Unfortunately the fact that the great war has found the men of literature and of science amongst the most active and polemical writers on either side, goes to show that the highest grade of mental cultivation has little influence on the elemental characters of man's nature. Thus while the Central Powers have gone so far as to strive to prevent their medical literature reaching their enemies' hands, the conditions of war have furthered a most intimate association between the medical services of the armies allied in the same cause. Not only has a brotherly alliance existed, unbroken throughout by any national jealousy, but the same lines of thought and the same tide of action and reaction in practice has been observable in all. The reports of the Inter-Allied Conference on the Treatment of Wounds furnish an excellent illustration of these facts.

Amongst the surgeons of the allied nations an increased spirit of fraternity and intimate co-operation has certainly flourished. Just as the armies of the different states have placed their resources of every kind at the disposal of each other, so the workers in medical science have pooled their knowledge and growing experience, and readily received and adopted variations or advances from whatever source they might emanate.

Those who were privileged to take part in the recent campaign will at once recognize that although omissions have no doubt been made in sketching this outline of the duties of the consulting surgeon, yet it embodies in the main what has been the practice in the British army, and a system which has been appreciated and even imitated in the armies of our allies. Still, as far as I am aware, the system remains founded upon usage during the war; it has resulted from a process of development in successive steps, and it is no doubt capable of further regularization and organization.

Conclusion.

The authoritative pronouncement of Sir Alfred Keogh in the *British Journal of Surgery* (vol. iv, No. 13, pp. 3-4, 1916) affords sufficient grounds to absolve me of any intention of wishing to magnify the office of the consultant, either at the expense of the regular service or of the splendid body of men for whom the nation was in the main part indebted for the hard work of the campaign. It should be realized, however, that the position assigned to the consultant with the army corresponds in dignity and importance with that of the professor in a Medical Faculty, and his power of influencing the whole character of the work is equally great. We cannot doubt that the experience gained will be utilized by clearly defining what the status and duties of the consultant will be in the future, but I would submit that these should be laid down while the facts that should decide them are still fresh in the minds of the powers that govern the Army Medical Service.

It is much to be desired that the principle introduced in 1903 of inviting civil consultants to form a part of the staff of the military hospital at Millbank should undergo further development, and be but a step towards the permanent association of civil practitioners with the work of the military hospitals throughout the service. Thus a connexion between the two branches of the profession in times of peace would be established which could not fail to simplify and render more efficient the change which must follow mobilization in the case of any war of magnitude.

These remarks upon the duties of the consulting surgeon cannot be closed without allusion, however brief, to the charms and pleasures of the position. For the first time in his professional career he attains an opportunity of practising surgery for the sake of surgery alone, a position which many a man with the responsibilities of the civil practitioner has longed for as the impracticable ideal. A routine occupation is suddenly transformed into a free and varied existence, with periods of strenuous work, it is true, but also others in which abundant opportunity is found to ponder over the many interesting problems which arise, and, moreover, a wealth of material which allows the acquisition of a practical experience which many years of civil practice would not suffice to acquire.

Lastly, the favourable conditions which are afforded of cultivating a close relationship with colleagues. Happy as the association of the consultant may be with those with whom he works in civil life, they cannot approach the free intercourse of mind with mind which obtains in

life in the field. Freedom of discussion, the constant sharpening of wits in encounters with young and ardent workers eager to assume the position of the pioneer, the social life and the charm of entering on equal terms a society such as brings back memories of youthful days, are but some of the pleasures only to be fully appreciated by those who have enjoyed the privilege of experiencing them.

No less happy are the somewhat novel relations which establish themselves between the consultants, and between the consultants and the officers of the regular service, which it is to be hoped form a presage of the future, a continuing co-partnership founded upon a common aim and mutual appreciation.

THE OPERATIVE TREATMENT OF SIMPLE ENLARGEMENTS AND TUMOURS OF THE THYROID GLAND.

BY

CLAUDE FRANKAU, C.B.E., D.S.O., F.R.C.S.,

SENIOR ASSISTANT SURGEON TO ST. GEORGE'S HOSPITAL.

In this paper it is intended to consider the surgical treatment of certain simple enlargements of the thyroid gland by a review of fifty cases. Under the heading of simple enlargement the following types of case are included: (a) Colloid goitre, (b) diffuse adenoma; (c) encapsuled adenoma and cysts; (d) inflammatory conditions. Malignant disease and exophthalmic goitre are excluded from the cases under review.

A. COLLOID GOITRE.

This term is used in preference to parenchymatous goitre since histologically the most marked change is increase of colloid with distension of the vesicles. Clinically in early cases the gland shows a diffuse enlargement which is usually symmetrical; the surface of the gland is smooth, and the consistency is soft. In old-standing cases the surface is nodular, and the gland, as a result of fibrosis, is firmer in consistency; differentiation, both clinically and microscopically, from diffuse adenoma may be a matter of considerable difficulty; for this reason only the early "soft" cases are considered under this heading, the more advanced cases being grouped with the diffuse adenomata. A very large proportion of the early cases, where no fibrosis has occurred, are amenable to medical treatment; my usual plan is to give iodine internally, in the form of pil. iodoformi gr. $\frac{1}{2}$ t.d.s.; in many cases regulation of the bowels by means of liquid paraffin is essential, and intestinal antiseptics are often of value. Operation is rarely necessary, and should only be performed for definite symptoms or severe deformity. The symptoms most commonly complained of are due to pressure on or dislocation of the trachea, a condition which is most likely to obtain if the goitre is asymmetrical or partly intrathoracic. Occasionally dysphagia may be a prominent symptom; in one particular case a tongue of thyroid tissue was found passing between the trachea and oesophagus on the right side; removal of the right lobe gave complete relief.

Operations for cosmetic reasons require careful consideration and should only be performed if the deformity is severe and after a prolonged course of medical treatment; in this series I have performed an extirpation for this reason on three occasions only (one male and two female cases). In each case the patient was a servant and could not obtain employment owing to the disfigurement. In two cases the complete thyroid was extirpated with the exception of a small stump at each lower pole; in the third case the left lobe alone was removed as it was more than twice the size of the right lobe.

GROUP A.—Colloid Goitre.

Total operations (males 2, females 5) ...	7
Complete extirpation ...	4
Hemithyroidectomy ...	3
For dyspnoea ...	3
For dysphagia ...	1
For disfigurement ...	3
Average age 18; oldest 27, youngest 14.	
Mortality nil.	

B. DIFFUSE ADENOMA.

The pathology of this condition is a little obscure; some cases are definitely due to the presence of multiple small cystadenomata with little or no capsule to the growths, others appear to be the result of fibrosis in a colloid goitre. (See above under colloid goitre.)

Clinically in this condition the thyroid is firmer in consistency than normally and is irregular and nodular on palpation.

The symptoms are nearly always those of dyspnoea—especially occurring at night and on exertion; very marked dyspnoea with stridor was present in several of the cases under review. The respiratory embarrassment is almost always due to flattening of the trachea by lateral compression together with displacement to one side causing kinking. The enlargement was commonly bilateral but asymmetrical, one lobe being considerably larger than the other. A tongue of thyroid tissue running up to the lower jaw was noted in several cases, necessitating a departure from the usual transverse collar incision.

In my earlier cases the isthmus and the larger lobe alone were removed; some shrinkage of the remaining lobe often followed, but this was by no means invariable, and on two occasions a second operation, two years and four years later respectively, was necessary. It was also observed that the removal of one lobe was liable to be followed by dislocation of the trachea with dyspnoea; this was so marked in one case that an immediate complete extirpation was necessitated, urgent dyspnoea resulting immediately after the removal of one lobe. For these reasons it is now my practice to remove the entire thyroid with the exception of a small stump of tissue at the lower poles; no ill results have been observed from this operation.

Goitres of this type tend to grow to a very large size; no palliative treatment will give any relief—operation is therefore justifiable if the enlargement is marked, even if no symptoms are present.

GROUP B.—Diffuse Adenoma.

Total cases (males 3, females 6)	9
Total extirpation	5
Hemithyroidectomy	4
Urgent dyspnoea	4
Average age 25; oldest 38, youngest 16.	
Mortality nil.	

C. ENCAPSULATED CYSTS AND SOLID ADENOMATA.

This type forms the most frequent class of case operated on—that is, 32 out of the 50 cases under discussion. Cysts are not infrequently multiple; they may grow to a very large size—in one instance a single cyst had reached the size of a croquet ball, completely filling the space between the point of the chin and the top of the sternum; it was easily enucleated with practically no hæmorrhage.

Solid adenomata were met with in 5 cases; histologically these appear to be derived from fetal thyroid tissue, showing masses of cuboidal cells with attempted vesicle formation in places. It was noteworthy that the enucleation of these tumours was likely to be followed by severe hæmorrhage from large vessels piercing the capsule of the tumour; for this reason it is now my practice to treat this type of case by extirpation of the affected lobe or portion of the gland rather than by enucleation of the tumour. Single cystadenomata can usually be enucleated with little difficulty or danger, provided the precautions noted in the description of the operation given below are carried out. Multiple cysts are usually best treated by extirpation of the affected lobe.

The usual symptoms are those of dyspnoea; pain or dysphagia may be complained of, but the latter symptoms are rare. Even if no symptoms are present operation is always advisable in these cases if the tumour is of any size, and particularly if it is situated in the isthmus; operation is always urged if the tumour is low down and tending to become retrosternal.

A history of rapid increase in size of the tumour with exacerbation of symptoms was present in five cases. In one the operation had to be performed as an emergency owing to acute dyspnoea; the rapid increase was due to hæmorrhage into the cyst in every case.

Serious obstruction to respiration may occur during anaesthesia, and one dramatic case of this nature is worthy of a detailed description.

Case 37.—A girl, aged 18, was admitted into hospital with three cysts in the thyroid—one the size of a plum in the right lobe, one the size of a walnut in the isthmus and reaching down to the top of the sternum, and one quite small in size in the left lobe. There was marked dyspnoea on the least exertion, with orthopnoea at night. The anaesthetic (open ether preceded by omopon, scopolamine, and atropine) was administered by Dr. Blomfield. About five minutes after induction had commenced urgent dyspnoea set in, and the patient became deeply cyanosed. Thinking that the cyst in the isthmus was the cause of the difficulty I made a median vertical incision and rapidly enucleated the cyst, dividing the isthmus at the same time. Some relief was obtained, but this was by no means complete; further investigation revealed another cyst the size of a golf ball behind the sternum, and apparently connected with the left lateral lobe; this was shelled out, with complete relief of the respiratory embarrassment, so much so that it was possible to continue the operation and enucleate the remaining cysts.

The most difficult and dangerous type of case is where the cyst is partly or completely retrosternal; the symptoms are much more severe, and stridor may be marked. Any intercurrent respiratory disease may easily be fatal in such cases, and sudden death from suffocation occurred in one patient as a result of hæmorrhage into the cyst before any operation could be performed.

GROUP C.—Encapsulated Cysts and Solid Adenomata.

Total operations (males 4, females 28)	32
Treated by enucleation	20
Treated by extirpation of the affected lobe	12
Retrosternal cysts (partial or complete)	9
Average age 34; youngest 16, oldest 58.	
Mortality nil.	

D. INFLAMMATORY AFFECTIIONS.

Inflammation of the thyroid is not common and suppuration within the gland is even more rare. Three cases of abscess in the gland have come under my care; the first was in a boy, aged 9, as a sequela of measles; the abscess was situated in the isthmus and was causing considerable dysphagia and some dyspnoea—drainage of the abscess, in which a staphylococcus was isolated, gave complete relief. The second case occurred during convalescence from a perforated gastric ulcer; a small abscess formed in the right lobe; this was drained and it rapidly healed—unfortunately the pus was not examined. The last case occurred in a man suffering from septicaemia, the result of a gunshot wound of the thigh. Death resulted in this case from oedema of the larynx before any operation could be performed.

NOTES ON THE OPERATIONS.

The anaesthetic has rightly been considered one of the chief dangers in thyroid operations, and for this reason local anaesthesia has been advocated by many surgeons. Personally, I have always been fortunate in having the assistance of highly skilled anaesthetists, and all my cases have been operated on under general inhalation anaesthesia. The usual routine is as follows: Three-quarters of an hour before the operation 1 c.cm. of omopon and scopolamine and 1½ gr. of atropine are given hypodermically; the patient's ears are then plugged with cotton-wool, and they are encouraged to go to sleep—this is often so effective that they have no recollection of being moved from the ward to the theatre. The anaesthetic given was in practically every case open ether by the drop method or warm through a Shipway apparatus; in a few cases a small amount of C₂E₂ was required during the induction. Induction is always slow, as the respiration rate is reduced as a result of the preliminary injection. Anaesthesia should be comparatively light throughout, so that the patient rapidly returns to consciousness after the operation.

The Incision.—In the majority of these cases the low transverse collar incision was found the most suitable, giving good access, and, if carefully sutured, a very good scar; the only variations I now make are (a) in small cysts or adenomata of the isthmus, which are often more accessible through a median vertical incision, and (b) where the goitre is large and there is an extensive prolongation upwards towards the angle of the jaw. In such cases the outer portion of the incision requires to be curved upwards in order to avoid excessive dragging and manipulation in delivering the upper pole. The incision should in all cases be free, so as to avoid the necessity of strong retraction; superficial veins should be clipped and ligatured as soon as exposed, so as to avoid too large a number of clips around the wound.

The sterno-hyoid and sterno-thyroid muscles, which are commonly greatly thinned and stretched, can readily be retracted inwards or outwards; there need, however, be no hesitation in dividing them if additional room is required; division of the sterno-mastoid is never necessary. The fascia over the gland is next cleared, the veins in it being at once picked up and ligatured. The gland in its capsule is then isolated and the upper and lower pedicles are identified and freely exposed. This step is essential whether an enucleation or an extirpation is contemplated; if the gland has been thoroughly freed, the enucleation of cysts is easier, and, further, haemorrhage may be readily checked by extroversion of the cavity remaining after enucleation by means of a finger inserted behind the gland.

In an enucleation the true capsule of the gland is incised, all bleeding points being clamped and ligatured at once; the gland tissue is then divided over the cyst and the tumour is enucleated by gentle finger dissection. After enucleation, a gauze plug inserted into the cavity for a few minutes will usually check all haemorrhage. Failing this, the manoeuvre described above is of value.

Retrosternal cysts often present grave difficulties from their situation and anatomical relations; the best plan to adopt is to clear the upper part of the cyst as far as possible and then to commence the enucleation from below and behind—that is, away from the inferior thyroid and innominate veins. During the necessary manipulations it is advisable to keep the head raised so as to relax the trachea.

In extirpation it is most convenient to commence by exposing and ligaturing the vessels entering the upper pole of the gland; the middle thyroid veins are then clamped and divided and the gland is turned downwards and inwards so as to expose the inferior pedicle; this is ligatured through thyroid tissue so as to avoid possible injury to the recurrent laryngeal nerve and to leave a small amount of tissue if the whole gland is extirpated.

In cases of hemithyroidectomy I have usually found it best to remove the entire isthmus, any bleeding from the point of division being checked by means of a figure-of-eight stitch of fine catgut. The isthmus may be very adherent to the trachea, especially in old-standing cases or in cases which have been treated by x rays, and considerable care is necessary to avoid injury to the trachea, an accident which occurred in one of my cases which had had extensive x-ray treatment elsewhere; in this case a small slit was made in the trachea, this was sutured with fine catgut with no untoward result. In complete extirpation each lobe is dealt with separately, the isthmus being left undivided so that the gland may be removed entire.

Drainage is required in all cases so as to avoid the formation of a haematoma, as a certain amount of oozing is inevitable even with the most careful haemostasis. Haematomas, in addition to the prejudicial effect on healing, may cause dangerous respiratory embarrassment from pressure on or kinking of the trachea. Experience of all methods of drainage has convinced me that the best drain is a $\frac{3}{8}$ in. soft walled rubber tube with one side perforation near the end. Drainage is maintained for twenty-four to forty-eight hours.

Suture of the incision should be in layers—that is, platysma and skin separately. The platysma is drawn together by a continuous suture of fine soft catgut, interrupted at the point of drainage; for the skin I now use interrupted fine fishing gut stitches in preference to any other method. At the point of entry of the drainage tube two separate fishing gut stitches are inserted; these are left untied, and traverse the skin and platysma obliquely, so that more of the platysma is taken up than skin; they are tied the day after removal of the tube, and with a little manipulation perfect apposition of the skin edges is possible. Stitches are removed on the fourth day, with the exception of those at the point of drainage, which are left to the sixth day. The majority of the patients were up on the fifth day and left hospital on the eighth to tenth day.

Dressing.—A very abundant gauze dressing should be used in the first instance to soak up any oozing from the wound; over this a pad of wool is applied, and the whole is fixed by means of a double figure-of-eight bandage. In order to prevent the wound being infected by any

vomited material the upper edge of the dressing should be sealed down by means of collodion.

After-Treatment.—After the first few hours the most comfortable position for the patient is sitting up supported by a number of pillows. Feeding should be by fluids only for the first two days, after which time ordinary diet may be gradually resumed.

Complications and Sequelae.

Severe bronchitis ensued in three of the cases; this delayed convalescence, but left no permanent ill effects—it was in all probability due to the omission of the preliminary atropine injection in at least one case.

Wound haematoma occurred in four cases, fortunately without ill effect other than delayed healing; this was due to the use of too small a drainage tube.

A persistent *mucous fistula*, after the enucleation of a cyst, occurred once. This lasted for three weeks, and was probably due to a mild degree of sepsis.

CASES RESEMBLING ENCEPHALITIS LETHARGICA

OCcurring DURING THE INFLUENZA EPIDEMIC.

BY

J. BROWNING ALEXANDER, M.D.,

LATE MAJOR R.A.M.C.(T.C.).

THE report on two cases of encephalitis lethargica by Brasher, Caldwell, and Coombe in this JOURNAL (June 14th, p. 733) leads me to place on record the following notes, which I wrote, but did not publish, during the influenza epidemic in France in 1918 and early in 1919, because the cases coincide in many points clinically with those reported by them. My object is to emphasize the possible relation between the two obscure conditions—"encephalitis lethargica" and the "influenza" of last winter.

In that epidemic of influenza many cases presenting cerebral symptoms were recorded. These symptoms usually took the form of drowsiness, delirium, melancholia, and, in rare cases, mania. Cases showing such mental disturbances together with transient paresis of groups of muscles have not, as far as I know, been recorded in association with influenza.

In a report made to the Local Government Board in 1918, on an obscure disease to which the name encephalitis lethargica was given, many cases resembling the ones I detail below were described. They differed, however, from them in certain points—namely: (1) The onset, which was more gradual in my series; (2) the short duration with complete recovery in all of my cases; (3) the ophthalmoplegia with marked ptosis, which was a constant feature in the cases of encephalitis lethargica, was not marked in my series.

Marinesco in a few cases observed a diplococcus in the foci of cerebral inflammation, or in their neighbourhood, but himself admitted that these observations required confirmation.

For purposes of comparison with the cases which I describe below I briefly set down here a few of the symptoms met with in encephalitis lethargica:

Early stage: Slight malaise, with increase in temperature, headache, and drowsiness.

Later stage: Lethargy—sometimes going on to complete mental stupor—paresis of muscles or group of muscles, ophthalmoplegia, ptosis, facial palsy. In some cases third or fifth nerve involvement, together with involvement of peripheral nerves—polyneuritis type.

The main feature in these cases, and the one common to all the cases, was lethargy, and there were always associated with it other nervous manifestations—namely, third nerve involvement, fifth nerve involvement, or polyneuritis.

The close anatomical association of the efferent nerve fibres bringing environmental impulses to the thalamus with the nucleus of the third nerve and its emergent fibres would explain how any lesion in or around that region would produce probably also a cutting off of these environmental impulses and result in a state of stupor, as well as ophthalmoplegia, and other third nerve involvement noted in these cases. The cases of facial paralysis and other nervous manifestations associated with stupor, but not showing any third nerve paralysis, suggest a lesion near but not actually in the nucleus itself, together with other lesions generally in the nervous system—for example, the pons or spinal cord.