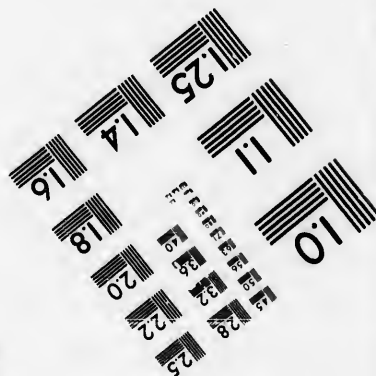
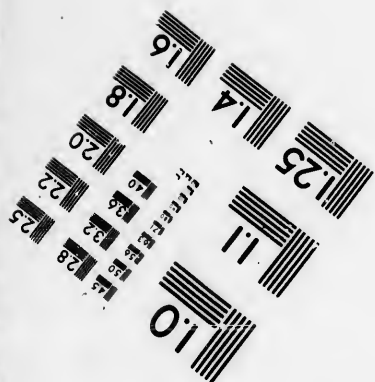
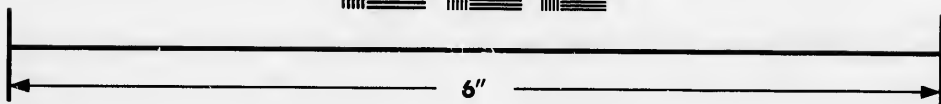
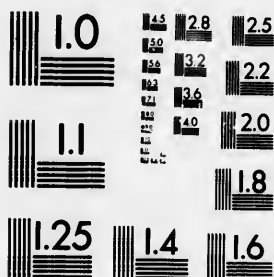


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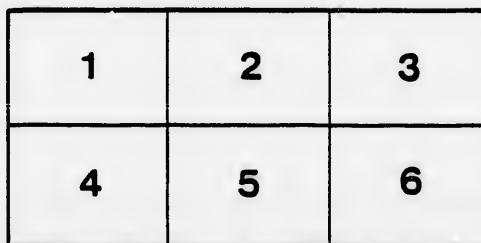
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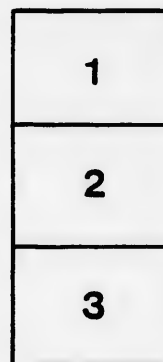
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REPORT ON S

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BY

FRANCIS J. SHEPHERD, M.D.,

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REPORT ON SURGERY.

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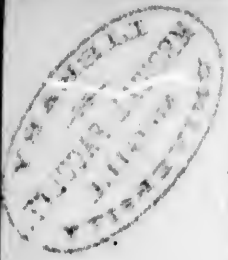
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# REPORT ON SURGERY.

(Read before the Canada Medical Association, Sept., 1882.)

By FRANCIS J. SHEPHERD, M.D., C.M. M.R.C.S., ENG.,

Demonstrator of Anatomy, and Lecturer on Operative and Minor Surgery, McGill University; Surgeon to Out-Patient Department, Montreal General Hospital.

MR. PRESIDENT AND GENTLEMEN,—I do not propose in this report to give an account of *all* the advances and discoveries made in surgery during the last twelve months, because I know from experience how tiresome and uninteresting such a recital of facts is. My intention is to touch on some of the more important and interesting points, so that they may serve as texts which may be elaborated in the discussion I hope will be aroused. The subjects I shall glance at will be as follows:—(1) Treatment of Wounds; (2) Cause of Inflammation; (3) Sponge Grafting and Bone Transplantation; (4) Surgery of the Kidney; (5) Treatment of Club-foot; (6) Surgery of the Joints. The list looks a formidable one, but remember that I only intend to furnish the texts, the sermons belonging to which I hope you yourselves will preach.

*The Treatment of Wounds.*—Within the last few years this subject has more than ever occupied the attention of surgeons, and has caused many acrimonious discussions. Old methods of treatment have been wholly discarded and new methods introduced, of greater or less value. Some of these are being constantly improved and modified, others flourish for a time, but when the *sun* of experience is turned on them, like the seeds which fell on stony ground, they are scorched and wither away. At the present time, all methods, however much they differ in detail, aim at keeping wounds aseptic, and are in fact antiseptic

methods of treatment. Listerism is only a phase of antisepticism, and does not differ as much from other methods as one would at first sight imagine. The great difference consists in the more gorgeous ritual and its obscuration by the clouds of incense (in the form of carbolic spray) which ascend heavenward as a propitiatory sacrifice to the great Æsculapius. The fundamental principles are, however, the same, viz: cleanliness, asepticity, rest, support, and the accurate adjustment of cut surfaces; and to Mr. Lister principally we owe the universal recognition of the truth of these principles. He, in fact, by dwelling on their importance and evidencing their truth by the success of his own practice, has revolutionized the surgical treatment of wounds. He has shown that suppuration and the septic condition it leads to may be prevented. He has taught surgeons the necessity of thoroughly cleansing and disinfecting their instruments and hands before operation. At the International Congress held in London, the subject of the treatment of wounds was one of the most important that engaged the attention of the surgical section. From the papers read and the discussion which followed their reading, it was easily seen that the belief in the carbolic spray was on the wane, and that it was desirable that some form of dressing less complicated than Listerism should be employed. Mr. Lister himself spoke in qualified terms of the spray, and hoped at some future time to be

able to say "*fort mit dem Spray.*" Professor Esmarch's wonderful statistics aided greatly in confirming the confidence of surgeons in rest, support, and infrequent dressings. Much evidence was offered, and many opinions were given which supported the views of Mr. Sampson Gamgee as to a dry form of antiseptic dressing. Since the Congress the dry method of treating wounds with infrequent dressings has made wonderful strides, and bids fair to supplant Listerism as a form of antiseptic treatment. Under dry dressings, wounds heal much more rapidly than under moist warmth, which encourages putrefaction. Iodoform dressings have been most generally used in Germany, but so recklessly that many cases of poisoning from it have been recorded. As much as 7 to 8 ounces have been stuffed into abscesses and excised joints at one time. No case of poisoning has been reported from Germany where less than 3 drachms was used. Whenever possible I have employed the dry form of dressing, and I think with success. My method of dressing a fresh wound (for which I claim no originality) is as follows: After all bleeding has stopped, and the wound has been accurately closed by cat-gut ligatures, and when necessary by wire ones in addition, I sprinkle over the wound a little iodoform, cover this with a strip of oil silk (to prevent adherence of the wool), and then over all place a pad of boracic cotton. This is kept in place by an accurately adjusted gauze bandage, which must be evenly and firmly applied, so as to get the amount of elastic pressure required. If necessary, as in a limb, a paste-board or other light splint (well padded) is applied. If the parts can be accurately adjusted by pressure, drainage is not required. The wound, if the patient complains of no discomfort, should not be disturbed for a week or more. When the dressing is taken down, the wound is generally found to be nearly or quite healed. In foul ulcers, this method I have found superior to every other. In some cases of accident, where the tissue is lost, or so much injured as to be beyond repair, I have generally employed the moist form of dressing till the slough has separated. Of late I have been using a solution of boroglyceride, as recommended by Mr.

Barwell. This antiseptic, as far as my experience goes, is superior to carbolic acid. It has no odour, and is perfectly innocuous.

With regard to *Inflammation*, and its connection with septic organisms. The theory that you are no doubt most familiar with is that inflammation is due to the introduction of atmospheric germs into damaged tissue, and that if this introduction be prevented, the wound heals without inflammation. Prof. Hueter, Mr. Lister, Mr. Watson Cheyne, and others, have been the most able and efficient advocates of this view. There is, however, another, and I think a more probable explanation of the origin and spread of inflammation, of which Dr. Burdon Sanderson has lately in his Lumsleian Lectures given a clear and convincing account, viz., that "inflammation is the physiological effect of traumatism"; that the exudates of a normal inflammation are not infective; that no inflammation-producing organisms exist in the atmosphere; that whenever inflammation becomes infective it owes that property to chemical change in the exudation liquid, which, in absence of any other better explanation, we attribute to the presence of septic organisms or bacteria or, in other words, exudative fluids which are infective owe that property to the exudative soil in which the germs grow, and that atmospheric germs are not *per se* a source of danger. Dr. Sanderson says these germs are not so much mischief-makers as mischief-spreaders—they have the power of developing what he calls a phlogogenic infection, and of conveying it to all parts of the body. I do not propose to discuss this question, but merely place it before you as a subject for discussion, in its bearing on antiseptic surgery. Before passing on to another subject, I should like to draw your attention to some recent experiments by Dr. D. J. Hamilton on *Sponge Grafting*, and their bearing on surgery. Dr. Hamilton some years ago showed that the vessels of a granulating surface are not newly formed, but are simply the superficial capillaries of the part that have become displaced: that the granulation loops are thrown up by the propelling action of the heart. Whilst pursuing these investigations, Mr. Hamilton was struck with the similarity

of the process of vascularization, as seen on a granulating surface, and that which occurs when blood-clot or fibrinous exudation is replaced by vascular cicatricial tissue. He states that blood-clot or fibrinous lymph plays merely a mechanical and passive part in any situation, and that vascularization is not due to the formation of new vessels, but rather to a displacement and pushing inwards of the blood-vessels of the surrounding tissues. He looks upon blood-clot and fibrinous exudation as so much dead matter, which affords merely a framework for the capillaries to ramify in, and proves that it is so by employing sponge to replace it. This sponge is prepared in a special way, and when placed on old ulcers he succeeded in organizing it—or rather filling its interstices with blood-vessels and cicatricial tissue, the sponge in the meantime disappearing by absorption. Many other experiments were made which fully proved his theory. Dr. Hamilton noted a significant phenomenon, supporting the theory that blood-vessels were pushed into the sponge in loops, when the convexity of a loop came in contact with the sponge framework, instead of one of its pores, a curvature formed on the vessel at the opposing point, and on each side of the obstacle there was pushed a secondary loop similar to that from which both had arisen. These blood-vessels, according to Mr. H., bear with them great numbers of the actively proliferating connective tissue corpuscles from neighboring connective tissue, and these, and not the leucocytes, are the tissue-forming cells. Sponge Grafting, he says, is excellently suited for growing new tissue where that is insufficient to cover a part. Instead of sponge, charcoal or calcined bone might be employed in certain cases, as, for instance, where the formation of new bone is needed.

The *Transplantation of Bone* has been successfully accomplished both by Dr. MacEwen, of Glasgow, and Mr. McNamara, of Westminster Hospital, London. They had been pursuing their investigations on this subject at the same time, unknown to one another. Dr. MacEwen placed his case first before the public. He remade a humerus which had been destroyed by necrosis, by placing small fragments of bone

(removed from patients with curved tibiae) in a groove made in the soft tissues in the position of the humerus. Mr. McNamara successfully replaced a tibia which had become deficient from acute necrosis. He used portions of bone from an amputated metatarsus. The necessity for transplanting bone is necessarily rare, as nature is so skilful in the repair of bone, that the interference of the surgeon is seldom needed. These experiments carry out Mr. Hamilton's theory of organization, and are interesting from a surgical point of view.

The surgeon looks upon no organ or region now as sacred. Operations are at present daily performed successfully which, if even suggested a few years ago, would have been looked upon as absurd. The lung has been partially excised, the liver has been cut into, and parts of it removed successfully. The whole stomach has been excised, and the œsophagus stitched to the duodenum, and many feet of intestines have been taken away, and the cut ends stitched together, patients making good recoveries. The renewed attempts at removal of the spleen have not been so successful as of old; the whole uterus has been excised, even when pregnant, and the patient has survived, but this now belongs to the realm of gynaecology. The surgery of the organ which I am going to notice has, as yet, escaped the upward tendency of the gynaecologist, but how long it will remain in the domain of pure surgery I know not, as already one of its dependencies (the bladder) has been annexed in the female.

The *Surgery of the Kidney* has greatly engaged the attention of surgeons during the last twelve months. At the International Congress it was the subject of several papers, and caused much interesting discussion. Since then it has occupied considerable space in the Medical Journals, and the operations of nephro-lithotomy; nephrotomy, and nephrectomy have become recognized operations. It has been established beyond doubt that *nephro-lithotomy* is a most successful operation in properly selected cases, viz., where the stone is of moderate size and single, and the kidney has not become disorganized. It is a most scientific procedure to perform this operation where stone has been

certainly diagnosed by needle exploration, or where the pain and other symptoms lead one to believe there is a stone present. If left, the stone is certain to disorganize the kidney, cause much suffering, and probably death. The operation of incising the kidney (*nephrotomy*) has not proved a dangerous one, and it has been frequently demonstrated that the kidney can be easily explored through a lumbar incision, and even cut into with great safety. In cases of strumous or calculous pyelitis, the sacculated kidney can be drained through a wound in the loin and the patient freed from the danger and pain of retained matter. Nephrotomy, as an operation, is merely palliative, and, nephrectomy, or removal of the kidney, is a much more formidable operation than the foregoing. The dangers are greater, and many cases have been followed by suppression of urine. It has also proved fatal from hæmorrhage, and wounds of neighbouring organs, as lung and pleuræ. As yet it has not been positively determined in what cases, or at what period, it should be performed. It has been done for tumour, cancerous diseases, and strumous and calculous pyelitis. It is a question whether before nephrectomy is performed, a preliminary nephrotomy should not be tried. Now the loin is the most favourable position for nephrotomy and, perhaps, the most difficult incision for nephrectomy, so this would be an objection. Some hold that if a preliminary nephrotomy is performed, it much increases the difficulty of a subsequent nephrectomy. Again, it is important, in considering the advisability of performing nephrectomy, to find out whether the pyelitis is confined to one kidney, or, rather, whether the other kidney is healthy. Strumous pyelitis is rarely confined to one kidney, and, therefore, excision of the kidney must be a defective operation, as the pyelitis is only a small part of a general disease.

Th. Gluck has lately suggested a method of pointing out which kidney is diseased. He advises cutting down on the ureter of the supposed morbid kidney, and obliterating its lumen with ligature or clamp. A solution of some salt, rapidly excreted by the kidneys is then injected subcutaneously, and its presence

after a short time ascertained in the urine by means of tests; if none is found, then the other kidney is diseased, and the ligature should be removed and the wound sewed up; but if found readily, the operation of excision is proceeded with.

These are some of the difficulties in the way which make one hesitate to perform nephrectomy. Having, however, decided on the operation, which is the best incision, through the loin or abdomen? Certainly the abdominal incision gives the operator more room, and the surgeon sees what he is doing. Removal through an incision in the loin is very difficult, especially the ligaturing of the vessels entering the pelvis of the kidney, besides, in some people, the distance between the last rib and crest of the ilium is very short; in these cases, of course, the 12th rib has to be excised, or a **T** incision made, both of which procedures increase the risk of the operation. The only objection to the abdominal incision is that two layers of peritoneum are wounded; but now-a-days we are not so fearful of wounding that structure as formerly. I leave the further discussion to you as to when and how we should perform nephrectomy.

*Treatment of Club-foot.*—As long as these deformities occur, so long will the remedying of them engage the attention of the surgeon. Ordinary simple cases may be successfully treated by bandaging and manipulating, or the use of elastic springs. More severe cases by tenotomy, and afterwards with the proper apparatus, plaster-of-Paris, splints, &c. I should like to hear from the members of this Association their opinion as to the performance of tenotomy, whether, for instance, in a case of talipes equino-varus (the most common form of club-foot), the tibial muscles and tendo-Achillis should be cut at the same time, or whether two operations should be made of the tenotomy. I feel inclined to favour the latter method, following in the lines of the older authorities,—first, to remove talipes varus by tenotomy, and after application of a splint, and later on, say in two or three weeks, to cut the tendo-Achillis, and place the foot in good position in a plaster boot or Scarpa's shoe. It seems to me that if the operation be thus performed in stages, the

necessity for the more severe operations may often be avoided. I should also like to hear the opinion of the members as to the tendency to relapse. In my limited experience this tendency is great, if the after treatment by manipulation and splint is not for a long period continued.

Mr. Davy, of London, advocates in severe cases with tendency to relapse after tenotomy, that a wedge-shaped block of the tarsal arch should be removed by a fine saw or chisel; the base of the wedge is outwards, inwards, or upwards, according to where there is the greatest deformity.

Dr. Phelps, of Chateauguay, N. Y., has lately introduced a new operation for club-foot. He makes an incision across the sole of the foot, and divides all the resisting structures down to the bones. The foot is then brought into position on a special splint, and the wound left open. By brushing a stick of nitrate of silver through the bottom of the wound the granulations are prevented from springing up too rapidly, and the wound is induced to heal from the sides, and so contraction is avoided. I am afraid that I have already almost exhausted your patience, and so shall conclude this report by touching lightly on the *Surgery of the Joints*. Now-a-days, joints are opened fearlessly, and often recklessly and unnecessarily. This, no doubt, is due to the success of antisepticism. At the International Congress this subject was very fully discussed, and the feeling among English surgeons, at any rate, was that most cases of joint disease could be cured by rest. They deprecated the early excision which was advised by Continental surgeons, and thought excision should only be resorted to in extreme cases, and that in private practice it was rarely necessary. Since the Congress, a method of treating diseased joints by *Erasion* has come into vogue. Where the disease is confined to the synovial membrane, an incision is made in the side of the joint, an instrument introduced, and the diseased parts of the synovial membrane scraped

away. The wound is then stitched up and a drainage tube inserted. Cases are reported where, after healing of the wound, passive movement was commenced, and the patients recovered, with easily-movable and almost perfect joints. Where the disease commences in the bone, trephining and scraping out the diseased bone has been successfully accomplished, the patients recovering with perfect joints.

König, of Göttingen, in a paper on the tuberculosis of bone and joints, says the synovial membrane is rarely the primary seat of disease in tuberculous cases, and that not even in the most favourable cases can any cure be expected from any therapeutical measure short of a surgical operation. The surgeon should aim at removing the primary morbid deposit in the bone, and then extirpate the diseased parts of the synovial membrane. In his after treatment he finds Iodoform of the greatest service. In cases where it is used the discharge is usually scanty, and the first antiseptic dressing may remain on for many days. He lays great stress on the point that the disease in the articular ends of bones should be removed before the joint is affected, and where it has already reached the joint, if the joint is opened early, the disease may be removed before the synovial membrane is affected.

I know that our worthy President is rather sceptical about these cases, and so great has been his success with excision, of the knee especially, that he prefers to adhere to the practice for which he is so well known. I merely present these methods of treatment to you for discussion, trusting that some new light may be thrown on the subject.

And now, Mr. President and gentlemen, I have come to the end of the subjects I proposed in the beginning of the report to touch upon. I feel that I have but poorly accomplished the task I set myself to do; still, I shall feel amply satisfied if you, with your matured wisdom and experience, will add your quota to the knowledge we already have of these subjects.



