makes a joint which is apt to be leaky; and moreover, as we have experienced, it is quite possible for the stuffing-box with the stylet to tumble off from the mount of the needle at some extremely inopportune moment. In my instrument the stuffing-box is screwed into the mount, and a washer secures perfect air-tightness. In Potain's trocar and cannula, as usually supplied by the instrument makers, the stuffing-box has a leather packing. I prefer to pack it with cotton-wool which is effectually sterilized when the instrument is boiled. From the stopcock of the needle to the stuffing-box is 4.5 cm. This affords sufficient space to make it quite easy to withdraw the stylet so as to permit closure of the stopcock without risk of bringing the stylet right out of the stuffing-box and so opening communication with the external air.

The form of the end of the needle is very important. The end of an exploratory or aspirator needle is ground upon a wheel, which makes it slightly concave on the surface that is ground, and causes it to end in a sharp point. This is, of course, desirable in instruments of that kind. But it is quite inadmissible in a needle for the induction of artificial pneumothorax. We want an instrument which will pierce the parietal pleura but push the visceral pleura before it unwounded. Obviously no instrument can do this when the puncture happens to be made at the site of an adhesion. But even where there are no adhesions a needle with a fine point will probably wound the lung. What is wanted is a needle with a round cutting edge, rather than a sharp point. This is produced by grinding the end of the needle on a flat hone, instead of a wheel, the result being naturally a perfect oval, which is just the form which is required. As the result of experiment, I have found that an angle of about 22.5 degrees with the axis of the needle (a quarter of a right angle) is best. If it is more acute than that there will be more danger of wounding the lung. An angle of 45 degrees is too blunt. It is apt to push the parietal pleura before it, as I have found to my sorrow.

Needle and Holder.

I have contrived an appendage to the needle, which I have found extremely useful and convenient. I call it the "holder," for want of a better name. The needle passes through it, and is fixed by a nut, which works on a conical screw, like the chuck which fixes a point in a small drill. This part of the holder is attached to the centre of an oval plate, 3.5 by 2 cm. This plate is slightly convex on the side which lies against the patient's chest. In use the holder is slipped on to the needle and adjusted so that the length of needle projecting through the cover-plate corresponds with the estimated thickness of the chest wall. But it is not screwed up so tightly as to preclude the possibility of readjustment *in situ* if that should be found necessary. As soon as satisfactory oscillations occur I give the needle into the charge of my assistant, who is instructed to hold it only by the "holder," which is to be pressed closely to the chest wall. There is then no fear of the needle being inadvertently thrust more deeply in, or partially withdrawn, which is very apt indeed to happen, especially with an inexperienced assistant, or one to whom the process of inducing an artificial pneumothorax is an interesting novelty. Having usually to work with such assistants, I have found the "holder" extremely useful.

The stylet should be long enough to project about a centimetre beyond the point of the needle. It is then sometimes useful as a probe to help us to judge whether we have reached the pleural cavity. In order to be used in this way it must not fit the needle too tightly to move freely in it. For the same reason great care must be taken to keep the stylet perfectly straight. The end of it should be ground perfectly flat so as to make it as fit as possible to push the visceral pleura before it without

inflicting a puncture; but of course the greatest possible gentleness must be used, the stylet being necessarily very thin.

This needle is made in accordance with my suggestion by Messrs. Brady and Martin of Newcastle-upon-Tyne.

DERMATITIS ARTEFACTA IN THE ARMY.

BY

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NOT much has been written in this country about dermatitis artefacta in connexion with the army. A single case was shown to the Dermatological Section of the Royal Society of Medicine by Dr. Sibley in April, 1918. The patient was a Russian suffering from an extensive pustular eruption, or folliculitis, which the members present generally agreed was an artefact produced for the purpose of evading military service, and it was stated that this case was typical of many others which had been met with at medical boards. In the army itself, however, apparently not much was seen of these cases, although several medical officers reported that a good many men suffering from impetigo and scabies made the most of their troubles, and did what they could to prevent themselves from getting well too quickly. But there were not very many cases reported of men who were found to be suffering from purely artificial lesions. Dr. MacCormac in his excellent paper on Skin Diseases under War Conditions (May, 1917) mentions a "linear" type of impetigo, of which he gives illustrations, and suggests, as indeed do the illustrations published, that this may be an artefact. During six months in which I had charge of the dermatological cases in Alexandria I saw only one case of dermatitis artefacta, but a large portion of this period was after the armistice, when there was no temptation to produce skin lesions. The one patient I saw suffering from this condition was a simple and typical case. He had numerous lesions on the forearms (both right and left) and also on the shins and the dorsum of the feet, especially on the right. He had been in hospital for some considerable time before he came under my care, and on my giving a very strong hint that I understood the real nature of his disease he permitted the lesions on his arms to heal up quite promptly, but other lesions continued to appear on the right ankle. I had the satisfaction one morning of catching him *in flagrante delicto*. He occupied a tent pitched on sand, and consequently was unable to hear footsteps outside. I approached the tent one morning in the course of my ordinary round, really without any thought of catching him, and I actually surprised him lying curled up on his bed in the act of scratching his ankle gently with the forefinger of his right hand. The lesions were all of characteristic oval shape, obviously scratch marks, with the long axis parallel with the long axis of the limb.

Cases of dermatitis artefacta cannot have been particularly numerous among the British forces. There were certainly more in other armies, and in some instances considerable ingenuity was exercised in the production of the lesions. One of the most interesting papers is by Professor Dubreuilh of Bordeaux. Another is by Burnier, who gives a list of diseases imitated. The list includes the following:

Scabies, imitated by pricking the skin with a needle and rubbing in brine.

Pustular dermatitis by rubbing in croton oil or thapsia.

Eczenatiform dermatitis in various ways; sometimes substances are employed, such as iodoform or mercury, which act by a special idiosyncrasy well known to the malingerer. Other men, not provided with a special idiosyncrasy to some drug, employed ordinary well known irritants, such as turpentine, petrol, sodium sulphide, etc.

Bullous dermatitis was often produced by the use of blistering plants, found especially among the Ranunculaceae and Cruciferae. Chemicals were also sometimes employed.

Abscesses were produced by the insertion of thread, horsehair, or splinters into the skin and the hypodermic injection of turpentine or petrol. The favourite site of injection was the back of the left hand.

Oedema was produced by the use of a ligature, usually a broad tape, because it was less painful than a narrow one. *Bruises* were often produced by repeated tapping with a hard object upon the same place.

Dubreuilh records still quainter examples of misplaced ingenuity. In treating cases of artificially produced ulcers

on the legs he found that it was by no means sufficient to use an occlusive dressing, which was only removed or touched by an attendant. The patients circumvented this difficulty by obtaining a hypodermic syringe and injecting croton oil through the bandage. He found it necessary to use what he calls an "invulnerable dressing." This consisted of a very thin zinc plate interposed between the bandage and the ulcer. This prevented the injection of croton oil on to the ulcer, and in some cases the mark of the needle was found on the zinc when an attempt had been made. In other cases fresh lesions appeared round the edge of the plate. Another ingenious method employed to produce lesions under a bandage was the introduction of a rough iron wire or a twig between the bandage and the skin. The most difficult cases to deal with were those of croton oil sycosis, because these could not be completely covered up all day, and hence were always occasionally accessible to the malingerer.

Under ordinary circumstances artefacts, as is well known, are rare amongst men, but the temptations which led to their production in military life are to some extent continued among pensioners. The inducement to obtain a pension of several shillings a week by the cultivation of a few not very painful ulcers on the shins is in some cases too great for the moral strength, and there are a fair number of such individuals scattered over the United Kingdom. Two of them have recently come under my own care, and I have seen others. My own two cases greatly resembled one another. Each said he had suffered from ulcers on the legs since 1915. In both they had succeeded a shrapnel wound of the calf which, of course, had become septic. They both gave a history of treatment in many hospitals, sometimes getting better for a time but always breaking out afresh. Both had had the advantage of the most elaborate pathological investigations and many vaccines, and much electro-therapy. In both the lesions were situated on the shins, in one case exclusively upon the right side and on the outer side of the leg; in the other case they were principally on the right, but there were also a few on the left. In appearance, when the patients were first seen, there was nothing to distinguish the lesions from ordinary simple ulcers doing their best to heal.

It is the habit of such patients to flatter in turn each new hospital which they attend by allowing the ulcers nearly to get well during the first few weeks of the treatment, and in one case I ventured to prophesy to the students that such would be the course of events in this case—and so it was; but after about three weeks the patient arrived announcing that the ulcers had suddenly got much worse again, which was indeed the case. They were much deeper, more inflamed, and (a very important point) the edges presented a white and sodden appearance. The significance of this appearance was of course that it strongly suggested that carbolic acid, probably applied with a match, had been used to produce the lesions. Both my patients were engaged in clerical occupations, in which a few ulcers on the shins would scarcely at all detract from their earning powers, and it can easily be understood that such a position for the ulcers would be far more convenient than the left forearm or hand (usually the site of election for dermatitis artefacta) where they would seriously interfere with their work.

TREATMENT OF GONORRHOEA IN WOMEN.

BY

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THE multiplicity of solutions recommended for local application both in acute and chronic cases of gonorrhoea in women is a proof that we have not yet found an ideal formula. The comparative failure of most reagents is due to the inaccessibility of the gonococcus.

The majority of cases seen in the clinic have reached the chronic stage; in nearly 50 per cent. of the cases the cervix uteri is the only part involved. The cervical canal is lined by ciliated columnar epithelium richly supplied with glands of the compound racemose type; in these glands

the gonococcus finds its ideal nidus, and is untouched by the ordinary methods of irrigation with antiseptic agents.

Though it is difficult if not impossible to ensure the penetration of an antiseptic, it seems rational to suppose that a greatly increased secretion from the glands will produce a flushing out which will bring the gonococcus within reach of the antiseptic. Glycerin acting on a mucous surface produces a large secretion, varying directly with the concentration. It is possible to use it pure, but a high concentration tends to produce discomfort, which in some patients amounts to actual pain. I found that 25 per cent. glycerin was the most satisfactory strength. As a bactericidal agent I chose methylene blue, partly for its great affinity for the gonococcus and partly because the anilins are absorbed by mucous membranes and even by squamous epithelium:

Methylene blue	...	...	...	1 gram.
Glycerin	...	...	...	25 c.cm.
Aq.	...	...	...	ad 100 c.cm.

In acute and chronic cases it was applied as follows: The cervix was exposed with a Fergusson's speculum and swabbed with a saturated solution of sodium bicarbonate in order to remove mucus and discharge. A gauze plug 12 in. by 2 in. was dipped for half its length in the solution; this end was packed tightly against the cervix, the rest lightly in the vagina. The speculum was then withdrawn. The plug was removed after twenty-four hours. This was carried out for five days and then for two days dry plugs were used. This rotation was continued as long as the discharge occurred.

There are two contraindications for the use of this method:—(1) Pregnancy. Plugging the vagina is inadvisable owing to the increased liability to abortion in these patients, in whom the endometrium is generally diseased. (2) The puerperal state. The vascular engorgement of the uterus persists for some weeks *post partum*; the glycerin acts so powerfully that an undesirable amount of secretion is produced attended by severe pain.

General treatment is carried out on the usual lines. Urinary antiseptics and gonococcal vaccine are given as indicated. In addition to cases of true arthritis a large number of patients complain of indefinite wandering pains (arthralgia). These are benefited by a graduated course of vaccine—a course of six injections given weekly, commencing at 5 million and working up to 150 million.

At present it is impossible to give a satisfactory standard of cure in women. It is on the clinical symptoms alone that we can judge. When the general symptoms have gone and the discharge has remained absent when treatment is suspended, then we can hope that a cure has been effected. Smears and cultures from the cervix have proved deceptive and generally useless, and complement fixation, recommended by Gilbert Smith, has so far proved disappointing.

The advantages of the solution are:

1. Erosions of the cervix respond very rapidly to the treatment, and healing occurs with a disappearance of oedema and a return to normal size.
2. An acute, and especially a chronic, discharge is stopped in a short time.
3. It is a painless and effective method of dealing with the deep-seated gonococcus.

I am indebted to the courtesy of Dr. T. Anwyl Davies for permission to give full trial to the treatment in the department.

THE scheme for the supply of ambulances for civil work in the United Kingdom, which was brought into force by the Home Service Ambulance Committee of the British Red Cross Society and the Order of St. John, continues to make progress. At the end of last year 238 ambulances were in use; the number has since risen to 252, and 54 others will be supplied as soon as the Ford chassis ordered last autumn can be obtained. The total number of cases carried since the inception of the service last summer is 5,227, and the mileage run is over 68,000 miles. The rise in the cost of petrol has caused anxiety to local committees, and the central committee has supported the petition to the Prime Minister against the increased charges for petrol.