early morning with violent pains in the stomach, sickness, and headache, with profuse diarrhœa. The daughters were apparently in great pain, with temperature varying from 102° to 103°; pupils dilated; tongue dry, and of a brownish colour; intense thirst, and violent diarrhœa; the pulse rising from 110 to 160, respirations quick. The mother also complained in a similar manner, but with not quite such severe pain; she seemed to have recovered a little. I found the lad in a semi-unconscious and very collapsed condition, with temperature 104°; pulse almost imperceptible; respirations very quick; skin cold and clammy; pupils widely dilated, and very restless; in fact in

a dying condition, fæces and urine being passed unconsciously. Dr. Barlow kindly met me in consultation, and we agreed that it was a case of poisoning, presumably from the salmon. In spite of all that could be done, after getting more restless, he gradually sank, and died at 3 o'clock next day. At the necropsy all the organs were healthy, except the brain, which was very congested on the surface; and the stomach, which was found to be in a highly inflamed condition, as were also portions of the intestines, one piece of which was inflamed to such an extent as to be almost in a gangrenous state. Dr. Luff, who kindly made an analysis of the above, reports that the stomach was highly inflamed, as if it had either been inflamed or attacked by some irritant substance previous to death. The intestines also were in a very inflamed condition, but he could not find any trace of any animal or mineral poison in either of the viscera. He examined very carefully the solder round the tin, and found it in a perfect condition, and a specimen of salmon similar to that which was supposed to have caused the mischief; this he found quite fresh, and in good condition, and absolutely free from any poison that could be detected. All the remaining members of the family have recovered. Altogether, the symptoms pointed to irritant poisoning, and in the absence of any metallic poison being detected, the only explanation that can be offered is that death occurred from the presence of ptomaines."

POISONING BY IMPURE HYDROGEN GAS USED FOR INFLATING BALLOONS.

Dr. P. Oulmont (*La Méd. Moderne*, Dec. 4, 1890) has been unable to find in toxicological literature any record of similar cases, and deems it advisable to call attention to a danger run by aéronauts which has not hitherto apparently been dwelt upon. The first case was that of a man, aged twenty-two, who made an ascent in a balloon on the evening of June 29, 1890. He descended again in half-an-hour, and, about an hour and a-half later, he felt ill, vomited, and lost consciousness. A doctor, who was called to see him on July 2nd, found him in a state of prostration, and presenting a typhoid aspect. He had vomited incessantly since the onset of the illness; he suffered from violent headache, and his face was cyanosed. The mucous membranes and soft palate were of a deep yellow colour. Pulse thready. He had passed no urine since the onset of his illness. About an ounce of dark, bloody urine was drawn off. Bowels constipated. Enemata brought away dark, blood-stained

evacuations. The symptoms continued much the same till July 5, when he died. Inquiry proved that this man's head was close to the escape-valve of the balloon, and that during the voyage he had inspired a good deal of gas. The second case was that of a man, aged twenty-six years, who had assisted in securing the balloon, referred to in the first case, after its descent. He got caught beneath the balloon, and for a time inhaled the gas which was escaping freely from the valve. The gas had a strong smell, which made him feel ill, but he started to return home on foot. He was obliged, however, to rest several times, feeling a great sense of fatigue and a difficulty of breathing. From this time on till the 7th of July, when he died, he suffered from marked dyspnœa and prostration. There was almost complete suppression of urine. A little bloody urine was passed, and the stools contained blood. The skin presented a pale yellow tint. The conjunctivæ were yellow. The pulse was thready, and there was some delirium. An autopsy was obtained in this case, and the principal lesions were found in the kidneys, which were acutely inflamed and studded with ecchymoses. As to the nature of the gas used in the balloon, M. Oulmont ascertained that the balloon was not filled with ordinary coal-gas, but with hydrogen which was manufactured by the action of hydrochloric acid on zinc. Now, the zinc of commerce is known to contain lead and small quantities of arsenic and sulphur. Pure zinc is indeed inconvenient from an industrial point of view, for it retains on its surface the minute bubbles of hydrogen, which after a time prevent the contact of the acid with the metal. The gas, therefore, when first prepared, contains traces of sulphuretted hydrogen and of arseniuretted hydrogen. The latter gas is known to be extremely poisonous. The chemist Gehlen met with his death through merely smelling an apparatus in which he was making this gas. Sulphuretted hydrogen, though toxic, is much less so. According to Parent-Duchâtelet, a man can breathe without danger an atmosphere containing one per cent. of sulphuretted hydrogen. On the other hand, pure hydrogen gas is not poisonous. It may be therefore, concluded that the death of these patients was caused by the arseniuretted hydrogen present in the gas. It follows that careful purification of the hydrogen gas employed to inflate balloons is desirable.