The importance of syphilis as the causative factor in these cases cannot we think be disregarded. We would go further, and state our belief that the sole cause in many cases of interstitial nephritis in children is the syphilitic poison.

Nor does the importance of this question of etiology cease with these cases occurring in childhood.

The early changes in the granular kidney of adults are still speculative and the cause obscure. We are in accord with Dr. Guthrie when he suggests that hereditary and acquired syphilis may account for many of these cases also. It is possible, and we believe probable, that many cases such as those we have described have been passed over in the *post-mortem* room. For although in one of the kidneys of the first case the changes were very striking to the naked eye, yet in the other kidney they were but slight, while in the second case only at one part of the left kidney was there any change likely to arrest the attention, and this did not by any means lead one to expect the extensive infiltration revealed by the microscope. Moreover we read that in two of the cases described (those of Coupland and Ströbe) the kidneys showed no changes to the naked eye.

We would therefore submit that syphilis plays a more important and frequent rôle in the etiology of nephritis in childhood, and perhaps also of adult life, than has hitherto been recognized.

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KNOCK-OUT BLOWS.

By JAMES GRAY DUNCANSON, M.B., C.M.,
Shooter's Hill.

I THINK medical men are somewhat tardy in considering those accidents which are directly related to sport; by so doing they are causing themselves to be ignored by many in the athletic world to the benefit of the quack and the bonesetter. Of late twopenny monthly papers of mushroom growth have sprung up, professedly devoted to physical culture; they often contain wholesale condemnation of the medical profession and all its science and art; by their efforts they are leading many of the ignorant and unwary into the hands of the charlatan.

During the last few years boxing has in this country received a marked stimulus, and is recognized by civil, military, and other authorities as a sport requiring courage, strength, and self-control, with resource and endurance, therefore deserving all encouragement.

A general impression prevails that there is only one blow—that on the point of the jaw (dealt with in a paper by me published in the BRITISH MEDICAL JOURNAL of April 4th)—which constitutes the knock-out blow. This is an error. There are a number of places more or less easily defined in area, on the head and body, which are specially vulnerable, and although the danger is minimized to a great extent owing to the increased area covered by a boxing-glove, which may weigh from 2 oz. to 6 oz. or more, as compared with the naked fist, still a dangerous and even fatal blow may be delivered with the gloved hand. I will briefly enumerate the different dangerous points, and shortly describe the effects of a heavy blow on each.

The temple appears to be a particularly vulnerable part of the head, and in the days of bare knuckles a blow upon it was frequently attended by serious results. Fracture has occurred, but the lesion now produced is usually laceration of the brain substance, with hæmorrhage, as was shown in a necropsy some time ago, on a boxer killed in the ring. The blow on the angle of the jaw is usually directed upwards and a little backwards; this forces the condyle of the lower jaw into the glenoid fossa of the temporal bone, causing severe concussion and even fracture of the base of the skull.

A swinging short-arm blow delivered on the ear may cause rupture of the membrana tympani, dizziness, and collapse, followed by sickness; on examination, air is found to pass through the rent with a hissing sound which may be heard at a distance from the man; recovery is slow, but may be

perfect. One case I observed was in a bandsman of the 10th Hussars; he had received a blow such as I describe, paid no attention to it till next day; when he came to blow a cornet he was amazed by the hissing in his ear. The blow on the point of the jaw is the one most frequently attempted; the symptoms produced and their explanation I had the opportunity of bringing before the profession in a previous number of the BRITISH MEDICAL JOURNAL. A dangerous blow may be delivered on the neck if, when the head is thrown back, the side of the neck being exposed, the gloved hand be driven forcibly on a spot midway between the angle of the jaw and the sterno-clavicular articulation (the carotid hit); another point is just on the larynx or hyoid bone. The danger in these blows lies in the concussion conveyed through the large and important nerve trunks which run down the neck. The hit on the larynx if given with the ungloved fist may cause instant death, due no doubt to irritation of the laryngeals and their connexions.

Blows on the body must be above the belt, which is placed about the level of the umbilicus. A severe blow delivered on the chest wall about the region of the heart may cause syncope and death. The agony is great, and very easily disables the man from taking further part in the contest. To have the worst results manifested, the muscles of the chest walls must be relaxed at the moment of contact, and the lungs in the condition of partial or full expiration; this allows the force applied to be brought almost directly to the heart wall itself, without the intervention of the elastic framework which is formed when the lungs are full of air and the intercostal and chest muscles braced up. Diaphragmatic blows are not as a rule so dangerous to life, as the shock produced is of a more transient character. There is collapse, with difficulty in getting breath and sometimes unconsciousness. Brisk rubbing is the most satisfactory treatment, warmth externally and, if necessary, stimulants. Blows over the kidneys are still I think inadvisedly admitted as fair, they are delivered with a swing, when the opponent is half turned, his side undefended and exposed. Great shock results, due, no doubt, to the intimate relationship of the kidney nerve supply with that of the sympathetic and central nervous systems. The pain is severe, and there may be hæmorrhage, with or without rupture of the capsule. In the old-time fighting with the bare knuckles the blow was most dangerous; great agony and even loss of life attended it.

The blow on the mark is a most dangerous one, and severe in its immediate and after-effects; in one memorable fight the man who lost the contest through being struck this blow was never the same again.

Captain Edgeworth Johnstone says in his book on *Boxing*, page 142: "The most dangerous and infinitely painful form of 'knock out' is that which is accomplished by a left hand hook on the mark." The popular idea is that it knocks the wind out of the body and thus produces painful gaspings for breath. The man struck falls to the ground, doubled up and gasping, he turns intensely pallid, face becomes drawn, he may vomit, strives perhaps to regain his feet, wriggles round and sinks back again, occasionally loses consciousness altogether, pulse weak and irregular, cold sweat breaks out on the face and body, shock is profound, nervous prostration pronounced and lasting, recovery slow and sometimes incomplete. The specially sensitive area on the abdominal wall termed the "mark," is the size of the palm of the hand, and corresponds with the centre of a triangle formed by the xiphisternal articulation above and a line joining the bony ends of the seventh ribs below; behind this lies the pyloric end of the stomach. We all know that injuries to, and operations on, the stomach are attended by more shock than is the case with almost any of the other abdominal organs. Edgeworth Johnstone says "the effects are due to irritation of the pneumogastric setting up cardiac failure." When we consider the nerve supply to the skin of this region and to the structures and organs beneath we readily come to a just explanation. The skin and muscles (recti) are connected by the lower dorsal nerves and splanchnics with the solar plexus which is related to the vagi in a ganglionic arrangement in the stomach walls (Auerbach); the intercostals and diaphragm likewise receive their nerve energy from a similar source. Thus we have a more complicated physiological condition of affairs than at first sight appears. The pugilist talks of a "knock-out blow on the solar plexus"; this is an impossibility, the stomach is

really the organ which receives the shock after the skin and muscles, and from it the nervous disturbance originates. The vagi are powerfully affected along with the sympathetic and the great solar plexus; a sudden fall of blood pressure ensues, probably due in part to a dilatation of all the abdominal blood vessels, with a direct disturbance of the cardiac, respiratory and even the higher centres.

Unfortunately, as happens in all forms of competitive sport, accidents occur, and in a few cases these have been attended with fatal results. The cause of death may be direct or indirect; fracture of the skull, laceration of the brain substance with haemorrhage, rupture of some of the large viscera, or shock without any definite external or internal lesion. This last is interesting, and has not been considered so far as I know. A man, perhaps of weak constitution, has trained and reduced his weight and brought himself to a state of extreme fineness, probably staleness. He has sapped his nervous energy. He enters on a prolonged contest of, say, twenty rounds; blow after blow is struck; he exerts himself to the utmost and fights vigorously; a round is at last reached when he begins to give way; he is now reduced to his last scrap of energy; a sharp punch lands on some vital spot, it may be jaw, heart, or stomach; Nature is done, the man collapses, becomes unconscious, the pulse weakens, and he dies some hours later. He is a victim to what Sir Lauder Brunton has termed the "summation of stimuli."

When a man is knocked out and does not speedily rally, the first treatment is to get him away as soon as possible from his surroundings, well wrapped up in warm blankets, and put to bed; stimulants should be administered, and strychnine hypodermically if necessary. As he comes round, the fact of his defeat should be carefully withheld from him. Of course, when some more serious lesion exists, such as fracture of the skull, the treatment must be conducted on the recognized surgical lines.

These are only blows which may occur in boxing under Queensberry rules, and no mention is made of foul blows, nor of those dangerous blows resorted to in *la Savate*, nor of those secret blows and holds with a scientific knowledge of which the Japanese are credited.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

A POSSIBLE USE OF THE ANTRA, FRONTAL SINUSES, ETC.

I do not remember having read anywhere that the large cavities situated in the front and lower part of the head not only by their presence lighten it, but actually help to support it, and take the strain off the ligamentum nuchae and the muscles of the neck, but I venture to suggest that this is so. These cavities, including the frontal, sphenoid, ethmoid, and nasal sinuses, together with the antra and the top of the pharynx, are filled with air which is considerably warmer than the outside atmosphere and therefore much lighter. When we consider the great extent of these cavities I think we must admit that being filled with lighter air they must at any rate reduce the weight of the head in some degree. I have seen a balloon inflated with heated air (not gas) rise from the ground with a heavy car attached, and I cannot help thinking that the warm air in the cavities above mentioned plays a part which, as far as I can ascertain, has been overlooked.

Leytonstone.

ARTHUR TODD-WHITE.

IS IT NECESSARY TO TIE IN THE CATHETER IN WHEELHOUSE'S OPERATION?

I HAVE recently had occasion to perform this operation on three cases.

In the first two a No. 12 catheter was tied in for four days, as recommended in the textbooks, and the urine conducted away through an indiarubber tube.

As great discomfort was occasioned by the tied-in catheter I discontinued its use in the third case.

The operation was completed in the usual way, and the perineum plugged with a mass of cotton wool. For the first day urination took place into a bedpan. For the next five days the patient sat in a hot hip bath three times, and passed urine in it. On the sixth day, under nitrous oxide, a No. 12 bulbous-pointed sound was passed with the greatest ease. Subsequently to this $\frac{1}{2}$ gr. of cocaine dissolved in a couple of

drachms of water was injected into the urethra, and a sound passed daily without the slightest pain. I think the use of gas on the sixth day was unnecessary, and that cocaine would have sufficed. The hot baths were continued until the wound had practically healed.

The great diminution in the amount of discomfort occasioned to the third man, as compared with the other two, was most marked.

One cannot expect to get a growth of granulation tissue round the catheter in four days sufficient to form a continuous urethra, and one cannot therefore see the necessity for the continuous presence of the catheter. With a free perineal opening there can, of course, be no fear of extravasation of urine.

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F. J. W. PORTER, Major S.A.C.

SYPHILITIC PARALYSIS.

A PROPOS of the delightful lecture in the BRITISH MEDICAL JOURNAL of April 4th, p. 773, by Sir William Gowers, as also the recent discussion on the same subject before the British Medical Association, the following brief notes of a case may not be uninteresting:—

A. B., aged 27, had retention of urine with overflow for two or three days before medical assistance was obtained, his friends thinking it was incontinence. He then presented quite a typhoid aspect, with brown dry tongue, sordes on the teeth, pulse quickened, and temperature slightly raised. The abdomen was immensely distended and dull on percussion all over, while urine kept dribbling away. He lay on his back quite helpless, especially in his lower extremities. The presence of copper-coloured cicatrices over the shins led to a confession of syphilis the previous year, elsewhere treated. A large quantity of ammoniacal urine was withdrawn by the catheter, followed by a considerable muco-purulent residuum, and the bladder was washed out by siphonage with boracic acid. This had to be done twice a day for two or three weeks, while the biniodide with liquor strychninae was administered internally, a Gaiffe's battery also being used. He then gradually began to regain the use of the bladder and his other faculties, and in due course was able to be up and about. Now, after eight years, he still retains the distinctive traces of his acute seizure in his slouching ataxic gait. He otherwise seems quite well.

Sunderland.

B. STRACHAN, M.B.

ACUTE RETROFLEXION AFTER CYCLING.

I HAVE this year had three cases of acute retroflexion of the fundus of the uterus in strong women occurring after long bicycle rides. The point in these cases has been that the retroflexed portion was the fundus of the uterus or the upper half of the body of the uterus. Consequently the diagnosis was difficult, as the cervix was little, if any, out of position, and the finger felt a free posterior wall of the uterus. The sound passed a normal or approximately normal distance, and therefore the uterus was enlarged in each case. The pain and tenderness, metrorrhagia, discharge and weight, etc., in the pelvis were severe, and two of the cases were diagnosed as myoma of the uterus. The third was complicated by salpingo-oophoritis on the left side, and a very doubtful diagnosis and prognosis were given.

Professor Taylor has pointed out that even a pyosalpinx or tubal sac may be undetected when it is in the upper back region of the pelvic cavity, and I cannot but think that these high retroflexions, with a normal length of cervix and body below the retroflexion and very little, if any, out of their normal station, may be within this obscure province.

These cases emphasize the necessity of examination under an anaesthetic as often as possible in pelvic diseases. They also show how often women overdo themselves in cycling long distances and climbing hills.

Wolverhampton.

FREDERICK EDGE.

MENSTRUATION DURING PREGNANCY.

ON p. 154, vol. 1, 7th edition of Playfair's *Science and Practice of Midwifery* we read that "in certain cases menstruation may go on for one or more periods after conception, or even during the whole pregnancy. The latter occurrence is certainly of extreme rarity, but one or two instances are recorded by Perfect, Churchill, and other writers of authority, and therefore its possibility must be admitted." Again, on p. 155, "The occurrence, however, is so rare, that if a woman is menstruating regularly and normally who believes herself to be more than four months advanced in pregnancy, we are