An Address ON THE FUTURE OF THE MEDICAL PROFESSION.

BEING THE CONCLUDING PART OF THE CAVENDISH LECTURE,
DELIVERED BEFORE THE WEST LONDON MEDICO-
CHIRURGICAL SOCIETY ON JULY 11TH,

BY

MAJOR-GENERAL SIR BERTRAND DAWSON, G.C.V.O.,
C.B., M.D., F.R.C.P.,
ARMY MEDICAL SERVICE; PHYSICIAN IN ORDINARY TO H.M. THE KING;
PHYSICIAN TO THE LONDON HOSPITAL.

PART II.*

TEACHING HOSPITALS.

ALL teaching hospitals must henceforth be guarded and retained for their special objects. Their prime functions are education and research. They set the standard for the rest of the country. It should not be the primary function of a teaching hospital to serve the clinical needs of the district in which it is situated. It should gather its patients from everywhere, and in addition to its own district it will no doubt be fed from hospitals and clinics far and wide, to the advantage of the patients and doctors and the furtherance of knowledge.

The local or central hospital belongs to its town or its county. The teaching hospital belongs to the nation. The former should be under the new health authority; the latter should be affiliated to a university or the Ministry of Education.

Attached to the teaching hospitals should be various institutes where the domains of medicine and social service will meet. As the diagram shows, they would represent such subjects as maternity care, infant welfare, school hygiene, trade and occupational diseases, tuberculosis, venereal diseases, etc., and be directed by distinguished specialists, who would be on the staff of the hospital.

These institutes, models of their kind, would give post-graduate training to doctors and instruction to nurses and social workers. They would have the advantage of the educational facilities and influence of the teaching hospital, which would be the link between them and the university; and in their turn would link the hospital with social service and the needs of industrial life. Further, by these institutes doctors would gain the knowledge of preventive medicine they now lack; would appreciate the claims of social service, and prepare themselves for taking their rightful places in the communities they are destined to serve. As has been stated above, no doctor would be eligible for a post in a health clinic without evidence of special study and knowledge.

The Staff of a Teaching Hospital.

Elections to the staff of a teaching hospital should not be exclusively in the hands either of the staff or the administration of that hospital; an academic council,

carefully selected by the university, should also have powers of recommendation; and to avoid the dangers of in-breeding the claims of all suitable candidates should be considered. The size of the staff should be less rigid; it is not advantageous that the number of physicians and surgeons should always conform to a fixed standard; because a physician or surgeon resigns it should not be considered a necessity forthwith to fill his vacancy. The distribution of beds into a fixed number for each member of the staff should cease, and when a surgeon or physician resigns the exact number of beds allotted to him should not of necessity descend to his successor. Though all members of the staff should have beds they should only begin with a few; then if there grew up a man of promise and reputation, his clinic would be developed and his beds increased. In this way a clinic would grow up round a man instead of a man being sought out to inherit a clinic.

It cannot be expected that one hospital should at the same time possess all the excellences. Let it develop those departments which happen to correspond to the talents of its existing staff. The junior members of a staff are of necessity men of promise rather than of fruition; from them will emerge one or more of commanding talents; let such be given increasing opportunity and equipment, and there will grow up a great department or clinic centred round the man. A great teaching hospital would then not only have beds for general medicine and surgery, but would develop special branches; further than this, there should always be beds available for collective investigation of problems which arise from time to time. Now, investigation is too often started by a single individual who is only competent to undertake one aspect of it, whereas for fruitful results a carefully selected team is needed. An encouraging example of collective research is afforded by the work recently done on trench fever by medical officers of the British and American armies.

To be more definite, I should roughly allocate one-half of the

beds to provide each member of the staff with a fixed minimum; the remaining half would be available to strengthen clinics above referred to and for collective investigation. Thus teaching, progress, and research would all be provided for. By such a plan power would go to the most efficient, and the intellectual life of the hospital would be led and inspired by a few men of outstanding abilities.

It may be urged, Why not, instead of this oligarchy, place the whole of medicine under one professor, and likewise surgery under another, and so on, and give these complete control? The answer is, that would be a retrograde step. Medicine and surgery have become subjects each too big to be compassed by the brain of one man. A man placed at the head of so large a subject would need to have encyclopaedic knowledge, great breadth of outlook, and exceptional powers of leadership. I do not say that such a man is never to be found, but he is rare; I know of no such man in this country. The real danger under such single rule is that thought would be cramped and stereotyped into one pattern, there would be none of that free play of mind which results from the intercourse and camaraderie of equal colleagues. If the

Diagram of the Service of a Teaching Hospital.†

* Part I was published in the JOURNAL of July 13th, 1918, p. 23.

† For this diagram I am indebted to Major Pinchard, R.A.F.

single head happened to be unsuitable the whole department might become sterile for years at a time. Further than that, if he happened to be narrow and selfish, an evil would arise, which is by no means an uncommon result of this system in Germany, whereby junior men of talent are held back and exploited, and receive neither opportunity nor credit for bringing forth their own work.

Terms of Service in Teaching Hospitals.

The men on teaching hospitals have chosen an academic career, and they must pursue it. This means sacrifices as well as compensations. Under the present system they cannot devote enough time to their hospitals, and in the hospitals their energies are too much absorbed by routine duties. Many a promising man has been spoilt by the combined effects of unpaid hospital routine and the early struggles for consulting practice. Why not, then, it may be urged, a whole-time service for teaching hospitals under which the members of the staff would receive the whole of their incomes by salary, private practice being forbidden? The reasons are these: An exclusively whole-time service would produce a narrow caste of academic men, who would be aloof from the problems and difficulties presented by disease in the world of action, and would drift too much into esoteric paths. It must never be forgotten that disease does not possess constant features, but varies in manifestations according to its environment.

How are general practitioners to be trained for their work by men who are themselves wholly ignorant of the problems and conditions of disease in the world of action the practitioner will have to meet? It must never be forgotten that we exist not only to pursue knowledge, but to show the application of that knowledge in the world of action. Further, it would surely be unwise to eliminate entirely the unconscious stimulus to effort which the earning of professional income affords.

But though these reasons are, I think, conclusive against a universal application of the whole-time principle to teaching hospitals, I think a limited application of it is sound. For the first five years after his appointment every member of the staff should be a whole-time officer and forbidden private practice; he should either live at or in close proximity to his hospital, and he should be paid a salary which would be adequate for him to live comfortably, though not in an expensive professional quarter. During those five years the junior would, with singleness of purpose, apply himself to training, teaching, and research; he would discover his bent, and would be able to make manifest his worth. He would be saved from that exhausting struggle after scratch fees which a man at the start and without reputation has to submit to, and which is apt to paralyse his academic activities. For the succeeding ten years a member of the teaching staff should give half his time to the service.

It may be that members of the staff will arise whose gifts and tastes are entirely academic, and who may not possess the aptitude for work in the outside world, whether on the curative or social service sides of medicine. If that were so, by all means let facilities be provided for such men to remain whole-time workers at a salary. I think it is probable that one or two such whole-time workers would strengthen and keep balanced the staff of a teaching hospital.

As the habit of institutional treatment spreads in the community, which it assuredly will, consultants will more and more focus their private work in a single institution, with the result that their time will be economized and their earning capacity relatively increased. This will compensate for the larger demand of the hospital on their time.

In a new city no doubt a private clinic could be built in close proximity to a teaching hospital, but in a long-established city like London this might be impossible for obvious reasons. The increasing demand for institutional treatment by payment, because of its greater efficiency, may be seen in every morning's post-bag of a big teaching hospital.

To avoid staleness and parochialism members of the staff should periodically be sent away for a period of from three to six months on tours of study.

The old-fashioned line of demarcation between the work of the physician and surgeon should cease. Half of their beds should be common to both of them, corresponding to

the idea that a large number of diseases have both medical and surgical aspects. Indeed, in many branches the surgeon and physician would be the leaders of a team of workers.

Radiographers and laboratory workers should be brought into closer contact with the wards. The day has come when each member of the staff should have attached to him, besides his resident officer, two or more clinical assistants, the number varying with his work. These would be men who have distinguished themselves as residents in some teaching hospital; they would be whole-time workers, devoting themselves to work in their chiefs' wards, to teaching and research, care being taken that at least one-third of their time would be free for study and research work of their own.

As regards salaries for hospital services, these should be adequate, but not lavish; their amounts should be guided by the amount of time and energy each member of the staff gives to the hospital, and by the consideration that junior men need more help in proportion than senior men.

State Aid Essential.

Is it not obvious that no teaching hospital could provide the equipment and staff necessary to maintain such a service at full efficiency unless it were helped by endowment or State aid? State aid on a small scale is in being; the Education Ministry gives grants for students and nurses, the Local Government Board gives grants to special departments like venereal clinics, and the Medical Research Committee assists research. No doubt, too, the Health Ministry, if formed, would subsidize health clinics. Such a policy of State subvention has the merit of being elastic, and is compatible with the continuance of voluntary support combined with adequate central control. On the other hand, some of the great voluntary funds, like King Edward's Hospital Fund, maintain that narrow outlook which cramps the progress of medicine, actually forbidding that any part of their grants should be expended on investigation. The money voted by them may be only spent on the immediate needs of actual patients, but an investigation which might in the future help thousands of patients cannot receive their aid. Teaching and research in England are still starved. In European countries the State endows them; across the Atlantic either the State or the far-sighted millionaire endows them; here from neither one source nor the other is there adequate help.

Evolution, not Revolution.

The scheme thus outlined involves change but not upheaval. While modifying methods, it upholds the ideals of English medicine—the essential principle that a student should be taught his profession in the wards by personal contact with the sick would be preserved; thus he learns disease not only from what he is told but by what he sees. He learns to observe, to inquire, to understand; he is trained not only in knowledge but in sympathy; he gains not only judgement but insight; he early faces one of the greatest difficulties—namely, that the symptoms of disease are not constant in different individuals, nor have they the same value; above all, he trains his powers of intuition, without which he can never reach the best in clinical medicine.

Some well-meaning people, obsessed with the imagined perfection of all that is German, have wanted us to imitate the German methods of teaching medicine. The German system has fundamental defects. The students seldom come into responsible contact with the patients until they are nearly or actually qualified. They learn at a distance and secondhand in largely-attended clinics; not, as with us, in small numbers round the bedside, where as dresser or clerk each learns by actual observation, not only about the disease, but about the individual patient—in fact, *his* patient. We do not wish to imitate a system under which the patient is apt to be regarded as a piece of machinery, resulting too often in a callous disregard for the feelings and sufferings of the sick. We want intelligence, but we also want sympathy; we want efficiency, but we do not want it to be mechanical and soulless. It is an interesting reflection that two branches of treatment which, above all others, go to assuage suffering—namely, the art of nursing and the art of anaesthetics—are in their supreme efficiency coterminous with the English-speaking world. On the other hand, let it be freely admitted that for post-graduate work and for certain specialities the teaching is

better organized in Germany than it is here. Those defects we can and must remedy, but without sacrificing the foundations of our own better system.

Post-Graduate Teaching.

This is an appropriate place to refer briefly to the need for organization of post-graduate study. Every encouragement should be afforded for doctors to seek periodically knowledge and inspiration in the schools, and during such "study leave" their salaries should be continued. The war will increase the importance of the question, because thousands of doctors from the English Dominions and the United States, who previously visited Germany and Austria, will now turn towards Great Britain and her European Allies. Likewise we in this country will cross the Atlantic in increasing numbers, to our own great advantage. One looks forward to a comprehensive scheme of post-graduate study co-ordinated with similar schemes in allied countries whereby we shall widen our mental horizon and constantly extend our knowledge.

EARLY DIAGNOSIS: THE BEGINNINGS OF DISEASE.

Reverting now to the larger question, it will be useful briefly to consider the organization we have been discussing from the standpoint of early diagnosis.

Early diagnosis is of supreme interest alike for the individual and the community, and the more early the diagnosis the more preventive and successful in character becomes the treatment; and, one step further, the more preventive the treatment the further it is removed from the bottle of medicine and the more it requires régime, method, and environment.

We are too much occupied with end results. We need to catch the diseased process sooner, when we can cure it effectively. Take Graves's disease, chronic Bright's disease, apoplexy. These are late expressions of diseased processes, far removed in time from their early beginnings, and it is these early beginnings we need to detect and treat. In short, we want the early diagnosis of the clinic followed by the preventive treatment of the sanatorium and the spa. This brings me to a cognate question—namely, that the problems of health at any epoch bear a relation to the existing conditions of life.

In our day the infections are being combated by improved sanitation, efficient isolation, and inoculation. Another group of diseases will be combated by healthy dwellings and workshops and the supply of good air and food.

The Strain of Modern Life.

But there is one thing which we cannot entirely prevent but must aim at counteracting, and that is "strain." You cannot increase the speed of life by motor cars, flying machines, telegraphs, and telephones, you cannot render all effort more intensive, without being faced with the problem of "strain." And, incidentally, if people are tuned up to too high a potential by work, they have a tendency to keep the same high potential in play, with the result that many forms of modern amusement produce as much strain and exhaustion as work. It would be interesting perhaps to consider some of the forms under which strain expresses itself.

In some it affects the arteries, and after years of its wearing effects actual illness comes on the scene in the form of aortic disease, arterio-sclerosis, cerebral hæmorrhage. Or, again, it affects metabolism—the body chemistry deviates from virtue—the gouty state may show itself; it may be the blood pressure rises or renal function becomes inadequate, till finally disease comes in the form of gout or nephritis. Or, once more, strain may show itself in the plain muscular fibre of the body. This type is an interesting study. It is spare of frame, with a shallow abdomen, and often with a low blood pressure and cold extremities. In such subjects, with fatigue and strain, the plain muscular fibre gives out and the tone and motility of the hollow viscera fail; they thus get atonic dyspepsia, constipation, leading later to conditions like intestinal stasis, visceroptosis, and colitis. These people have abdomens which are ever responsive to their worries and cares—they feel abdominally, and for that reason seldom think imperially.

How often when a patient comes to you, it may be with

headache, insomnia, cardiac irregularity, indigestion, abdominal pains, the bottom fact is "overstrain." He will not be well till the "strain" is treated. Medicine will not do that. Repose and regimen will.

True, you may help him by advice and medicine to bridge over a period while he is concluding work of critical importance. He may be enabled to postpone payment, but not to avoid it. If he tries to escape altogether, the overstrain of to-day becomes the disease of to-morrow, and the defect of function is succeeded by the defect of structure.

Sanatoriums and Spas.

These early deviations from health often need institutional treatment. The proper conception of sanatoriums and spas is as fields for early and preventive treatment.

It is not always necessary or possible for patients to suspend their active employment during treatment. On the outskirts of a big city there should be organized sanatorium treatment with the provision of a sanatorium, open-air bungalows, equipment for physical culture, baths, and other forms of hydrotherapy, games, and mental diversion—the whole organized and controlled by a highly trained staff of medical men.

Take as an example a man of forty pursuing a strenuous career: he is getting thick in the neck and bulky of frame, his chest expansion is declining, he easily becomes breathless, his blood pressure perhaps a little raised. He is a reasonably careful liver, and yet he is beginning to deteriorate. Now is the time to treat him. A prescription will not do it. There is no talisman for such a condition. He needs an ordered régime.

Take, again, the middle-aged subject with glycosuria, the victim of inveterate constipation, of chronic dyspepsia, or of recurrent neurasthenia. Innumerable examples will at once come to the minds of my audience. Such patients often have to continue their employment. It would often, indeed, be a medical advantage that they should. They would live for a time—say six weeks—in the institution, where each would eat his prescribed diet, pursue his exercises and games, take any baths or other treatment, and his mental surroundings would be restful and yet cheerful. Such treatment would often be compatible with, and indeed aided by, the pursuit of the usual employment. You would not only cure but you would also educate the patient. You would show him how to keep health and prevent disease. Think, too, what a missionary of health he would be to others. Imagine, also, what opportunities for research and study such an organization would afford into the beginnings of diseased processes.

I hear some of my critics say: What a Utopian dream! But everything of any good in the world has started with a dream. There is nothing impracticable in such a scheme; it would dislocate and disturb nothing—neither organization nor vested interests—because it breaks new ground. As far as realization goes it presents no insuperable difficulties. In any district it needs a far-sighted rich man and skilled advisers. Its underlying idea has been translated into effective action by the Army Medical Service under the stress of war in the shape of the convalescent camps in France and at home. What the army can do in war surely the civilians can do in peace. My profession cannot provide the rich men; it does not grow them, but it can and would provide the skilled advisers. Such a scheme needs careful planning and execution such as only we can give. It must be a medical organization throughout.

The spa is another application of the same idea except that it is on a larger scale, and the patients are resting from their ordinary avocations. The proper attributes of a spa are strangely misunderstood. The public visit the spa in the same spirit as Naaman visited Elisha in that they seek some magic short cut to health. I do not say that natural waters are not sometimes a useful adjunct to a spa, but they are quite subsidiary to its climate, its position, and the careful organization of its régime and environment, physical and mental. Testimony to the truth of this statement is that many of the most successful spas in Europe are those whose waters have no special qualities.

Amongst the features needed are the following: Good natural position—the whole resort planned so as to present the various treatments efficiently though pleasingly, and in an environment of beauty and repose; physical culture in

its various forms, with ample accommodation for games which, though remedial, will be attractive; baths and all forms of hydrotherapy; electrical treatments; music and other entertainments which rest and divert but do not excite the mind; suitable dietaries so arranged as to be attractive and not irksome. Natural waters though advantageous as an addition to are in no way a substitute for the foregoing necessities.

The running of such a spa presupposes guidance and control by the doctors acting in conjunction with a far-sighted municipality ready to spend adequate capital in laying out its resort on generous and comprehensive lines; it presupposes hotels designed and administered for those who are in search of health. I know of no resort in this country that fulfils these conditions, though there are many places possessing the natural advantages.

In one important resort an hotel was urged to at any rate provide a "cure" menu, and the reply was a *non possumus* for fear of damaging the prosperity of the local races. Spas need clinics, special hotels, and sanatoriums all working together for a common object. The need and opportunity are the greater because many of the Continental resorts will henceforth be closed to us.

Resorts fulfilling the conditions I have laid down for city sanatoriums have a great future of usefulness, and should be brought within the reach of all classes. They would repay their cost many times over from the increased health and robustness of those visiting them, and on account of their wide educational influence.

The Need for United Action.

I have now concluded my theme. Its length has extended beyond the usual limits of a lecture, but I hope this has been due to its many aspects, and not to prolixity on my part. I have tried to lay down what I conceive to be the right lines along which sound progress should proceed, avoiding attempts at detailed schemes, not because I underestimate difficulties, but because agreement on principles must precede elaboration of plans.

Attempts are being made by responsible bodies to guide the profession at this important period of its history along the paths of sound thinking and effective action. The British Medical Association, appreciating fully its responsibilities, has devoted much ability and infinite pains to thinking out a scheme of constitution for a Ministry of Health. The Royal Colleges of Physicians and Surgeons are forming a joint committee, which will be enlarged so as to make it especially representative of the academic side of medicine and surgery. This joint committee will in no way conflict with the work of the British Medical Association, but will rather view the problem from a somewhat different angle. The work of the two bodies will, I hope, be complementary the one to the other and lead at no distant date to co-operation and thus to that united action which must be the supreme object of us all.

Let me, in conclusion, express my conviction that never within memory has the profession been faced with issues so momentous as now—issues which involve the future welfare and prosperity of the nation and our own position in the ranks of its trusted leaders. We are at the parting of the ways. Do let it be the way of large and comprehensive outlook leading to strong and effective action.

While passing through this wilderness of struggle and suffering we are encouraged by the vision of a land of promise where a new and nobler era of human progress will dawn, and in the struggle to secure that this land of promise shall become a land of performance it will be the privilege of our profession to play a conspicuous and honoured part.

Postscript.—Expressions of opinion, suggestions, and criticisms will be welcomed by the author (32, Wimpole Street, W. 1).

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DISCUSSION.

At the conclusion of the lecture, Dr. RICE-OXLEY, President of the West London Medico-Chirurgical Society, who was in the chair, invited discussion.

Major HENRY DUTCH criticized Sir Bertrand Dawson's scheme for "garden suburb hospitals" as too Utopian. He drew a picture of a town of 80,000 people served by forty doctors, each of whom would want separate consulting-rooms at the hospital, and separate waiting-rooms as well, lest their respective patients should mix! He urged further that unless there was a union of medical men who would stick together in the same spirit of loyalty as a union of cabdrivers the voice of pioneers like Sir Bertrand Dawson would be a cry in the wilderness.

Sir JOHN BROADBENT said that he believed that a complete state service would be the ruin of medicine, chiefly by the withdrawal of competitive stimulus. Therefore the so-called compromise which Sir Bertrand Dawson had brought forward had points of value. A drawback to his proposal for treatment centres was that, while it would be impossible to utilize every medical man in a district, a process of selection would give rise to grievances. Moreover, it would require little less than military discipline to compel all classes of patients to attend at a given centre at a fixed time. He felt that middle-class people with limited incomes were the least fortunate in the matter of medical provision, and he hoped that some arrangement might be made at state expense for this class of patient.

Dr. E. H. M. STANCOMB said that if the critics of a more widely extended public service had been with him lately in his capacity as an examiner on a recruiting medical board and had seen the large proportion of unfit, prematurely aged, and physically feeble with whom he had had to do, they would never have felt any more fear as to a possible lack of stimulus in a vast co-ordinated public service. The physical condition of a large proportion of the population would itself furnish the stimulus. He regarded it as necessary that the general practitioner should be thoroughly aware of the local public health conditions, particularly housing conditions, and he might serve with advantage on certain public bodies.

Major GORDON DILL said that the process of evolution in their profession had given place to a condition of impending revolution, chiefly as a result of two causes—the Insurance Acts and the war. They should be prepared for that revolution. The situation was full of possibility, and the dawn of a new era for the medical profession could not be long delayed.

Dr. G. E. HASLIP asked how Sir Bertrand Dawson was going to force these views on the profession and on the Government. He referred to the immense difficulty of moving in matters which involved administrative changes. If anything was to be done it was necessary to sound a trumpet and let Parliament know that one really meant business.

Sir ROBERT MORANT rather challenged the remarks of the last speaker, and said that the real necessity was not so much that Government departments should be energized but that medical men should take a much bigger part in affairs. He instanced the bill which was now rapidly slipping through, making whatever provision the local authorities pleased for nursing and expectant mothers. What voice had the medical profession raised in that matter? Perhaps many in that room were unaware of the measure or at least of its imminence. It was very necessary that the profession should be thinking of these things in a practical and constructive way.

Dr. F. G. LLOYD entered into a detailed comparison of the terms and conditions of public service and private practice; Dr. F. COKE (Ashford) dealt with certain matters from the country doctor's point of view; and Dr. A. E. RUSSELL regarded it as of the first importance to discover whether or not the profession was in favour of some sort of state control.

Sir BERTRAND DAWSON, in a brief reply, said that half the questions and criticisms were really answered in the full text of the lecture itself. His own scheme of hospitals was an evolution, not a revolution; he had never suggested that they should be put up all over the country, but a beginning might be made on a small scale, and development take place gradually. He knew that visits to the home would not be done away, but all the same an increasing number of people would want to go to hospitals

and clinics. With regard to Major Dutch's destructive criticism, that showed the kind of spirit which was the great obstacle to progress; on such lines the profession would find itself fifty years hence where it was to-day. It was evident that many things had got to alter, and the only question was whether the profession should lead or be dragged. It had been asked by what machinery the opinion of the profession could be elicited. The machinery was already available in the shape of the British Medical Association, whose members had only to make their feelings known. But he warned them that unless they united their forces and formulated their policies they would not be taken into account in the legislative changes which would vitally affect the profession.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ACUTE INTESTINAL OBSTRUCTION DUE TO STRANGULATION THROUGH THE GREAT OMENTUM.

AMONGST the various causes of acute intestinal obstruction strangulation of a portion of bowel through an aperture in the great omentum is given as one, but not many cases are on record. The following case is an instance, and is an example also of an acute abdominal condition impossible to diagnose positively before opening the abdomen.

A man, aged 43, was brought to the King Edward VII Hospital, Cardiff, at about 9 p.m. on June 20th, 1918. He had been seized suddenly with acute pain over the upper part of the abdomen at about 1.10 p.m. the same day, about five minutes after his dinner. He referred the pain particularly to the left half of the epigastric region; it was so severe that he writhed with it and had to go to bed. He was sick soon after and had vomited several times before being brought to the hospital; the vomit was not very foul-smelling. His bowels had been moved as usual in the morning, but not since the attack. He was suffering from severe shock. The tongue was dry and coated; the pulse was 68, the respirations 30, and the temperature 97°. The abdomen was slightly distended, tympanitic in front and slightly dull in the loins; liver dullness was not diminished; the abdomen was rigid all over, but especially in the epigastric region, where it was almost board-like; the left half of the epigastrium was very tender. The patient stated that he used to suffer occasionally from discomfort, but not actual pain, after meals; he had never been jaundiced. From the history, the mode of onset, and the condition of the abdomen we diagnosed perforated gastric or duodenal ulcer, and operation was decided on.

Mr. J. W. Geary Grant, acting assistant surgeon to the hospital, operated at 10 p.m., and I assisted him. The patient was given a hypodermic injection of morphine gr. $\frac{1}{4}$ and atropine gr. $\frac{1}{8}$ prior to the operation, and a mixture of chloroform and ether (1:3), and also pure ether. An incision above the umbilicus was made in the middle line and the linea alba divided. The peritoneum, which was purplish and clearly contained blood, was opened and a large amount of blood-stained fluid escaped; this showed that the condition was not due to perforated gastric ulcer. Thrombosis of the superior mesenteric vessels was first thought of, but the mesentery beyond some congestion was normal. Dark purplish, but not gangrenous, and slightly dilated coils of small intestine were seen. At least six feet of gut or more was found in this condition, at its upper end passing gradually into normal intestine; at the distal end a constriction groove was detected and there was a sharp line of demarcation as regards colour between the healthy and affected parts of the bowel on either side. An aperture was then found in the great omentum near its free margin, and through this the small intestine had prolapsed; the lower margin of the aperture, which was only the free edge of the great omentum, was stretched like a cord over the prolapsed intestine. The stomach, gall bladder, and appendix were normal. The band-like free margin of the aperture was cut between forceps and the ends ligatured—thus the strangulation was relieved. The great omentum, as a whole, was very thin, but nothing further was done

to it. The sanious fluid was let out and the abdomen flushed with hot saline, some of which was left. The abdomen was then closed in layers.

As the patient was in great shock when removed to the ward, continuous saline was given by the rectum, as also a hypodermic injection of pituitrin (1 c.cm.). The saline was continued for two days, and hypodermic strychnine gr. $\frac{1}{32}$, and eserine sulph. gr. $\frac{1}{16}$, administered four times a day for three days. A turpentine enema was given the day after the operation to overcome the abdominal distension, and another the day after that. The bowels moved naturally and freely on the fourth day without having anything by mouth. He is making a progressive recovery, and his general condition is quite satisfactory.

Generally in such cases the great omentum contracts an adhesion to some part of the abdomen, and this adhesion gets stretched to a band which eventually leads to strangulation, but in this instance there was no adhesion between the free margin of the great omentum and any part of the abdomen. The small intestine herniated through an aperture in the great omentum and this caused the strangulation.

I am indebted to Mr. Grant, under whose care the patient is, for permission to publish the case.

J. K. DATTA, M.B., M.R.C.S., L.R.C.P.,
House-Surgeon, King Edward VII Hospital,
Cardiff, Wales.

THE REDUCING BODY IN THE CEREBRO-SPINAL FLUID.

THE paragraph in the JOURNAL of July 6th (p. 15) recalled to my mind that twenty-two years ago I recorded in the JOURNAL of 1896 the amount of copper reduced from Fehling's solution by 10 c.cm. of cerebro-spinal fluid in seven cases of general paralysis. It varied between 12.5 and 22 mg.; the average was 16.75 mg.

In the *Journal of Mental Science*, 1910, I recorded the amount in a further series of cases—in eleven general paralytics, one tabetic, and one case of meningeal syphilis; the average for the thirteen was only 14.6 mg., but in the fluid of one general paralytic none was found—the only case in which I have found it to be absent. The amount in these twelve (excluding the one in which there was none) varied between 8 and 21 mg.

Among seven epileptics—four females and three males—it averaged 19 mg., varying between 14 and 21 mg. In nine cases of dementia praecox it averaged 20.3 mg., varying between 15 and 25.5 mg. In six cases of Korsakoff's syndrome the average was 22 mg., varying between 15 and 29.5 mg. In ten unclassified insane women it averaged 19.8 mg., varying between 14.5 and 25.5 mg. So far as my experience went I found this substance to disappear rapidly from the fluid after death.

JOHN TURNER, M.B., C.M.Aberd.
Brentwood Asylum, Brentwood, Essex.

TETANUS NEONATORUM.

I WAS interested in Dr. Renton's case reported in the BRITISH MEDICAL JOURNAL of June 29th, 1918. It reminded me of a similar case which was in my care at the Fulham Infirmary about 1905. A male child 11 days old was admitted for fits, and although I have no notes by me, my recollection of the case is good. There was a condition of epileptiform convulsions of a severe type, with considerable rigidity of the jaw which should have suggested tetanus but did not. Feeding was impossible, and the fits were not affected by hot or cold baths or packs, by bromides or morphine, and I well remember their persistence even while I administered chloroform. The fits increased in violence and frequency until death. Being unsatisfied, I obtained permission for a *post-mortem* examination; I expected to find some head injury or perhaps cortical haemorrhages to explain the case. I found nothing of the sort, but noticed a red inflammatory zone round the umbilicus (which had separated), and oozing from a small broken area of skin at the umbilicus base was a little watery fluid. In Gram-stained smears from this slightly purulent liquid I was able easily to detect typical drumstick tetanus bacilli, and Dr. C. T. Parsons, the superintendent, was able to confirm my view.

In commenting upon the uncommon cause of this accidental death, the coroner, Dr. Oddie, remarked upon its medical interest and importance. Of course I could not