

the Census Report that "the diminution in the number of prisoners is attributable partly to the falling off of the numbers of the criminal classes and partly to the substitution of other forms of punishment for imprisonment in cases of petty offences." There is, moreover, no ground for Mr. Morrison's statement that he has "shown in *The Times*, in opposition to the Registrar-General," that between 1881 and 1891 the average length of sentences has been reduced by about 24 per cent. The statistics given in the "Judicial Statistics" do not afford the means for correctly calculating the average length of sentences of imprisonment in 1881 and in 1891. Moreover, the method adopted by Mr. Morrison for arriving at this conclusion is fallacious on many grounds—among others, because it is based upon the misleading "commitment" figures, and because it assumes that the reduction of the prison population is solely due to the reduction of "commitments" and to the reduction of sentences of imprisonment. This assumption is the more unwarrantable because it ignores the possibility of any effect from the reduction in the numbers of the criminal classes.

THE KNEE-JERK IN DIABETES.

In a recent number of the *Neurologisches Centralblatt* Dr. Karl Grube has published an interesting communication on this subject. Bouchard, in 1882, was the first to call attention to the absence of the knee-jerk in diabetes, and his work, published in 1884, was followed by an account of the investigations of numerous observers, who found the phenomenon absent in a varying percentage of the cases examined. Thus Bouchard himself found it absent in 36.9 per cent., Auerbach in from 35 to 40 per cent., Eichhorst in 20.9 per cent., Marie and Guinon in 37.5 per cent., Nevier in 40 per cent., and Williamson in 50 per cent. As regards the prognostic value of the absence of the knee-jerk in diabetes, different observers have held different views, some attaching a grave importance to its absence, others looking upon it as being without special significance. Dr. Grube has observed the condition of the knee-jerk in 187 cases of diabetes mellitus, and his conclusions differ from those of most previous observers. In the first place, he puts altogether on one side 56 of his cases, as he only had an opportunity of examining them once. He does not, therefore, regard the results as sufficiently certain and definite to adduce in reference to the question at issue. In the remaining 131 cases he had opportunities of making repeated examinations. To elicit the phenomenon the method introduced by Dr. Buzzard was usually employed as being satisfactory and at the same time admirably suited for the examination in private practice. This method consists in placing the leg at an obtuse angle with the thigh, when by striking on the tendon through the clothes and without any exposure a knee-jerk is easily obtained and the slightest contraction of the quadriceps extensor is felt by placing the hand on the thigh above the knee. Jendrassik's method of so-called reinforcement was also used. Among the 131 cases, 113 patients exhibited a normal condition of the knee-jerk and 5 an increased activity. In 3 of these 5 patients the condition is said to have been one, not of diabetes, but of glycosuria in neurasthenics, and the increase is ascribed to the neurotic condition. Amongst the 113 cases in which the knee-jerk was normal 9 were those of the most severe form of diabetes, and in some of them there was a notable increase in its activity during severe but temporary weakness, the increase disappearing when the temporary feebleness had passed off. In another of these 9 cases the phenomenon was normal and remained so during the diabetic coma in which the patient died. This agrees with Williamson's observations, who found that in 3 cases of diabetic coma the knee-jerk was present up to the last, while, on the other hand, Bouchard and Rosenstein found the knee-jerk absent in similar conditions.

In another of the 9 cases one knee-jerk was exaggerated, while the other could not be elicited. Among the 13 cases in which it was absent 4 were cases of severe diabetes, and in 1 there was evidence of profound neuritis—viz., atrophy and trophic disturbances in the limbs. Nine of the cases in which absence was noted were cases of slight diabetes, but 2 of these were complicated with tabes, while in a third there was so much adiposity that it could not be positively ascertained that the loss was not on account of this. In another of the cases a slight knee-jerk could be found on the left side, but none at all on the right, so that the number of cases out of 131, in which the knee-jerk was absent associated with diabetes alone, was only 10, or a percentage of 7.6. Dr. Grube agrees with Rosenstein that the symptom has no prognostic significance. It will be seen that the results of this investigation are very different from those obtained by other observers. The percentage of cases in which the knee-jerk was absent was extremely low, and the number of cases investigated was certainly sufficiently large to furnish a fair test. We confess that it would be satisfactory to know more of the character of the cases. All that we are told about them is that they were slight or severe, and this, we presume, has reference to the amount of sugar excreted; but there are other points in reference to cases of so-called diabetes which are important with reference to such an investigation as is here dealt with. There is now recognised a large class of cases of what is correctly if guardedly called glycosuria, occurring more especially in gouty subjects, and signalised by the temporary presence of sugar in the urine. These cases differ very materially in character and course from the severe constitutional affection universally recognised as diabetes mellitus, characterised as it is by polyuria, glycosuria, great weakness, and the inevitable lapse into coma and death. It is in the direction of a separation of his cases into two such classes that we would look for further particulars from Dr. Grube. It may be that the absence of the knee-jerk in glycosuria may be found only in such cases as are likely to be associated with neuritis. The fact that in apparently two of Dr. Grube's cases the knee-jerk was absent on one side and present on the other is strongly suggestive of a local process and not a blood state as the cause of the absence; and, on the other hand, such particulars as we have referred to may give us some indication of the class of cases in which neuritic phenomena may be looked for.

SCURVY IN CHILDREN.

IN the February number of the *Practitioner* there is published an article on scurvy in children by Dr. George A. Sutherland. The first article on this disease which attracted attention in this country was by Dr. W. B. Cheadle, and appeared in THE LANCET of Nov. 16th, 1878, and this was followed by the pathological work of Dr. Barlow a few years later, from which it was clear that the cases described as "acute rickets" were really cases in which scurvy and rickets were combined. In considering the etiology of the disease Dr. Sutherland shows its intimate dependence upon unsuitable food, and ascribes its greater frequency in the last few years to the much more common use of proprietary infants' foods, largely starchy in composition, as substitutes for milk; and he clearly proves, from a study of published cases, that an overwhelming proportion of cases occur during the two first years of life. The signs and symptoms of scurvy in children are then described. There is at first a general condition of anæmia, the so-called "scorbutic cachexia," and, associated with it, debility and listlessness, gradually going on to complete apathy, alternating, it may be, with fretfulness and irritability. The gums are at first pale, then red and swollen, and, it may be, ulcerated; the limbs may lose their power and be very painful, this being a result of subperiosteal hæmorrhage; the eyes also may be affected, the

lids becoming œdematous and the balls pushed forward, the result also, as pointed out especially by Mr. Holmes Spicer, of similar hæmorrhage. In some cases blood is found in the urine. The skin may be harsh, dry, or œdematous, and subcutaneous hæmorrhages are frequent, while muscular pains from extravasation into the muscles are not uncommon. Epistaxis also occurs and there may be bleeding from the stomach, bowels, or lungs. The serous cavities may have blood in them, and sudden death from syncope constitutes a grave danger. The appearances found in children who die from the disorder are such as are indicated by the symptoms. Hæmorrhages under the periosteum of the long bones is one of the commonest conditions, and in the brain hæmatoma of the dura mater may be met with, or extensive cortical and subcortical hæmorrhages. Dr. Sutherland is inclined to think that intra-cranial hæmorrhage in children is more frequently a result of scurvy than has been supposed, and he thinks that too often it has been regarded as, in itself sufficient proof of syphilis, when a closer examination would have shown that it was more probably scorbutic. The treatment, of course, will be dietetic, and will be largely determined by the age of the child. Fresh milk, vegetables, and fruit juice are usually sufficient to get rid of the condition, and of course proper dietary will prevent its occurrence. The paper is an important one and sums up our knowledge of an interesting and probably not uncommon disease in children, whilst it directs attention to several points both in its symptomatology and morbid anatomy which have not hitherto been sufficiently noticed. It will be seen that Dr. Sutherland's views coincide with absolute exactness with those of Dr. Railton as expressed in his article on scurvy rickets published in THE LANCET of March 3rd. Dr. Railton also traced the occurrence of the disease to the common use of proprietary foods, and expressed surprise that so few children suffering from rickets show symptoms of scurvy.

DEATHS UNDER CHLOROFORM.

OF recent fatalities under anæsthetics the following are cases which are especially important from the lessons they suggest. In every instance an operation upon the upper air passage was about to be performed, in the first case a polypus nasi had to be taken away; in the second post-nasal adenoid growths were to be removed; and, in the third, a baby of eleven weeks was undergoing the surgical manipulation necessary for the cure of "hare-lip." In such cases it is usual to give chloroform, although a recent debate in the Society of Anæsthetists show that many English anæsthetists are in favour of some modification of the hard-and-fast rule of selecting chloroform in every case of operation upon the oral or oro-nasal cavities. In America, also, ether is largely employed for such cases. In England many prefer the A. C. E. and other mixtures. The advantages that chloroform offers are many and manifest; the patient remains under its influence longer after the lint, towel, or mask is removed; it can be given through a tube, which, introduced into the mouth or nostril, occupies little space and renders hurry in the performance of the operation unnecessary. Should the actual or Paquelin's cautery be required, no fear of explosion exists, while hæmorrhage is probably lessened by the use of the chloroform, owing to the reduction in blood pressure which accompanies its use. On the other hand there are risks which appear to be due to the very properties of this anæsthetic which commend its use in such cases. The profoundness of the narcosis, which is really the reason why a patient having inhaled for a time can be permitted to breathe air without any fresh anæsthetic, increases the risk of blood entering the lungs—a danger which led to the death of the infant in one of the cases under review—while the lessened hæmorrhage is obtained at the cost of an increased shock to the system,

a shock which we are told caused the death of the child in the second case narrated below. In the first case, a married woman was given chloroform in the Coventry and Warwickshire Hospital with a view to the removal of a nasal polypus. She, on the commencement of chloroformisation became very violent, and was held down by four persons. At the inquest the husband of the patient complained that the operation was entered upon too hurriedly, but no evidence of this appeared, and as a matter of fact the patient appears to have died before any operation could be performed. The death was ascribed to heart failure. As has been pointed out by Snow and others, excitement and struggling during the inceptive stages of chloroformisation are of peculiar significance. It is often said that the patients die from the strain imposed upon their hearts by the powerful and almost spasmodic contractions of the thoracic muscles; but as the analysis of Snow's collected cases appears to demonstrate, most, if not all, the deaths are due to either too free an ingestion of chloroform-laden air occasioned by the forced respiratory movements during struggling, or to an insufficiently diluted vapour inspired under kindred conditions. Surgeon-Lieutenant-Colonel Lawrie has also called attention to the dangers of allowing a patient to continue to inhale chloroform during struggling. In the second case, a child aged seven years had had tonsillotomy performed, but as there was further obstruction (due to post-nasal adenoid growths) she was submitted to chloroform by the house physician at the Radcliffe Infirmary, Oxford, while the house surgeon rapidly operated. There was much bleeding, as usually occurs with these operations. Respiration was impaired, and the patient lost her colour. The trachea was opened and artificial respiration performed, but the child never recovered. There was no blood in the respiratory passages. The death was believed to be due to "shock on a delicate constitution." There have been several almost identical cases to this one, and the shock of the operation (due to the profuse, although momentary, loss of blood) doubtless does play a considerable part in the matter, especially when the child is further depressed by the chloroform and the mechanical interference with respiration which must take place during the performance of the operation. We have already referred to the third case. An infant aged eleven months, whilst under chloroform, had a hare-lip operated upon, and died from suffocation. The post-mortem appearances showed that during the operation the blood had trickled into the trachea and blocked the lungs. There is always a grave danger of this unless a very light anæsthesia is maintained and a sponge kept behind the lip. In no case should the "cough reflex" be abolished in such cases.

THE DIAGNOSIS OF TYPHUS FEVER.

AT a special monthly meeting of the City Council at Liverpool on Thursday, March 8th, their deputy town clerk read a report from Dr. Hope, the medical officer of health for Liverpool City and Port, upon an outbreak of typhus fever which had recently occurred in the city. The story of the spread of the disease, as set out in this report, is exceedingly instructive. On Sept. 26th last the wife of a plumber named Banks died at 9, Vipond-street, the cause of death being stated to be pleurisy. On Oct. 18th a member of her family was removed to hospital suffering from typhus fever; and on Oct. 25th another person, named Devonport, living in the same house, was notified to be suffering from enteric fever. She refused to go to the hospital. On Nov. 3rd four persons belonging to the Banks and Devonport families, together with the woman Devonport, were found all to be suffering from typhus fever, and they were removed to the Netherfield-road Hospital. The Banks family subsequently went to reside with a family named