C. Criminal Responsibility.

- (i) Was he at the time of the alleged offence suffering from a defect of reason from disease of the mind?
- (ii) Did such defect of reason prevent him from knowing the nature and quality of the act he was doing?
- (iii) Or, if he did know, did he know that what he was doing was wrong?

D. Evidence as to Character.

- (i) Was the accused suffering at the time of the offence from any illness which might have affected his behaviour?
- (ii) Is punishment likely to diminish the chances that he will repeat this or similar offences?
- (iii) Is punishment likely to increase or diminish his efficiency as a soldier?

E. Medical Disposal.

- (i) Is any treatment required immediately, during detention, or after release?
- (ii) Is any other action (e.g., transfer after sentence) recommended?
- (iii) Any other relevant information:

sent to the convening officer, whose responsibility it is to decide whether a court martial shall be held. The psychiatrist is thus in every case playing his proper part as expert for the Crown—briefed neither by prosecution nor by defence. This scheme works well. The J.A.G.s often attend and take part in psychiatric meetings in commands. The close contact thus established makes it possible to discuss difficult cases, to the benefit of both professions.

Arrangements exist whereby dull men in need of psychiatric care or disposal after the court martial are notified, and the detention-barrack problems are thereby eased.

Social Psychiatry

Very largely because of the excellent and close co-operation with industrial psychologists it has been possible to achieve a number of advances in social medicine and prophylaxis in the Army. The efficiency of the Army for the primary purpose of winning the war is the concern of everyone, and from this angle prophylactic measures are infinitely more important than the provision of treatment, valuable, and interesting as that is. If any demonstration were needed that the neurotic tendencies of men can be best controlled when they are doing suitable work, that proof has certainly been provided by the scheme for misfits mentioned above. The personnel-selection work of the Army is a major contribution to its mental and physical health as well as to its fighting efficiency and out of the present General Service procedure it seems probable that there will develop a method for use in industrial selection in the future and for the sorting of any large groups of men or women.

Army psychiatry took the initiative in investigating and applying tests for personality and character studies. From this work has developed the specialized technique of the War Office Selection Boards for choosing officer candidates. Here selection is made after two days of observation by a team reminiscent of a child guidance clinic! The team consists of the president and military testing officers (regimental soldiers), psychologists, and psychiatrists. It is not surprising that the character assessment made as a result of the psychiatric interview is in many cases the most valuable of all the various opinions which are presented to the final board before its verdict is given. At present these boards are aiming to discover certain qualities which are particularly necessary for a good officer in different arms of the Army. Follow-up work has been undertaken, and this it is hoped will be carried on right through the Army service of each of these men. It seems as though there had been established a valuable principle for the selection of specialists for various professions and occupations, though for each particular group special techniques will have to be scientifically designed. There has been, and will still be in the future, much resistance to be overcome before the principle of selection by scientific procedure is accepted. Selection pays, but it also carries a threat; for the more accurate it becomes the more it explodes the pleasant and universal fantasy that each of us has a Field-Marshal's baton in his knapsack.

War aims are necessary for us all, and psychiatry has certainly some visions of what can be brought about after the war and where it can slowly but surely make a very considerable contribution to the national life.

Psychiatrists in the Army have not been content to stop short either at clinical psychiatry or at selection, and fortunately they have increasingly been asked to give help and advice with a large number of other problems, such as the multitudinous

aspects of morale. In nearly all of these problems there is some way in which the psychiatrist, thinking in terms of the emotional life, can give useful help; later he has the satisfaction of realizing that once his plan has been grasped and carried out it is regarded as "just common sense." In military training there are many problems which concern the industrial and educational psychologist and many in which the psychiatrist also can assist. Accustoming or "inoculation" of men to those battle stresses that menace morale has been one main way in which psychiatrists have helped. To give guidance on questions of the stirring up and effects of hate, on "debunking" battle noise, the tank, and the morale-destroying aspects of the dive-bomber and other alarming techniques of war, makes a very sure contribution to the mental stability and the battleworthiness of men under training. In these and many other ways psychiatry is concerning itself with the task of the Army just as it is concerned with the health of individuals and groups through wiser disposal and posting and through its experiments with the constitutional neurotic and the dullard.

From all these lines of work there open up further possibilities for help to the Army during this war and to the community after it.

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OBSERVATIONS ON INJURIES TO THE SEMILUNAR CARTILAGES IN SERVICE PATIENTS*

BY

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The object of this paper is to analyse the facts obtained as a result of treating injuries to the semilunar cartilage and to see whether any useful information can be drawn from them. The observations are the results of the combined work of the staff of the Harlow Wood Orthopaedic Hospital.

From the beginning of the war until April, 1942, there were admitted and discharged from the hospital 185 patients suffering from injuries in the region of the knee-joint (excluding wounds and fractures). These were diagnosed as follows:

Synovitis	9	Loose bodies	3
Strain (various types)	16	Dislocation of patella	3
Pre-patellar bursitis	1	Osteo-arthritis	7
Semimembranous bursitis	2	Post-operative cases (I.D.K.)	8
Subsartorial bursitis	1	Injuries to semilunar cartilages	135

In times of peace some men, as a result of athletic activities, injure their knee-joints, and, unless they are professionals, give up the game in which they have been injured and may be able to carry on without very serious disability. It is probable, therefore, that only a small proportion of these cases are ever seen by surgeons and have surgical treatment. In wartime, however, those who are unfit to do what is required of them in the Services must necessarily report sick, and sooner or later they are referred to an orthopaedic centre for advice and treatment. It may therefore well be that the incidence of the various lesions in injured cartilages in Service practice differs widely from that in civilian life.

An inquiry into the position in wartime has been made possible by the establishment of these special orthopaedic centres, in which relatively large numbers of certain types of case, including injuries to the knee-joint, have been segregated. With uniformity of hospital records and notes which this segregation makes possible, it is easier to analyse cases than

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it would be in peacetime, when notes covering many years, written by different individuals, have to be examined.

The number of cartilage cases here reviewed is relatively large, as all have been seen in a comparatively short period. Many are still fresh in our minds, and can therefore be compared and analysed with reasonable accuracy. The cases actually treated by operation numbered 131, and 136 cartilages were removed. The types of lesion found were as follows:

Internal Cartilages	99	External Cartilages	31
Bucket-handle	38	Bucket-handle	5
Posterior tear	28	Posterior tear	5
Anterior tear	11	Anterior tear	8
Intermediate	15	Intermediate	4
Hypermobile	6	Cysts	7
Cysts	1	Disks	2

No demonstrable lesion, 6 (3 internal, 3 external)

It is interesting to note that the internal cartilages were to the external as 3 is to 1, and that there was one cyst in an internal cartilage and in external cartilages there were seven. These figures roughly correspond to those expected in civil practice, although the number of external cartilage lesions is much higher than was formerly thought to be the case. In only four instances were two cartilages removed from the same knee-joint, and in only two of these were two lesions found: the one point of interest here is the comparative rarity.

Eight patients had had operative treatment elsewhere and were brought into hospital because they had not subsequently made good progress. In six of these the main disability was due to quadriceps insufficiency.

Diagnosis

The first essential is an accurate history, the chief points of which should be the type of injury, the immediate effect of the injury, the length of time taken in recovery and, if this is complete, the number of recurrences, and finally the sensation of the patient regarding the stability or otherwise of his knee.

The second essential is an accurate clinical examination. Here the facts to note are the points of tenderness, the existence of a click which may be elicited at different positions in the range of movement of the knee-joint, the presence or otherwise of locking, and pain at the extremes of movement. The diagnosis depends, therefore, on a combination of the clinical findings and the history, and a negative radiograph. Some patients come with their diagnosis ready-made; they give a definite history of locking, but it is sometimes not easy to realize that their ideas of locking and ours are totally different.

Using these methods, in 6 out of 136 cartilage operations no demonstrable lesion was found. Why was this so? In most cases the history was definite but the clinical findings indefinite. In one case an effusion prevented an adequate examination. In another, arthritic changes were present in the joint. In practically all instances the diagnosis might have been cleared up by a period of intensive and controlled physiotherapy. In doubtful cases we therefore now subject the knee to intensive work so that its reaction may be noted. Six cartilages were thought to be hypermobile at the time of operation. In all of these cases the diagnosis and clinical examination seemed quite definite, and we consider that a mobile cartilage should be recognized as a clinical entity. These patients made normal progress after the cartilages had been removed, and those treated to a conclusion at the rehabilitation centre were quite satisfactory. All were internal cartilages.

In the first part of the period under review we were not able to treat cases to a conclusion. The patients left the hospital after three or four weeks and were lost to us. Our experience with cases from other areas made us feel that possibly our own, too, might not be making the progress we expected. We felt very dissatisfied with the position, and because of this we decided to establish for ourselves a rehabilitation centre at our Lound Hall Annexe. When this was established, patients, instead of being sent away with instructions about post-operative treatment, went to the rehabilitation centre and remained there until their treatment was completed. This centre is able to take 50 patients. The staff consists of an Army P.T. instructor and a fully trained masseuse, and visits are made at regular intervals by a member of the surgical staff of Harlow Wood Hospital. The cases can therefore be divided into two series: the first consists of those treated before the rehabilitation centre was opened, the second series comprises

those treated after it had been opened. (In discussing the results of treatment only those in the second series will be referred to.)

Treatment

There are certain points in the operative treatment which we consider important: (1) A small incision about $1\frac{1}{2}$ in. into the joint. (2) The removal of the whole cartilage—i.e., not merely the detached part. (3) Immediate post-operative treatment, consisting of active contraction of the quadriceps (quadriceps exercises should be learnt before the operation). (4) Continuous physiotherapy, consisting in the main of active exercises, which should not be too strenuous to start with. These should conclude with cross-country runs, long walks, and ordinary games.

It has been interesting to observe that patients whose treatment was discontinued on account of their going home on leave on compassionate grounds sometimes came back with the quadriceps less efficient than when they left. We believe this was because they ceased to do their regular exercises. They are now instructed to put half a brick in their tin hats and hang these over their ankles, and so do resistance exercises while on leave. The result of this simple instruction has been a decided improvement.

Results of Treatment

Since the opening of the rehabilitation centre, during the period under review, 86 cases have been treated to a conclusion. In 70 of these (81%) the time varied from 6 to 9 weeks, with an average of about 8 weeks. This probably errs on the long side, as some were certainly fit to leave the hospital a few days or more before they were discharged, but had to wait for posting or transfers. Sixteen patients took 12 weeks or longer. There were various reasons for this. Six had a persistent post-operative effusion. Most of these were in the rehabilitation centre about the same time, and we are inclined to think that they may have had too much treatment in the early stages and were straining their knee-joints. We have accordingly given up the use of weights and pulleys except as a weekly test to show the progress that has been made in the re-education of the quadriceps. In three cases two cartilages were removed, and there was an interval between the two operations. One patient had a partially calcified cartilage, one a semimembranosus bursitis, one tonsillitis, and one a generalized skin infection; and in three there were arthritic changes in the joint. There was therefore at least a partial explanation of the delay in each instance.

Long-standing Cases.—In 12 cases there was a history of the disability having extended over five years or more. It was interesting to see whether, in these cases, any one particular lesion was usually present. The lesions found, however, were varied. Four were of the bucket-handle type, two were posterior tears, one was a cyst in the internal cartilage, three were anterior, and two were intermediate. While, of course, it is impossible to say whether these patients had suffered from a lesion of the internal cartilage during the whole of the period for which they gave a history of disability, it is worth noting that in only three were there signs of arthritic changes in the joint. These patients were aged 24, 39, and 40 years.

Osteo-arthritis.—This was seen radiologically or at the time of operation in 11 cases. The average duration of treatment in these cases was 10 weeks. This, however, was increased by two cases of the previous series. If these cases are excluded the average duration of treatment was 8½ weeks. It appears that arthritis in a mild degree does not seriously interfere with post-operative recovery.

End-results

Of the patients included in the second series 4 had medical board examinations and were placed in Category C. The remaining 82 returned to duty in their original categories, so far as we are aware. As a check on these results inquiries were sent to the Regimental Records regarding the whole of the patients (Series I and Series II), and definite replies were received in respect to 78 patients. These were divided as follows:

Series I (Pre-rehabilitation)					
Definite replies to letters of inquiry	..	..	..	..	31
Graded A1	..	..	..	14 (45%)	
Discharged from Services	..	..	..	6 (19%)	

Naturally when a murmur has been judged to be the innocent kind no heart disease can be made out by further examination, including cardioscopy. Recourse to this test should be had whenever the identity of the murmur remains in doubt from clinical examination alone. At all events when the test is readily available it should be used to endorse the clinical impression which has been gained. This test, reliable as it obviously is, should not, however,