Of the two uses now claimed for the pelvic band, the first is to supply artificially that force, which may be deteriorated by dress, or suspended by anæsthetics; and, by so doing, to aid the overtaxed uterus by curtailing the period, and so to lessen the risks of ordinary labour; the second, to aid the treatment of uterine maladies.

I will now briefly describe the instrument, showing wherein it differs from, and in what way, I believe, it is superior to any that have hitherto been brought before the profession. The advantages of it, when used as an aid to parturition, are the following. 1. A fixed point is secured for the exercise of mechanical force by means of, as it were, an artificial skeleton, the immobility of which is secured by two pads, one sacral, the other pubic, retained in their respective places by lateral springs, which embrace the pelvis below the crista iliorum. 2. Then, a fixed point having been gained, attached to the sacral pad are two vertical levers, and one horizontal, the former (vertical springs) end each in a costal spring, embracing the thorax, and united by a sternal pad, so arranged as not to incommode the chest in respiration; the latter or horizontal is a powerful spring, buckled to a belt closely adjusted to the abdominal walls, and connected above to the costal springs and below to the pelvic band by elastic rings. It is thus constructed, so as to act in the manner of the abdominal muscles. During the parturient pains, this belt is readily tightened at will to assist, or supply the place of the voluntary muscular contractions, and is as readily relaxed in the intervals of pain. When required, it may be made to maintain a steady uniform pressure, as is often needed *post partum*. This force, reacting upon the sacral pad, affords to the patient that support in the lumbar region which is so much called for during labour, and which is usually supplied by the hands of the nurse.

In the catalogue and report of instruments, published by the Obstetrical Society in 1867, there is, at page 5, an ingenious contrivance of Dr. Woodward of Worcester, which seems to answer the purpose just referred to, and which he accordingly names an "Obstetrical Back-Supporter." When the power of the abdominal muscles has been impaired by the constraint of dress, or rendered deficient under the influence of anæsthetics, the instrument which I now exhibit supplies artificially a force which simulates that of the abdominal muscles, when in a normal state. In this way I have found it of the greatest value in cases of anteversion of the gravid uterus, at the period of parturition. Only a few weeks since, I quickly and easily rectified the abnormal position in a patient I have attended with four children. The ease and rapidity of birth offered a great contrast to her former labours, and the patient appeared herself to be better than on any previous occasion. Her subsequent getting up "was satisfactory in every respect," and she has regained her strength in a manner so superior to that which has happened in her other confinements as to elicit voluntary expressions of satisfaction and surprise from herself and friends.

For the mechanical treatment of uterine ailments, this instrument acts in the following way. The pubic and sacral pads fixed by the lateral connecting springs tend by their mutual reaction to alter the plane of the pelvis, if too horizontal, to one more oblique, and therefore more natural. The costal springs and sternal pad attached to the end of the perpendicular springs, help still further to increase the lumbar pressure, to throw the sacrum backwards, and at the same time to fix the whole apparatus. From the pubic pad, and attached to it by a moveable rackwork, is a curved steel spring, which bent to the shape of the vagina, is passed into it, whilst it is made to carry at its extremity any form of pessary or support that may be required.

The advantage of an uterine support adjusted by these means, is that its *point d'appui*, being the pelvis itself, in ordinary movements of the body, it is not liable to displacement.

Without attempting here to enter into the pathology of misplacements of the womb, further than by referring to the cause already mentioned, viz., that of a too horizontal position of the pelvis, I would state that in order to rectify this, the prone position of the patient for a longer or shorter time has often been adopted by practitioners, and this mode of treatment was strongly advocated by my late friend and former colleague, Dr. Rigby. To counteract such derangements, I have made many experiments, which have at length resulted in the production of this instrument.

A standpoint is thus obtained, whereby force can be gradually applied to the lumbar region, so as to alter the position of the pelvis from the horizontal to a more oblique plane. The same advantage is thus gained by the pelvic band without the confinement and constraint of the prone position, and of many other ingenious appliances, which nevertheless are much more complicated and irksome to be borne.

The principal feature of the pelvic band is, that it forms an artificial skeleton, and so supplies all the chief *points d'appui* by which the complicated muscular system engaged in the acts of expulsion harmonise and effect their purpose; and it is one with the pelvis itself as to offer

a stability and comfort that no appliance depending chiefly on abdominal, and therefore unstable pressure, can possibly afford.

Enough, I trust, has now been said to warrant the hope that members of our profession will not be wanting to test its merits. Should this instrument obtain the approval of the distinguished physician, who now occupies the chair—should it prove to be, as I hope, an aid to midwifery, by lessening the pains and perils of childbirth, as well as by curtailing the often protracted attendance of the accoucheur—and should it likewise tend to facilitate the treatment of uterine dislocations, my object in bringing the subject before the Association will be fully gained.

ON THE EXTENSION OF THE CONTAGIOUS DISEASES ACT TO COMMERCIAL PORTS, AND OTHER MEASURES FOR IMPROVING THE SANITARY CONDITION OF THE MERCANTILE MARINE.*

By WALTER DICKSON, M.D., R.N.,
Medical Inspector of H.M. Customs.

Two years ago, an Act was passed by Parliament to amend existing sanitary laws relating to merchant seamen, to supply omissions in former Acts, and thereby to mitigate, if not entirely obviate, those preventable diseases which had been incontestably proved to have seriously crippled the mercantile marine of this country; for not only was the amount of sickness and mortality at sea much greater than it ought to have been, but the service had, in the public mind, become associated with so much hardship, misery, and degradation, that it ceased to present attractions to the adventurous youth of our poorer classes. Few of the worthier sort were tempted to the sea; and so it came to pass that the ships of our commercial navy were, in many cases, chiefly manned by foreigners. Most shipowners and shipmasters will admit that, among their best and most trustworthy seamen, there is now, and has been for some years, a large proportion of German or Scandinavian origin. For this change in the *personnel* of ships, there are, no doubt, other causes—such as the impetus given to emigration, and the higher wages that can now be obtained by young men, without privation, at home. With a view of reviving and developing the old nautical spirit which has done so much to enrich and aggrandise this country, and of ensuring for the sailor greater consideration and better treatment than had been accorded to him, several measures, both voluntary and compulsory, have been discussed. The Act of 1867 took cognisance of two important defects of common occurrence in the hygiene of ships, and effectual means were adopted to secure for the future a sufficient supply of trustworthy antiscorbutics, and also to provide better quarters for the men in regard to space, ventilation, and privy accommodation. An improved medicine-chest and book of instructions were also issued for such vessels as carried no medical officer; and special care was taken that the sick should not starve, as had sometimes happened, from want of suitable articles of diet. So essential a matter as the medical inspection of seamen, before embarking on long voyages, was recommended and regulated for, but was left to be adopted or not at the discretion of the local marine boards, and has shared the usual fate of permissive legislation in becoming, so far as I am aware, a dead letter.

In my official capacity I have inspected, for the Board of Trade, a great number of vessels of every class, and have examined minutely the sanitary condition of their crews. The details of these inquiries were published *in extenso* in a series of Parliamentary returns, and they showed conclusively the necessity of Government interference, which had been for some time urged in reference to antiscorbutics by the medical officer of the Privy Council, the physicians of the *Dreadnought*, and others interested in the health of seamen. The result was the Act of 1867, or Duke of Richmond's Act, as it is sometimes called after the then President of the Board of Trade.

In my representations, deduced from searching investigations into the health of many individual seamen, I gave a prominent place to venereal disease, as calling for immediate measures of repression. No malady is more prevalent among this class of men; and although it does not figure largely as a cause of mortality, yet, as we are all aware, hardly any disease proves more harassing, or is more tediously destructive of strength and comfort. It is now, as scurvy was, the main agent in keeping vessels undermanned. It is no uncommon thing to find a large proportion of a crew to be more or less disabled from this cause, as soon as they have got into what is technically called "blue water." The less acute cases do not, of course, desist from work, and, consequently, make slow and imperfect recoveries. But those more severely affected, as with slough-

* Read in the Public Medicine Section at the Annual Meeting of the British Medical Association in Leeds, July 1869.

ing ulcers of the penis, large open suppurating buboes, and the resulting sores, or acute orchitis, are necessarily incapacitated for all active duty. They become a serious burden (1) to themselves, as they lose part of their wages; (2) to their captains and owners, who lose their labour; and (3) to their shipmates, who are compelled to do additional work without compensation. A stoppage is made from men's pay on account of such illness; but this has often the effect of preventing their disclosing it till concealment is impossible, and so rendering the cure more difficult and protracted. In some cases they make no avowal, and dispense with all treatment; or, if they have discovered they were diseased before leaving port, they obtain medicine chiefly from chemists, herbalists, and other irregular practitioners, who are always to be found in the low thoroughfares of sea-port towns, and who, to the discredit of our present system of medical police, flourish unchecked, and reap abundant harvests from those who are able and willing to pay moderate fees, but have no means of distinguishing the true from the *soi-disant* doctor. These medicines are often strong mercurials or other hazardous drugs; and I have met several instances in which serious and lasting mischief has resulted from their use. The high reputation which mercury has enjoyed for several generations, and which, in the majority of truly syphilitic cases, is, I believe, justly deserved, had become a deep-rooted tradition among mariners; and captains and mates of ships, on whom, in the absence of surgeons, the duty of attending to the sick devolved, were in the habit of administering it lavishly in almost every case of venereal sore that presented itself. It is, therefore, enjoined in the official Medical Guide that mercury should not be given at all by unprofessional persons. Black-wash is to be used, or nitrate of silver and other external applications; and, if the chancres be hard or persistent, and other secondary symptoms appear, iodide of potassium in five-grain doses, three times a day, is ordered to be given for some weeks. This is, perhaps, receding to the non-mercurial extreme; but there is no doubt that, in the hands of the unwary, and more especially in the peculiar circumstances of diet, labour, and exposure, incident to the seaman's vocation, it is much the safer mode of treatment. In the scorbutic condition in which, unfortunately, too many men are still to be found, mercury has seemed to act with poisonous virulence; and the combination of these three evils was one of the severest trials to which the human frame could be subjected. We may, therefore, remark with satisfaction the alteration which, by precept and example, is being effected in the treatment of fresh cases of venereal sore.

With regard to the more remote indications of the disease, nothing need be said, except to remind you that much of the so-called rheumatism, ulcer, and bone-disease, which are extraordinarily prevalent among seamen, are probably, in many cases, the sequelæ of ancient syphilis. Various diseases of the viscera are also sometimes traceable to the same cause; and stricture of the urethra is one of the commonest, as it is one of the most distressing, complaints that affect this class of men.

Having in these practical inquiries obtained abundant proof of the ravages of this class of diseases among our merchant seamen, I have, for the last five years, urged the necessity of extending to them the same protection which the State has more or less afforded, through the Contagious Diseases Act, to the seamen of the Royal Navy in the home ports and arsenals, and to the troops in our garrison towns. The reasons for this appear to be as cogent in one case as the other. It may be said that the national forces should be more peculiarly the object of public care and solicitude. But the seamen of the mercantile marine, although almost imperceptibly, are rapidly attaining the same position. The progress of political events, both at home and abroad, point to this conclusion. The sudden appearance on the stage of a new great maritime power—that of North Germany—may materially modify the large supply of excellent seamen we have annually derived from that and the neighbouring countries. The great reduction of our armaments, which is now being made, must inevitably lead to the extension and development of the naval reserve, as the only source whence, on emergency, a skilled and trained force may be drawn to cope, should the necessity arise, with the other great powers at sea. Already several thousands of excellent seamen of the Northern British ports are enrolled in the reserve, and their claims to State pay and recognition are fully admitted. Their position in other matters, as compared with the working classes, is quite exceptional; for it must be borne in mind that seamen are compulsorily celibate. Like the soldier and the man-of-war's man, sailors on ocean-service are so rarely at home that marriage, in their case, is an evil and discomfort rather than a blessing, and, in their earlier years at least, is in no way desirable. But at their age (for sailors of middle and advanced life are comparatively few), the sexual passion is strongest; and debarred, as they often are, for many months from the society of women, it is not surprising or otherwise than natural that when they have the opportunity they should rush into ex-

cess. We know the results; and I, therefore, contend that, being all more or less directly the servants of the State, they are entitled to the same safe-guard as the law has provided for the Royal forces. In a professional or philanthropic point of view, their claims would seem to be even stronger, for the vast majority are destitute of the skilled medical aid which the army and fleet always and everywhere enjoy; and they, therefore, suffer much more from venereal and its consequences.

Were the medical inspection of seamen, provided but not enforced by the existing law, satisfactorily carried out, no small progress would be made in this direction. The pecuniary interests of shipowners, and the physical well-being of crews, would be alike benefited, and the requisite clue obtained for tracing the mischief to its source. At present it is chiefly on the evidence of infected men that the police in the towns where the Act is in force rely, in order to detect diseased women, and prevent their doing further harm. But the system is confessedly imperfect, and its operation is limited and uncertain. Yet, notwithstanding this hindrance, the measure has been successful in sensibly diminishing disease in all the dockyard ports and garrisons where the experiment has been tried; and in some, as Sheerness and Plymouth, to a very remarkable extent.

To ensure a thoroughly efficient control over the public women of the commercial ports, an advance must be made on the existing practice. 1. All women who are suspected, on sufficient grounds, by the police, or are known to be avowed prostitutes, should be registered and placed under permanent surveillance. 2. Their attendance, at stated times, for medical examination, should be made compulsory. 3. When found to be diseased, they should be sent immediately to hospital, and there legally detained until the medical authorities should consider their release unlikely to injure the community. 4. Their migration and movements should be known to the police, and regulated by passports or certificates, so that they may not, as is now often the case, evade the operation of the Act by change of residence.

In carrying out this system of repression, it is believed that no practical difficulties of insurmountable character would be met. In large sea-ports, as is well known, this order of women is a class apart, for the most part stationary, recognised by the police as having no other vocation, and physically and morally debased to such a degree that restraint and discipline of the kind indicated would probably be, in some cases, the first step to reformation.

The accommodation provided for them, as well as the diet and surroundings, should be of the plainest and most inexpensive character consistent with the successful treatment of their diseases. It is probable that the handiest and most economical form of special hospitals would be hulks, of which the Admiralty have great store, and which could, without much outlay, be fitted up in a way to secure isolation, cleanliness, good order, and discipline, more readily and cheaply than establishments on shore. In towns where no existing building could be conveniently obtained for the purpose, these would answer at all events temporarily, till the probable number of patients, etc., was ascertained. I would suggest that the duties of the medical staff should not be divided, as at present, into an inspector's or examiner's, to detect disease, and a hospital surgeon's to cure it; but that both these duties should be intrusted to the same hands. I am given to understand that inconvenience has arisen from occasional collision of opinion with regard to the admission or discharge of patients, in the double *régime* that now obtains. As the treatment of such cases is far from agreeable, and in no way likely to advance a practitioner's interest in private practice, but, on the contrary, may possibly injure him, the remuneration of the medical officer charged with the working of the scheme should not only be adequate, but liberal. At present the treatment, like most other hospital work in this country, is undertaken gratuitously; but I contend that the State has no right to expect or enjoy the services of medical men on such terms.

That the labour will not be light may be supposed, for it is computed the hospital accommodation required for the prostitutes of the more important commercial ports, including London, would amount to 2000 or 3000 beds, and necessitate an annual expenditure of from £60,000 to £90,000. Whether the great advantages which would doubtless accrue to this valuable class of men (about a quarter of a million in number) from this State expenditure on their behalf, would be cheaply or dearly purchased, is subject-matter for the consideration of political economists. But no doubt can be entertained of the necessity that exists for active interference, of its practical feasibility, and of the satisfactory results that, judging from the experience of our own and other countries, must inevitably attend it.

Without disputing the expediency of a general application of preventive measures to the whole kingdom, as has been for some time discussed and recommended by many eminent persons, I would respectfully submit that it would, perhaps, be premature to enter on so large

a scheme till more conclusive evidence were obtained of its harmony with our institutions. A preliminary trial in those commercial ports, which, I have endeavoured to show, possess strong claims as holding an intermediate position between arsenals and ordinary municipalities, would go far, I believe, to solve the problem; and, if thoroughly successful, would afford the best encouragement for the further expansion of the system.

In the records of the army, navy, and mercantile marine, we possess much more definite and correct information as to the success or failure of sanitary experiments than we can ever hope to find in those relating to the civil population; and a few years' tentative experience in these three branches of the service would decide the question.

I have, I fear, dwelt too long on this topic; but at this important meeting, comprising, doubtless, several medical representatives of the ports in question, we may hope to have the advantage of hearing the opinions of gentlemen who have great practical experience, and who have probably bestowed much thoughtful consideration on the subject.

[The length of the debate on Hospitalism in the Public Medicine Section prevented any discussion on this question.]

CASE OF STRANGULATED INGUINAL HERNIA: OPERATION: RECOVERY: UNION OF THE WOUND BY FIRST INTENTION.

By ARTHUR EVERSLED, Esq., L.R.C.P., Ampthill.

THE following notes of a case of herniotomy may at the present time be of some interest, since they show that perfect repair of the injury inflicted by the knife in this operation may occur under the simplest treatment, without the formation of a single drop of pus.

William Cook, aged 34, a healthy farm-labourer, had been subject to an inguinal hernia on the right side for four years. It came down almost daily (for he never wore a truss), and he could always return the protrusion himself, until a few days before the operation, when the hernia having come down, a portion of it could not be reduced; still, he had no inconvenience until the next day, Wednesday, October 7th, when he was cleaning some harness, and felt the intestine descend still more; he had then considerable pain about the umbilicus. This occurred at 10 A.M.; and in the evening, at 8 P.M., finding, after repeated efforts, he could not get the bowel back, he sent for assistance. The tumour at this time was of the size of a pigeon's egg, situated at the junction of the scrotum with the pubes, being half in the scrotum; it was very tense and elastic, tender to the touch, and it received no impulse on coughing.

All attempts to reduce the hernia failed, so opium was given, and cold applied. At 9 P.M., vomiting commenced, and continued through the night.

October 8th, 11 A.M. He had now stercoraceous vomiting; his tongue was becoming coated; his pulse 76, rather weak; he had some anxiety of expression. There was now more tenderness about the tumour. The taxis was again tried, unavailingly, so also was pressure made upwards and backwards, when the man was standing, the operator also standing behind the patient. Chloroform was then given, and the taxis again tried; but as it failed to give relief, the operation for dividing the obstruction was performed by me, assisted by Mr. Montague Evershed. An incision, two inches long, was made over the seat of obstruction—the external ring—in a direction almost parallel with the linea alba. The several coverings of the hernia (excepting the sac) were divided, so also was the obstruction, and the strangulation relieved. Two wire sutures were put in, the edges being brought neatly together, and any protruding fat was cut away. A pad of lint was then placed over the wound, and maintained there by strapping and bandages; the knee was bent, and a pillow placed beneath the ham. He was strictly enjoined to take only a fluid diet, and to keep perfectly quiet. A pill, containing one grain of opium, was given every three hours. The patient went on favourably from the first. The opium was discontinued on October 11th; on the 12th, the wound had entirely healed, without the formation of a drop of pus. On the 13th, the bowels had relieved themselves naturally by a perfectly healthy evacuation. He was allowed to have some mutton. On October 15th, the sutures were removed. A day or two after this he was wearing a truss quite comfortably; and in less than a fortnight from the time of operation, he walked nearly a mile, and was able to wear the truss all day.

In this case, the urgent symptoms of strangulation were manifested early—i.e., within twelve hours, and fecal vomiting occurred within twenty-four hours of the time when the strangulation took place. The satisfactory termination was due, in part (most probably), to the early performance of the operation; and that, too, on the spot, in the pa-

tient's cottage, far away from other surgical cases and various sources of disturbance. The patient himself also is a man of most temperate habits; his life has been spent out of doors; and his health had, up to his recent illness, been uninterruptedly good.

FEMORAL ANEURISM: LIGATURE OF EXTERNAL ILIAC ARTERY: RECOVERY.*

By R. T. LAND, M.D.,

Lecturer on Anatomy in the School of Medicine, Leeds.

THE case was one of aneurism of the right femoral artery occurring in a woman, aged thirty-three, a weaver. About six or seven weeks before my seeing her, the patient had much heavier pieces of cloth to lift than usual; this was followed by a weak, numb feeling in the right leg, and a difficulty in standing, to such an extent, that she was compelled to give up work. At this time, she noticed, in the upper part of the thigh, a lump, which gradually increased in size, and to relieve the pain of which she had recourse to frequent rubbing with the hand. There was now unmistakably distinct aneurism of the femoral artery. The skin covering it was of a bluish-white colour, glazed, and very tense, and presented all the appearance of giving way externally. In conjunction with my father, and my friend Mr. Jessop, it was determined to ligature the external iliac artery. This was accordingly done, under chloroform, on November 24th, 1868. Nothing unusual occurred in the course of the operation, until, after carefully dividing the various strata of the abdominal wall, it became a question whether the structure exposed was peritoneum or simply transversalis fascia. The opinion seemed to be, that the lining membrane of the abdomen had yet not been exposed, and that the structure was transversalis fascia. This was therefore slit up to the full extent of the external wound, when it was at once discovered that the peritoneal cavity was opened. The cut edges were held together by Mr. Jessop; and, without anything further untoward taking place, the operation was completed. All went on well until December 4th, when, from the patient having had a restless night or two, and considerable pain in the right hip, on which she was lying, I was induced to examine that part, and found a very large sloughing bed-sore, which had been considerably aggravated by the patient persistently urinating into the bed, and which, unknown to me, had existed before the operation. With the view to get over this second complication, I now had the patient placed on a water-bed, and the sore dressed, in the first instance, with carbolic acid lotion, and afterwards with zinc ointment, until it was completely healed. Means were adapted to keep up and improve the general condition of the patient; and all went on satisfactorily, with the exception of one or two points which I shall presently mention, to a complete and satisfactory recovery. The ligature came away, with a little assistance, on December 31st—the thirty-eighth day.

I would now shortly draw your attention to two or three points in this case.

1. Here is an aneurism, of rapid growth, occurring in a woman (a rare occurrence), and on the point of bursting externally, arrested completely by ligature above the part.

2. As to the cause of this aneurism; the woman was rather weakly looking; no history of syphilis could be made out; and it seemed to me, as the patient had suffered some time before from acute rheumatism, that some impairment of the nutrition of the vessel therefrom had taken place, and that the condition was excited by the increased exertion to which she was subjected, of lifting heavy pieces of cloth, using, at the same time, the right leg as a lever.

3. The slitting up of the peritoneum was done deliberately; and how this membrane was mistaken for transversalis fascia, seems difficult to understand, except that the light was bad, and the transversalis fascia not so readily distinguishable in the female as in the male. The edges of the wound were stitched together after the ligature had been placed around the vessel; and this ultimately came away through the opening in the abdominal wall. Not the slightest indication of peritonitis presented itself.

4. The complication of bed-sore was treated, in the first instance, by a lotion composed of one part of carbolic acid to eight of olive oil, up to December 14th, a period of ten days, when the patient was seized with severe bilious vomiting, and pain in the epigastrium, and passed dark coloured urine, noticed in cases of poisoning by carbolic acid. This dressing was, therefore, discontinued for three days, and the symptoms thus related ceased; and, with a view to ascertain whether the carbolic lotion was the cause of this disturbance, I re-applied it as before, with the same result.

* Read in the Surgical Section before the Annual Meeting of the British Medical Association in Leeds, July 1869.