the bladder is prevented is by the interureteral muscular bundle, which forms the base of the trigone, contracting with the muscular fibres of the bladder generally, and so pulling the ureters downwards and inwards towards the middle line, increasing their obliquity, and bringing them within the sphere of control of the bladder fibres, which in the region of the ureteral orifice are partly arranged in a loop-like fashion.

That a considerable amount of movement takes place of a telescopic character between the ureter and bladder is suggested both by the continuation of the interureteral bundle for a considerable distance beyond the bladder, along the posterior wall of the ureter, and by the presence of a very distinct sheath known to German writers as Waldeyer's sheath. We found in certain cases that the portion of the bundle lying along the ureter was almost commensurate in circumferential dimensions with the ureter itself. No doubt the peculiar nature of the flow of the urine into the bladder has something to do with the peculiar anatomical arrangement.—I am, etc.,

WILLIAM WRIGHT.

Medical College, London Hospital, E., Sept. 21st.

PUERPERAL SEPSIS.

SIR,—One wonders whether the biblical quotation from Proverbs, that "In the multitude of councillors there is safety," is really true if it is applied to the divergent views expressed during the last few weeks in the BRITISH MEDICAL JOURNAL as to the causation of puerperal sepsis.

One marvels at the childlike faith of Dr. A. Campbell Stark in his statement that he considers "puerperal sepsis is in *every case* an auto-infection." He has surely never read what I consider overwhelming proof that the variable incidence of this scourge in classified and selected districts is due to the variable incidence in the same districts of septic wounds due to industrial accidents. He will probably be amused at my assertion that in 99 per cent. of cases auto-infection has nothing to do with the case, and that therefore it is unwise for anyone to lay this flattering unction to his soul.

When one considers the meticulous care thought necessary and practised by surgeons to prevent sepsis, why should one wonder that, with the necessarily incomplete methods that have to be adopted by the average general practitioner in puerperal cases, we should so frequently have sepsis as a complication?

Again, I suggest that every medical officer of health will bear me out when I assert that there is a larger percentage of puerperal sepsis among cases attended by both a medical practitioner and a midwife than in cases where the midwife alone is in attendance. It is rather an ugly assertion but it is true, and until this ugly fact is appreciated and acted upon I have little hope of an improvement in puerperal mortality.

If my statistics prove anything they certainly prove that where accidents abound puerperal sepsis also abounds, and the inference is that auto-infection is a bogey which it is unsafe to raise as a determining factor in puerperal sepsis. So convinced am I of this fact that I will forward a free copy of my book on *Puerperal Fever and Allied Infectious Diseases* to any one sufficiently interested; its perusal, I feel sure, will convince an unbiassed reader that the source of puerperal sepsis is not in the patient herself but in her environment, and that in the majority of cases the chief factor is the hands, clothes, or instruments, of those conducting the labour.—I am, etc.,

Heywood, Sept. 14th. GEORGE GEDDES, M.D.

SIR,—The fact that sepsis sometimes follows manipulation during labour is no proof of cause and effect, for it occurs often in cases where there has been no manipulation, and the vast majority of cases where there has been much manipulation are *not* followed by septicaemia. If it be indeed true that manipulation is the chief cause of puerperal sepsis, surely the fact is an opprobrium to obstetrics. What would be thought of a surgeon who refuses to operate because he is not sure of keeping his hands, his instruments, or his patient's skin free from infection?

Yet this is modern teaching: Do not, if you can avoid it, touch a patient in labour, for, if you do, you will very likely give her puerperal fever! Meanwhile the majority of labours in England are conducted by midwives, who are not troubled by such scruples, and whose proportion of septic cases is no greater than that of any other class.

No doubt the ano-perineal region in women always bears organisms from the bowel, but so does that of *everybody* who adopts the usual custom of smearing the part with faecal matter. It is not difficult to get the district surgically clean, and, of the very numerous operations performed on this part of the body, how many are followed by septicaemia?

The theory of auto-infection may be wrong, or, like many generalizations, it may be only part of the truth, but it is the only theory that will explain the present fantastic incidence of puerperal sepsis. It is to be hoped that the new impetus given to the teaching of midwifery may result in some great improvement; but, before any advance is likely to be made, we must clear our minds completely of traditional ideas, derived from the time when antiseptics and bacteriology were unknown.—I am, etc.,

Wanstead Park, Sept. 20th. A. CAMPBELL STARK.

MENINGOCOCCUS CARRIERS.

SIR,—With regard to the question of meningococcus carriers, possibly the following notes may be of interest.

During the early part of last year I was called to a case about 1 a.m. The patient was a boy of 11½ years of age, and when I saw him he was only conscious for short intervals and when spoken to in a loud voice. He showed marked opisthotonos.

The onset of his condition was sudden. He partook of a good tea about 5 o'clock, and afterwards complained of headache and indefinite pains, which gradually increased until he was in the condition in which I saw him. I made a lumbar puncture, withdrawing a quantity of cerebro-spinal fluid, and injected antiserum. Unfortunately the child died about 10 a.m. The cerebro-spinal fluid showed many bacteria, which grew on ordinary blood agar.

The house in which the boy lived with his father, mother, and four other children, was one of a six-tenement house, and was on the ground floor. There were twenty-one inhabitants in the six tenements, from every one of whom I took a naso-pharyngeal swab. From the twenty-one swabs only two were positive. One positive swab was from a sister, aged 10 years (A), the other was from a girl of 10 years (B) who lived in the top flat.

The history of the infection seemed to be as follows: The girl B had been on a visit to Glasgow, where a few cases of cerebro-spinal fever had been reported. She and her mother had returned a fortnight before the fatal case developed. The girl A, sister to the patient, went to school with B, and played with her after school hours.

The conclusion is that B was the original carrier who gave the infection to A, another carrier, who passed it on to the patient.

The case, I think, is interesting, first, from the suddenness of onset and rapid fatal conclusion, and secondly, from the fact that a second carrier intervened between the original infection. The patient, from very careful inquiry, had not, so far as the parents and relatives knew, been in contact with B.—I am, etc.,

Bournemouth, Sept. 20th. J. OLIVER HAMILTON.

MORTALITY OF VENEREAL DISEASE.

SIR,—Mr. Bayly objects to my correction of Sir J. Crichton-Browne's exaggeration. If Mr. Bayly can read plain facts, and if his critical faculty can be divorced from the unscientific melodrama of the "hidden hand of pathology," he may yet see the truth. I showed the gross exaggeration of calling the venereal the third killing disease. As Mr. Bayly wishes to ignore the figures in my letter, he needs to charge me with camouflage, and hastens also to call my case hopeless. His pathological remarks make poor reading, but when anyone in scientific medicine ignores pathology and the duty of proof, he has indeed a poor case. He is the only one who openly funks the demand for pathological proof for their statements, and I expect he has heard of the difficulties of providing them. Dogmatic assertion is so much easier, it goes down with so many audiences—even with many medical ones—for the critical faculty is never prevalent. Lord Astor applied a sensible brake to the alarmists, and