confirmed this observation. Sulphur ointment appears to be effective only when some active products due to the interaction of the sulphur and the human body are liberated. Benzyl benzoate, on the other hand, is rapidly lethal to the mites, which are killed within five minutes of contact away from the body.

It should be noted that it is almost impossible for a patient to apply either liquid preparations or creams satisfactorily to himself; therefore, if it is not possible to get another person (preferably trained for the purpose) to apply these remedies, it is better to use sulphur ointment treatment.

APPENDIX : DIRECTIONS FOR PREPARATION OF BENZYL BENZOATE EMULSIONS

The following three emulsions containing 20% of benzyl benzoate have been found satisfactory. If a 25% emulsion is preferred this can be made by increasing the benzyl benzoate and decreasing the water in the appropriate quantities.

Benzyl benzoate	200 mls
Lanette wax S.X.	10 g.
Water	800 mls

Melt the lanette wax on a water-bath, add the benzyl benzoate, and heat the mixture to a temperature of between 60° and 70° C. Pour the mixture into the water, previously heated to the same temperature, and stir until cold.

Benzyl benzoate	200 mls
Stearic acid	20 g.
Triethanolamine	5 mls
Water to produce	1,000 mls

Melt the stearic acid with the benzyl benzoate on a water-bath. Mix the triethanolamine with half the quantity required of warm water, and pour into the stearic acid-benzyl benzoate mixture cooled to about 30° C. Shake to form an emulsion. Add enough water to produce the required volume.

Benzyl benzoate	200 mls
1% solution of cellofas W.F.Z.	800 mls

Shake together to form an emulsion. Put through a cream-making machine or homogenizer.

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NARCO-ANALYSIS IN THE TREATMENT OF WAR NEUROSES

BY

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Many and diverse are the methods that have been used in exploring the meanderings of the neurotic mind. In the early days of psycho-analysis Freud (Breuer and Freud, 1893) employed hypnosis in overcoming the resistance of his patients, and, later on, in his dream analysis utilized the recurrent narcosis of natural sleep. However, the methods of psycho-analysis and all its derivatives are intricate and require considerable skill, time, and special training. In war the problem of having to deal with greater numbers of neurotics in the Services compels the profession to improvise less intricate and more rapid techniques. During the war of 1914-18 Hadfield's (1920) technique of hypno-analysis was most effective. Since 1929, research in the use of drugs as an aid to gaining insight into and rapport with patients suffering from mental and nervous illness has been in progress.

The drugs which are most useful for this purpose are the barbiturates. Bleckwenn (Lorenz, 1930) of Wisconsin, in 1929, was the first to use sodium amytal in an endeavour to gain

closer rapport with his psychotic and psychoneurotic patients. Nembutal appeared in 1930, evipan in 1932, and pentothal in 1934, and these drugs have since been freely used. Other drugs that have been experimented with include cocaine, hashish, and mescaline (Lindemann and Malamud, 1934), alcohol, and medinal and paraldehyde (Hauptmann, 1934). Workers in this field also include Stungo (1938) and Campbell (1938), who employed evipan, Mallinson (1940), who has published an account of its use in the Royal Navy, and Dicks and Stungo (1940) and Sargent and Slater (1940), who have reported their experiences in the E.M.S.

The term "narco-analysis" was first devised by J. S. Horsley (1936) for the technique which utilizes a narcosis artificially induced by a barbiturate for the express purpose of facilitating the analysis of a patient's mental content. The barbiturates employed are those which have proved so useful as intravenous anaesthetics. When used as narcotics the dose is of course much smaller. In this respect it is of interest to note that hypnosis, which is the essential preliminary to hypno-analysis, was first employed in orthodox medicine as an anaesthetic by Elliotson, Esdaile, and Braid (Bramwell, 1913) for surgical operations before the discovery of chloroform or ether.

The Present Investigation

Fifty soldiers suffering from neuroses were treated by this method. The drug used was pentothal sodium—sodium ethyl (1-methyl butyl) thio-barbituric acid. It is similar in action to sodium amytal and nembutal, but safer in that it is less toxic and more readily eliminated. It is a respiratory depressant and lowers blood pressure temporarily, and is detoxicated by the liver, but has no effect upon the kidneys, so the only physical contraindications to its use are respiratory disease, low blood pressure, and liver embarrassment. These were rarely met with in healthy young neurotic soldiers. It should not be used in varicose veins if this can be avoided, because of the probability of delayed phlebitis.

Indications for Narco-analysis.—When a neurotic is admitted to hospital it is first of all essential to take a complete psychiatric history. Next a physical examination is conducted and any necessary physical treatment given. Although this has usually been done before the soldier reaches a psychological unit, it is surprising how physical signs are sometimes missed by physicians and surgeons of repute, doubtless because during their examinations the display of some gross functional symptoms by the patient has biased their judgment against a physical diagnosis. Next follow several psychological interviews in which one endeavours to explore the motives behind the symptoms. It is important to be in possession of all the facts of which the patient is consciously aware. If an impasse is reached in which the patient, though trying his best, cannot honestly remember the painful matters that have been repressed, and if this repression remains impervious to all psychotherapeutic efforts quickly applied, then one resorts to narco-analysis. It is explained to the patient simply that he will be given an injection to help him to get better. It will make him sleepy, but will have no untoward after-effects. Soldiers are at liberty to refuse injection, so it is necessary to win their approval by persuasion. At times all sorts of wild rumours have been current in the wards to the effect that (a) the injection will weaken the patient's will power, (b) under it they will be forced to say everything they wish to keep secret, and (c) every word uttered will be taken down by a stenographer and afterwards used in evidence against them. At times such rumours have prevented me from having a case to treat in this way for months on end, and then a few successful cases make the technique popular again.

I have found intravenous sodium pentothal of assistance in (1) hysteria in its various manifestations; (2) anxiety states; (3) the after-effects of head and spine injuries; (4) borderline psychoses, mental deficiency, and epilepsy when the diagnosis was in doubt; and (5) simulation and malingering.

Administration of the Drug.—The time chosen for injection is about 2 hours after a meal. The patient is made comfortable on a couch or bed in a quiet room and is reassured. The collar and belt are loosened and the median basilic vein is prepared for venepuncture. An ampoule containing 0.5 g. (7.5 gr.) of sodium pentothal is opened and dissolved in the barrel of a

TABLE I.—*Patients in whom the Hysterical Reaction was Predominant*

Case No.	Symptoms	Effect of Pentothal	Result
1	Amnesia, dyspepsia, vomiting	No euphoria. Dramatic abreaction of war experience. Revelation of unrequited love affair prior to service	Duty
3	Vague pains left shoulder, hip, and leg	No euphoria. Very depressed reaction, though talkative	Invalided
4	Deafness and aphonia	Marked euphoria. Relief of deafness and aphonia, revelation of detailed history	Duty
5	Anxious about eyesight	No euphoria. Depressed and lacrimose. Revealed that the symptom complained of was not real trouble	"
8	Amnesia	Not euphoric, but loquacious. Memory recovered. Motive underlying fugue revealed to be domestic worries	"
9	Pain in back and insomnia	No euphoria. Maniacal reaction to physical injury received nine years ago	"
10	Sequelae of head injury	No euphoria. Unemotional account of war experiences. No head injury actually occurred. Later wept bitterly	"
13	Pain in back	Euphoric and talkative. Revealed domestic situation in civil life as root of his trouble	Invalided
18	Amnesia following head injury	Euphoric; spoke freely, but in French. Revealed that no actual head injury occurred	Duty
22	Vague rheumatic pains	No euphoria. Vivid revelation of war experiences	"
23	Depression with suicidal impulses	No euphoria. Unemotional revelation of domestic situation. When fully conscious, convulsive sobbing	Invalided
24	Head-wagging tic	Not euphoric; serious. Revelation of fear of which he was unaware before	Duty
26	Head injury, amnesia, war dreams	Euphoric. Memory restored. Sequelae relieved	"
27	Constant headaches	Not euphoric; lacrimose. Personal problems revealed	"
28	Recurrent fugues	Not euphoric. Resistance not overcome	Invalided
30	Amnesia	Not euphoric, but uninhibited. A temperamentally unstable subject simulating amnesia	Duty
32	Anxious about eyesight. Depressed and apathetic	Not euphoric, but emotional. Family troubles revealed. Eyesight not improved, but depression relieved	"
35	Amnesia	Not euphoric, but emotional. Memory restored	"
36	Head injury. Persistent headaches, amnesia	Not euphoric. Memory restored. Symptoms relieved	"
38	Violent nightmares	Not euphoric. Traumatic episode revealed	"
41	Hysterical tic	Euphoric. Domestic situation associated with tic brought to light	"
42	Hysterical fugue	Mere suggestion that injection could restore his memory caused him to reveal that injury was consciously self-inflicted	"
49	Anaesthetic corneae	No euphoria. Psychotic, but sensation of corneae restored	Invalided

TABLE II.—*Cases in which Anxiety Predominated*

Case No.	Symptoms	Effect of Pentothal	Result
2	Insomnia, anorexia, trembling	Euphoric, aggressive, communicative. Revealed important personal and family secrets	Duty
12	Multiple healed wounds and stammer	Euphoric and loquacious. Speech clear. Revealed important nuclear incident	"
14	Morose and reticent	Not euphoric; emotional and agitated. No new revelations	Invalided
16	Trembling and emotional	Not euphoric. Revealed a strong maternal attachment from childhood	"
19	Palpitations. Pain in back	Not euphoric. Communicative about Quetta earthquake and instability at home	"
25	Confused, irritable, unable to concentrate	Not euphoric, but agitated and expressed great feeling of guilt for shooting up enemy	Duty
29	General pains. Poor memory and lack of concentration	Not euphoric. Amnesia recovered	Invalided
31	Insomnia, anorexia, amnesia	Not euphoric. Memory recovered. Revealed a fear of showing fear	Duty
33	Insomnia, war dreams, anorexia	Not euphoric. Recorded all experiences for the first time	"
40	Fears loss of vision. Amnesia	Not euphoric. Revealed that real trouble was domestic worry	"
43	Frequency of micturition	Not euphoric. Disclosed factors underlying origin of symptom 10 years ago and repeated now	"
44	Nightmares and nervousness	Not euphoric. Disclosed unsuspected emotional reaction to earlier incident and a fear of showing fear	Invalided
45	Faints and palpitations	Not euphoric. Conditions causing his anxiety shown to be unconnected with war trauma	Duty
47	Headaches and insomnia	Not euphoric. Emotional and abusive, but freely informative about his war experiences	"
48	Diarrhoea, blood in stools. Flatulence	Not euphoric. Related with marked emotion important personal experiences prior to his war trauma	"
50	Enuresis	Not euphoric. Personal experiences prior to war revealed as chief worries	"

TABLE III.—*Cases in which there was a History of Head Injury*

Case No.	Symptoms	Effect of Pentothal	Result
10	Chronic headaches, nervousness, irritability	Not euphoric. Unemotional account of war experience. No head injury actually occurred	Duty
18	Amnesia	Euphoric; spoke freely in French. Revealed that no actual head injury occurred	"
26	Amnesia, war dreams	Euphoric. Memory restored. Sequelae relieved	"
34	Depression, dizziness, trembling	Not euphoric; displayed fear and anger. Seemed to be relieved of his fear of pain	"
35	Headaches, lassitude, tremors, palpitations, depression	Not euphoric. Memory restored. Revealed fear of showing fear	"
36	Headaches, amnesia	Not euphoric. Memory restored. Symptoms relieved	"
39	Headaches, dizziness, general lassitude, amnesia	Not euphoric. Memory for events immediately following head injury recovered and later corroborated. Symptoms relieved	"

TABLE IV.—*Illnesses Predominantly Physical*

Case No.	Symptoms	Effect of Pentothal	Result
11	Complete bilateral deafness	Deafness quite unaltered by pentothal	Invalided
15	Deafness	Deafness not relieved under pentothal. E.N.T. specialist decided it was nerve deafness	"
20	Hysterical reaction to spinal injury	Memory recovered under pentothal. Further treatment refused because of its implications	"
46	Excessive reaction to physical injury	Was able to re-experience the emotions associated with original injury	Duty

TABLE V.—*Miscellaneous Group*

Case No.	Symptoms	Effect of Pentothal	Result
6	Amblyopia right eye, blepharospasm left	Euphoric. Blepharospasm relieved. Diagnosis of mental deficiency established	Invalided
7	Severe stammer	Not euphoric. History obtained only by means of pentothal	Transferred
17	Epilepsy?	Evidence of maternal attachments revealed. Suspected that he was making the most of his symptoms to obtain discharge from the Army	Duty
21	Deafness (functional)	Not euphoric, but revealed a history of depression with family history of suicide on both sides	Invalided
37	No symptoms	Not euphoric. Story of war injury revealed to be false. Psychopathic personality	"

10-c.cm. syringe in chemically pure water that has been specially supplied in a sealed ampoule. This makes a 5% solution. The injection is then administered very slowly, giving only 1 c.cm. per minute (checked by the second hand of a watch). The patient is asked to count from the very first, and when he reaches 100 and is getting drowsy he is asked to count back. Very few patients have required the full 10 c.cm. This is in marked contrast with the amount required for anaesthesia, in which the dosage ranges from 0.1 to 3.4 g. for operations varying in duration from 5 minutes to 4 hours or more. In no case have I used more than 0.5 g. In the earlier cases of this series my aim was to produce a very short period of unconsciousness. However, I soon found it preferable to give a much smaller dose, so that the patient did not get so far as unconsciousness, but was drowsy and had not quite reached the stage of incoherence. Anything from 0.25 to 0.4 g. was sufficient for my purpose, depending on the individual response of the patient.

Complications.—Central respiratory paralysis with subsequent circulatory failure, if threatened, should be dealt with by artificial respiration, oxygen and CO₂ inhalation, and the administration of coramine or picrotoxin.

Results

The mortality and morbidity in my series of 50 cases was *nil*. Tovell records 6 fatalities out of 4,000 anaesthetic cases. Cameron had one fatal case in 225—that of a very fat diabetic negress who required amputation of a toe for gangrene. Our group, which was unselected, included every soldier that came under my care over a period of 13 months whose investigation was held up by resistance and who, at the same time, was fit physically to receive pentothal and could be persuaded to submit to the treatment.

Of these patients 35 showed predisposition to neurosis prior to service; 31 had suffered actual war trauma. Of the 50 patients treated in this way 33 were rendered fit for duty and 17 were invalided. About half those invalided were fit to return to good posts in civil life. In fact, in some the pronounced secondary advantage of having a good position in civil life to which to return was a factor mitigating against successful removal of the neurotic symptom.

Illustrative Case

Case 26.—A soldier, aged 33, who had been in the service for 18 months, was admitted to hospital complaining of frequent nightmares associated with war dreams and general nervousness. Four months previously he had been exposed to bomb blast and had been rendered "unconscious" for 36 hours. Amnesia for those 36 hours was complete. He had had a normal school and work record, was the second son in a family of 6 boys and girls, was happily married, and happy in his unit. No family history of mental or nervous illness was elicited. On clinical examination there were no physical signs of disease apart from coarse tremor of the limbs and somewhat exaggerated reflexes. He was considered to be a case of hysterical amnesia and suitable for narco-analysis. It was thought essential first to relieve his amnesia. He reacted extremely well to a small injection of pentothal (5 c.cm.), and became euphoric and excessively loquacious. Amongst other things he related how he had been on the verge of "a sensual indiscretion," about which he felt extremely guilty, immediately before the air raids in which he was injured. He recalled the bombing and recounted how he was thrown down violently and covered with mud, how his friends came and had him admitted to hospital, and all the details of the way the nurses and doctors dealt with him on admission. All this was confirmed later. He made an immediate improvement; he was able to recall all these experiences when he came round from the influence of the drug, and seemed to fear them no longer. For the remainder of his stay in hospital he was symptom-free and a good advertisement for other similar patients, persuading them to submit to the same therapy. He returned to duty.

The cases are presented in tabular form. Table I deals with the patients in whom the hysterical reaction predominated. Table II summarizes the cases in which anxiety states predominated. Table III deals with 7 cases with a history of head injury. Table IV deals with 4 patients whose illness was predominantly physical. Table V contains details of a miscellaneous group. The number in the first column refers to the chronological order in which they were treated. In many of

the cases accurate diagnosis has been difficult, because it was found that for the most part they did not fit clinically the classical descriptions—e.g., patients predominantly hysterical in their reactions showed anxiety symptoms, and obvious anxiety neurotics at times displayed hysterical features. Again, apparent neurotics under narco-analysis revealed themselves as psychotics, and certain sufferers from physical injury displayed superimposed neurotic features.

Discussion

The advantages of this simple physical approach to the intricacies of psychological mechanisms are that it is safe, rapid, and sure: the mortality, inside the wide limits imposed by contraindications and using the small doses of pentothal advocated, is *nil*. It is a much more rapid approach to the factors hidden behind neurotic symptoms than any other form of psychotherapy except hypno-analysis, and the necessity for the services of a skilled hypnotist is eliminated. It is a sure method of getting a patient into a narcotic state without unpleasant after-effects, and the required degree of narcosis can be achieved to a nicety with very little practice by giving the injection extremely slowly, as described, and conversing with the patient all the while.

One disadvantage is that it is technically an operation: in the Army a soldier can refuse any injection or operation, and very often exercises this privilege. Rumours about the mysteries and dangers of narco-analysis are reminiscent of former outcries against the use of hypnotism and anaesthetics. Another disadvantage of making a physical approach to a neurotic patient is that he may revert to the belief that some physical defect is still responsible for the illness and persist in avoiding the psychological issue in spite of all physical examinations having proved negative.

Narco-analysis with intravenous barbiturates is not a method which at present is universally successful in overcoming resistance. There has been a good deal of irresponsible Press publicity, principally in the United States, about the use of intravenous barbiturates as "truth serum," but I have been able to trace only one scientific article on the subject in the medical literature. In this Lorenz (1932) refers to the undue Press publicity, and states that the medical profession, in its contact with the public, should seek to correct the misinformation that prevails. In the 3 cases he quotes the patients who were suspected of murder were, under the influence of sodium amytal, able to establish their innocence.

Dr. Emanuel Miller in a private communication has informed me that he was called upon to give evidence before a court martial in defence of a soldier whom he had treated for a hysterical fugue. He had used evipan narcosis in his treatment, and the material obtained from the accused by this means was accepted as evidence by the court. It is debatable whether material so obtained should ever be accepted as evidence *against* any accused person. Though memory was restored under pentothal narcosis in a number of my patients suffering from amnesia, and the material thus recovered was corroborated independently afterwards, I am not prepared to say that the truth is always revealed. The patients with whom I had success were co-operative so far as they could be, and had something to gain by being communicative when assisted by injection. No doubt, in time, this technique may be perfected so that one can be sure whether the truth is being revealed or not, and this will be a great medico-legal advance, but from the psychotherapeutic standpoint it is not so important to be sure that the repressed material is absolutely true. The hidden fears of the neurotic may be sheer fantasy and the wildest confabulations of imagination. They are none the less terrifying, perhaps more so than real dangers. Yet these fantasies are the phenomena with which we as therapists have to deal in helping our patients to adjust themselves to themselves and to their hidden fears.

The phenomena observed in the 7 cases with a history of head injury give rise to interesting speculation. Two of these, under investigation, revealed that no head injury had ever occurred; but, even in those in which there was no doubt about physical injury, restoration of memory and abreaction was followed by relief of the sequelae. It may be that in these cases there was no real brain injury and that they were similar to cases of other bodily injury followed by hysterically exagger-

ated symptoms. It is a type of injury which would repay further exploration by this method. All these men were returned to duty.

It will have been noted that a great number of these so-called war neuroses when subjected to narco-analysis revealed hitherto unsuspected data. In many of them the hidden worries brought to light had nothing whatever to do with the war, the trauma experienced in fighting being only the precipitating factor in predisposed subjects. Patients are often more ready to talk of their war experiences than they are to confide their personal and domestic worries. But it is usually the revelation of the things they least want to talk about that brings relief of neurotic symptoms. The clinical study of these soldiers suffering from neuroses has exemplified that the factors underlying both war and civilian neuroses are similar. But the war has precipitated these neuroses, and we are faced with the problem of having to deal with great numbers of psychoneuroses in the Army, in which saving of time in treatment is very important.

All sufferers from neuroses find it difficult to confide entirely in their doctors. For those in civil life who can choose their own doctor this difficulty may be somewhat diminished, but for the hospital out-patient and the soldier faced with a medical officer in uniform there is virtually no choice, and thus treatment in the ordinary way tends to be either prolonged or ineffectual. The progress made in the Services towards perfecting the technique of narco-analysis during the war will be invaluable when tackling the problem of civilian neuroses in the period of post-war reconstruction.

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POSTURING IN BRONCHOGRAPHY

BY

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In a study of the literature on bronchography one is struck by two things: first that methods of introduction of lipiodol into the bronchial tract are discussed at great length though little detail is given of posturing the patient to fill different areas of the lung; secondly, that the radiographs illustrated often show large areas unfilled. If one is demonstrating a basal bronchiectasis it is essential to exclude the same disease elsewhere if operation is contemplated. The right, middle, or left lingular lobe* is also frequently unfilled, and, though all zones appear on rapid inspection of an A.-P. film to be filled, closer inspection will show that the middle-lobe bronchi are empty of oil, a fact brought out readily in a lateral view. As bronchography is primarily an investigation to locate lesions and to define their extent exactly, it is as important to know what areas are normal as to know what areas are abnormal. To outline the bronchial tree completely on one side of the chest is therefore essential, and to do this with certainty proper posturing is required as described by Erwin (1936).

Technique

It was found best to adopt a standard technique and vary it hardly at all. Assistant and radiographer should be well acquainted with the different stages so that the investigation can be performed without any waiting periods. The patient

should be prepared by posturing and/or premedication if necessary, and should have been tested for iodine and cocaine sensitivity.

The Two-stage Method

By this method only one side of the chest is outlined at one sitting. The patient lies on the x-ray couch, with head and shoulders raised approximately 30 degrees on several pillows, the chin elevated, and the head thrown back. A bleb of 2% procaine is produced in the skin over the crico-thyroid membrane: only a few minims (6 to 12) of local anaesthetic are required, as more tends to cause haematoma formation. If cocaine is necessary some 5 minims of 5% cocaine hydrochloride is injected rapidly into the trachea, the needle being rapidly withdrawn. The patient sits up, coughs several times, then returns to exactly the same position as before. He is cautioned not to swallow or cough from this time until the radiographs have been seen and approved. The iodized oil—lipiodol (Lafay) or neohydriol (May and Baker)—is then injected through the anaesthetized area after heating it to just above blood heat in a water bath, the patient being rotated so that the opposite shoulder is raised several inches. This prevents the oil from running into the opposite main bronchus. After some 8 to 10 c.cm. has been injected the patient places his two hands on the investigator's shoulders, lifts himself to a sitting position, still leaning over to the affected side, and leans forwards and sideways so that his body is almost parallel with the floor. The investigator is now kneeling by the side of the couch, the patient's hands on his shoulders, the patient's face looking down into his. In this position 6 to 8 c.cm. of oil is run into the middle lobe. After 1 to 2 minutes the rest of the oil (6 to 8 c.cm.) is injected. The needle withdrawn, the patient quickly lies on the affected side, and the foot of the table is rapidly elevated. As his head sinks below his heels he moves half over on to his face, still lying on the affected side.

In this way the lung has been filled in all its zones, the bronchi of the "four fundamental lobes"—dorsal, middle, upper, and lower—being outlined on the affected side. If successfully done no oil has spilled over on to the opposite side and none has regurgitated into the mouth (though this cannot be prevented in all cases). Radiographs, A.-P. and lateral, are now taken. If the upper zone is mainly under suspicion the patient is kept in this position, with the head low, and radiographed. If the middle lobes are suspected particularly, the foot of the table is depressed so that the feet are a little lower than the head. A lateral picture is taken in this position, the patient lying on the affected side, and a P.-A. film with the patient on his face. If it is required to outline the basal bronchi particularly, lateral and A.-P. pictures are taken with the patient erect. In all cases he is kept in the same position until the films have been seen and passed, further views being taken as found necessary. Screening is then performed with the patient in the erect position. The opposite side of the chest is filled in the same manner some 7 to 10 days later.

One-stage Methods

If it is required to outline both sides at one session one of the following methods may be adopted.

1. Technique as above, using rather less oil; so that instead of a total of 20 to 25 c.cm. only some 14 c.cm. is introduced into the side under suspicion. Films are taken in the required position as described above. The remaining 8 to 12 c.cm. of oil is then introduced into the opposite lung with identical posturing, A.-P. and oblique views being taken. The disadvantage here lies in the reintroduction of the needle into the neck.

2. Technique as above, one side being completely filled and films taken A.-P. and lateral in the required position. If the patient has had the left side filled he turns on to the right, and the head of the couch is lowered for one or two minutes. The oil now runs from the left base into the right upper lobe bronchus. The couch is returned to its first horizontal position and the patient leans over the right side of the couch, with his body almost parallel with the floor, to fill the middle-lobe bronchus as described previously. In so doing some oil runs also into the lower-lobe bronchus. He then sits upright again, leaning slightly over to the right side, and more oil runs down into the basal bronchi. Screening is now performed, erect or prone, and if sufficient oil has not passed over into the second