pain, by sedatives is practically all that can be done, except in those rare cases where the disease is limited to the gall bladder, when cholecystectomy may be performed.

TUMOURS OF BILE DUCTS.

Tumours of the bile ducts *per se* only occasionally form a projection so large as to be distinguished through the abdominal walls. The common duct has, however, been found dilated to such a size as to form a cystic tumour presenting all the characteristics of a distended gall bladder, the gall bladder itself being atrophied.

Terrier has recorded four cases in which an external fistula led into the common bile duct, and I have had two of a similar nature, in one of which I performed choledochostomy after choledochenterostomy, and in the other choledochenterostomy after cholecystectomy.

Although hitherto the results of choledochostomy have not always been favourable, probably in consequence of the fact that extreme distension of the bile duct is often accompanied by infection of the biliary passages, it would be well to reserve our opinion as to the prospects of the operation until we have more experience of it.

The new growths found in the bile ducts may be simple or malignant. Of the malignant we must take into consideration the two classes—primary and secondary; the former arising most frequently as the result of gall-stone irritation, the latter by extension from neighbouring organs.

Primary malignant growth may be: (a) Cylindrical-celled carcinoma; (b) spheroidal-celled carcinoma; (c) sarcoma; (d) squamous epithelioma. In the Hunterian Museum, specimen No. 2809 is a melanotic sarcoma of the gall bladder.

Out of the 11 cases of malignant disease of the bile ducts recorded by Dr. Rolleston, only 4 were associated with gall stones. He thinks that calculi are less frequently associated with primary cancer of the bile ducts than with cancer of the gall bladder. In Dr. Rolleston's paper a case is referred to, which makes it probable that an adenoma preceded cancer. Papilloma is probably an earlier stage of cancer, and is rare. Cancer is usually secondary to gall stones, though they may not always be found, having passed into the bowel before operation. Although these tumours are usually seen in the common duct, they may occur in the cystic or in the hepatic ducts. In Musser's 18 cases the hepatic ducts were alone involved three times, the cystic and hepatic ducts once, and the common duct fourteen times. In Rolleston's 11 cases the common duct was always the seat of the tumour. These growths are usually found between 50 and 60, and, unlike cancer of the gall bladder, where 75 per cent. of cases occurred among women, this disease attacks both sexes equally, the symptoms of course vary with the ducts affected. Suppurative cholangitis is apt to supervene, the case then taking on a more acute course, and being accompanied by fever, ague-like attacks, and rapid loss of flesh and strength. Needless to say, the disease is uniformly fatal, though operation may delay the final catastrophe.

Cancer of the ampulla of Vater has received some attention from M. Hanot,¹⁰ M. Durand-Fardel,¹¹ M. Rendu, and Dr. Rolleston.¹² Two forms at least are described: one arising from the intestinal walls of the ampulla, and the other from the orifice of the common bile duct and the pancreatic duct. They are characterised by intermittent jaundice, wasting, and cachexia, but as a rule pain is absent.

Diagnosis.—The diagnosis of new growth in the bile ducts from gall stones is practically impossible, as the symptoms are the same, and in fact the two frequently coexist. The absence of pain in some cases and the rapid deterioration of health may afford a little help, but in some cases the pain may be as acute as in cholelithiasis. Cystic dilatations of the bile ducts are often indistinguishable from enlargements of the gall bladder, for which they are usually mistaken, but they may resemble a cyst of the pancreas or a hydatid tumour of the liver; but as the treatment in all these conditions is abdominal section, no harm will be done if the diagnosis is only completed when the abdomen is opened.

Treatment.—The operative treatment of these tumours is in its infancy, and has thus far not proved uniformly satisfactory. Any growth should be removed if possible, but where that is impracticable the dilated gall bladder or ducts may be opened and drained, or better still drained into the

duodenum or jejunum by means of one of Murphy's buttons. If the cause be a removable one, such as a gall stone, it should be taken away. Choledochostomy has not yielded good results in cystic dilatation of the bile ducts, whereas the results of choledochenterostomy establish its claim to be considered the best method of treatment.

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THE MILROY LECTURES ON QUARANTINE.

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[ABSTRACT.]

THE CAUSES OF THE FAILURE OF QUARANTINE.

HAVING thus sketched the history of quarantine and its final suppression by medical inspection, the chief causes which have gradually led to its abandonment may be summarised as follows:

1. That the quarantine system was based upon a theory which is no longer tenable.
2. That it has never been found possible to maintain it absolutely, and that consequently a country has been subjected to a barbarous, unnecessary, and costly system, without even the satisfaction of knowing that the experiment was complete.
3. That, where carried out as strictly as possible, it has not had the effect of arresting the importation of disease.
4. That sanitation and a rational system of medical inspection have proved more efficacious, and at the same time less burdensome.

The whole history of quarantine is a series of illustrations of its futility, and proves it to be, as Sir John Simon so graphically described it, an elaborate system of leakiness. Theory must give way to practice, and the real test of quarantine as a system to be relied upon by the Government of a country for its protection must eventually be that of actual experience.

As soon as investigation was made into the facts it was extraordinary how little evidence there was of the value of the system for the purpose which it was intended to serve.

An effective quarantine is practically impossible in a commercial country. In early days, when trade was relatively of small volume, this was apparent, and the enormous growth of commerce has simply emphasised the fact. The question could only be considered at the present day with reference to the period of incubation, and it would obviously be accepted that any vessel was safe if there had been no case of disease during a period at least equal to that of the possible latency of the disease.

THE INEFFICIENCY OF QUARANTINE.

It is scarcely possible for those not actually interested in shipping to realise how serious a matter quarantine has been for shipowners, not only in the remote past, but even up to a very recent date. First in importance probably would come without doubt the loss occasioned by delay and uncertainty of detention, and even in some cases actual prohibition of intercourse with infected port or ports supposed to be infected.

Dr. Bowring, after extended travel and experience of quarantine, says that "the pecuniary loss inflicted by the system may be estimated by millions of pounds sterling in delays, demurrage, loss of interest, deterioration of merchandise, increased expenses, fluctuations of markets, and other calculable elements; but the sacrifice of happiness, the weariness, the wasted time, the annoyance, the sufferings inflicted by quarantine legislation—these admit of no calculation, they exceed all measure."

It seems impossible that trade could ever have been carried on under the vexatious and harassing restrictions at one time in force—obviously trade as understood at the present day could not have existed. Thus so recently as 1827 all vessels bound up the river Thames from ports east of Gibraltar were compelled to run into the Medway and perform quarantine in Stangate. Such a waste of time and money would be utterly out of the question at the present day. Apart from the detention, which was an essential part of the system, there existed the greatest uncertainty at all times as to the existence of the disease which rendered such detention compulsory. The merest rumour or suspicion of disease was often held sufficient to justify the imposition of the most rigorous quarantine, and this must of necessity have been the case. Even at the present time, with all the facilities that now exist of postal and telegraphic arrangements, it is always difficult to obtain accurate information as to the existence and nature of diseases prevailing in foreign countries.

The policy of concealment is constantly adopted in order to avoid the actual or imaginary interference with trade which may follow the declaration of the presence of an epidemic, and the officially confirmed facts are obtainable only after the disease has spread to such an extent that its existence can no longer be denied. First cases of cholera are called "sporadic," or the term "cholérine" is used with the hope that they may not become sufficiently numerous to call for investigation on the part of other countries.

This in itself is a strong argument against such restrictive measures as interfere with the carrying on of trade. It not only leads to concealment, in itself a serious danger, but further, on account of the desire to keep the true facts secret, prevents the authorities from taking due measures to prevent the spread of the infection. On account of the delay in obtaining accurate information, action may be taken by other countries in self-defence on mere rumour, otherwise sufficient time would elapse for vessels to reach a country before the port of departure was authoritatively known to be infected. The same danger arose at the close of an epidemic, it being found necessary to continue restrictive precautions for a certain or rather an uncertain period after all danger was officially declared to be at an end.

THE PROHIBITION OF THE IMPORTATION OF RAGS, ETC.

A somewhat similar danger still obtains with reference to cargoes such as rags, clothing, etc., considered as capable of conveying infection, and this danger appears to be fatal to the policy recently in vogue in this country of issuing orders for limited periods prohibiting the importation of such goods unless previously disinfected. The immediate result of such orders has been to seriously interfere with a special class of traffic for a certain period. Assuming that such materials do carry infection (and the evidence is by no means clear on this point), it must be remembered that although shipped at a certain port they are not necessarily produced or collected within its immediate neighbourhood.

Thus rags might be introduced into this country from an infected district, without any precautionary measures, because they were shipped from a country not declared infected, or on the other hand materials sent from an infected port might have been obtained from a district where no disease had appeared.

Again, no orders were issued until the disease was well established, and therefore these goods might be freely imported from an infected district up to the time of the promulgation of the order.

Now, one effect of such an order is necessarily to increase the cost of the material owing to the compulsory disinfection. The traffic would therefore to a certain extent (varying according to the state of the market and the laws of supply and demand) be arrested, and stocks would be accumulated in the infected countries. As soon as the epidemic was at an end, and the prohibitory order revoked, these stocks would be shipped, and thus the very goods collected in the infected country during the prevalence of disease, and detained for a certain time, would be once more freely admitted.

If these goods were capable of conveying infection, it would be far more reasonable to insist upon their disinfection at all times. If this were a settled principle, arrangements

would be made whereby they could be disinfected at small cost, and the dislocation of trade avoided.

THE COSTLINESS OF QUARANTINE.

To keep up quarantine, with all its elaborate machinery of medical officers, lazarettos, quarantine guard, etc., involved enormous expense. All this vast machinery of defence had to be maintained in working if it were to be suddenly brought into use. Lazarettos fully equipped with all the necessary officers, attendants, and guards could not be provided suddenly. Hence the expense was continuous, though the actual need for the use but occasional. For although all vessels from certain countries were detained, this was done only with the object of arresting disease arising from those which were actually unhealthy, the quarantine being a probation to establish the fact of infection or otherwise. According to returns between the year 1720 and 1843 (123 years) only twenty-five vessels with plague actually on board arrived at all the ports of France and Italy. Ten of these at Marseilles, five at Venice, nine at Leghorn, and one at Genoa. The total number of cases at Marseilles, including all doubtful ones, was only 32, with 18 deaths. For these few cases the two countries were put to an enormous outlay, and the vessels arriving there subjected to serious and vexatious delay, with its attendant heavy expense.

The most serious objection to quarantine, however, apart from its futility, is the actual danger to health which is involved from the detention of a large number of persons under conditions in most cases insanitary, and in all more or less unfavourable to the preservation of health on board an infected vessel or in confined lazarettos within range of the infection if such existed. For either there was no necessity for their quarantine, or they were unreasonably kept more or less exposed to the risk of infection, which was unjustifiable.

QUARANTINE OR SANITATION?

The maintenance of the system extended its pernicious influence much farther. It engendered in the minds of the inhabitants of those countries who maintained it a false feeling of confidence for which there was no foundation, which led them, believing themselves sufficiently protected against the importation of disease, to neglect those measures of sanitation which alone are of any avail against the spread of infection. It is a matter of history that in those countries where quarantine has been most rigorously carried out that there common sense precautions against disease have been most disregarded and the general principles of national hygiene most neglected. The reasons are not far to seek; in the first place, they feel they have done what is necessary to protect themselves, and cannot therefore realise the value of sanitary measures of rational sanitation which are so essential for the health of the country. The large sums expended by this country in carrying out works of sewerage and water supply and in public health administration have not been wasted. If quarantine had succeeded in preventing the entrance of those diseases against which it was directed its beneficial results would have stopped there, whereas the expenditure on sanitary works has not only enabled us to cope with these same diseases in a more thorough and rational way, but has been instrumental at the same time in greatly improving the general state of health of the community.

The public mind has been educated to the necessity for sanitary improvement and the important part which it must play in protecting the people from the ravages of disease. All attempts to conceal or minimise outbreaks of infectious disease have been avoided and the means adopted for coping with them are as widely made known as possible.

An attempt is made, and to a great extent happily successful, to intercept by means of medical inspection at the ports all cases of imported disease. Where this attempt fails, reliance is placed upon the sanitary condition of the district to which the infection may be conveyed. If the sanitary condition of such district be good, its system of drainage and sewage satisfactory, and its water supply pure and abundant, then experience confirms the theory that there is but little to fear from the spread of the disease, and that it may reasonably be expected to be confined within narrow limits.

ABUSES OF THE QUARANTINE SYSTEM.

Unfortunately in most countries where quarantine is practised the restrictions have been so severe that the interests of commerce have trained for their own purpose a band of mercenary officials and an elaborate system of bribery and corruption. This has been encouraged by the fact that in several cases the formality has been found utterly impossible, as, for instance, on the visit of a sovereign or ambassador of a foreign Power. In such instances the detention was, perforce, dispensed with, and the rule once broken through, it is not difficult to see how in other cases the desire to avoid delay and expense led to the purchase, direct or indirect, of a like privilege, until in some countries the system was eventually practically reduced to one of blackmail. Those who paid best received the most attention, and the supposed protection by probation became an absolute fiction.

While it is not right to condemn a system because of the abuses which have crept in, still these have been so constantly associated with quarantine that they have, with a certain amount of reason, at last come to be considered as an inseparable part of it.

Before the Select Committee in the House of Commons, which sat in 1824, evidence was given by merchants to the effect that foul bills of health were deliberately issued without any justification, so that a market could be made in Holland while British vessels would be delayed here, the issue of such bills being arranged by the Greek merchants at such times as the state of the market rendered it desirable in their interests to forestall British vessels.

Again, for political purposes, quarantine has been made use of with effective results. At one time, during an insurrection in Sicily, it is stated on good authority that a quarantine of eighty days was imposed upon certain vessels bringing help to the rebels, during which interval the rising was successfully dealt with.

The true defence against epidemics is a healthy condition of the people, fostered by all the care and attention that can be given it by our legislators and sanitary authorities, and it is upon this that England in the main relies.

THE SANITARY CONTROL OF SHIPPING.

The Public Health Act, in addition to ordinary sanitary powers, provides for the isolation and treatment of infectious sick and the disinfection of houses and clothing, while the Notification Act compels the fact of such disease to be reported to the sanitary authority whose duty it is to put these preventive provisions in force.

As the ordinary zymotic diseases such as diphtheria, enteric, typhus, and scarlet fevers, and small-pox, are always in our midst to a greater or less extent, and, as the existing powers of sanitary authorities are deemed ample to cope with them here, it is clearly logical to believe that they would be sufficient to combat any cases of the same disease brought by vessels to our shores.

But this is not at present the view taken by many authorities in this country. Because such cases happen to be on board a vessel, instead of arising within our own limits, it is suggested that such ship should be submitted to a course of detention and isolation which in the case of a house has scarcely ever been thought of. The compulsory notification, removal to hospital, and subsequent disinfection, are ample to ensure safety, and there is no more justification for the detention of healthy persons on board a ship on which a case of small-pox has occurred than there is for the enforced isolation of the inmates of a house in which the same disease has appeared. Yet, in the one instance, the question has never been discussed, at least in this country, while the other has had many strong advocates.

With reference to those diseases which do not ordinarily exist in this country more stringent measures may be justifiably employed, though these must be of such a nature as not to interfere unnecessarily with the interests of commerce.

The term "medical inspection" as employed in this country means that in each port a medical officer of health is engaged whose duty it is to visit every ship on which any case of cholera, yellow fever, or plague is suspected to exist, the suspicion or fact to be derived from the master of the

vessel (except when a surgeon is carried) or a custom-house officer.

This is surely a misuse of the term. If medical inspection means anything, it implies that a medical officer visits every vessel from "foreign," and examines any cases of sickness on board, whatever their nature, and every person on board, if the vessel has arrived from a port which is known to be "infected." This is a system which, while in no way interfering with trade, affords the utmost protection which is possible or even desirable. The isolation of the sick and disinfection of the vessel follow exactly the same lines as those employed on shore (varying only as the nature of the infection requires this or that treatment for its destruction).

This is not advocating any novel experiment, nor the use of untried measures. During the last twenty-five years there has been ample experience of what may fairly be called the English system, and its value has been sufficiently demonstrated to justify future reliance upon it. Realising the fact that the trade interests—nay, the very existence of the empire would be imperilled by a return to the obsolete system, which has failed wherever tried, the Government will still depend for their safety upon a rational system of medical inspection at the ports and the first line of defence, and upon the maintenance of an increasingly high standard of sanitation throughout the length and breadth of the land for the second line of defence in the event of the first line being broken through. At the last International Conference many of the European Powers were inclined to follow the same lines, but, unhappily, this has not been a lasting conversion.

THE SANITARY CONDITION OF VESSELS.

Ships travelling to all parts of the globe are obviously exposed to the danger of infection from the diseases of any port in which they may happen to lie. Sailors when in port as a rule frequent the lower quarters of the town, and are, therefore, at each port exposed to a fresh risk of infection. Thus their chance of becoming infected is greater and more varied than that of the corresponding class on shore. In the case of merchant ships the majority of seamen are during the voyage beyond the reach of medical aid, and therefore, for the sake of humanity alone, their surroundings should be made as hygienic as possible. The calling of the seaman would appear at the first sight to be a healthy one, since he spends a large part of his time in the open air, removed from close and confined atmosphere of towns. There are undoubtedly many advantages in his calling, but, on the other hand, he suffers from frequent exposure to wet and cold, and hence is unduly subject to various forms of rheumatism. From the limited air space, and the fact that, owing to the system of watches, forecables are always occupied and, therefore, never thoroughly ventilated, all forms of lung disease are exceedingly common. These causes, and the violent exertions that they are called upon at times suddenly to undergo, fully account for their high mortality and sickness-rate. In the Royal Navy the death-rate in 1892 was 5.58 per 1,000, while in 1886 in the merchant navy, for sailing ships the rate was 21, and for steamships, 9.6.

Although during the last twenty-five years great improvements have taken place, and much more attention has been paid to naval hygiene, it is still a fact that so far as sanitation is concerned the sailor is a long way behind his fellow worker on land. He is entirely dependent for food on the vessel in which he lives, and, provided a scale which is given him on engagement is adhered to, there is no law to require that such scale should be either reasonable or sufficient. As a matter of fact, the majority of diet scales in use in our merchant service are not sufficiently nutritious or varied for men doing hard work, nor indeed are they by any means the best that can be provided for the money that is expended upon them. Better dietaries and better cooking are urgently needed.

A larger amount of cubic space than that required by law (namely, 72 cubic feet per head) is absolutely necessary, and what perhaps is more important, some guarantee that such space should be properly utilised and fitted for the purpose for which it is intended to serve. At the present time there is a grave anomaly with reference to this question. Before a house can be erected, a plan showing the drainage and sanitary arrangements must be submitted to the sanitary authority,

with whom rests the responsibility of approving or otherwise, while in the case of a vessel no such provision obtains.

As a general rule, in designing a vessel a certain space is set aside for the crew, and when she is completed this space is utilised in the best way possible by an artisan without reference to the sanitary authority and without any control, except that exercised by the Board of Trade under the powers limited (from a sanitary point of view) of the Merchant Shipping Acts.

The arrangement and fitting of crews' quarters under the supervision of a sanitary authority, advised by an expert, would be a benefit both to owners and seamen, and would be of great value in preserving the health of those on board. The constant and close supervision of vessels while lying in port, and the prompt abatement of all nuisances and conditions likely to prove injurious to health, are essential. A foul ship is itself more to be dreaded than anything she may have on board.

The United States Government have always laid great stress upon the sanitary condition of vessels leaving foreign ports for their shores. They require a bill of health with actual information as to the health of the vessel on leaving.

Rohé quotes as an illustration of the value of this system from a report by the medical officer of the Marine Hospital at Naples that eight vessels left that port during the year 1893, when cholera was epidemic. These vessels were under similar conditions as to water supply and food, and carried passengers of similar class and origin. In four leaving without any sanitary conditions, there were 50 deaths, 90, 84, and 230 respectively. Of the four leaving for the United States on which sanitary precautions were compulsory, one which left before cholera was declared had 3 deaths, the other three had none: and further, every vessel leaving Naples had cases of cholera on board except those on which these regulations were carried out.

LEFT TRAUMATIC SUBCLAVIO-AXILLARY ANEURYSM CURED BY LIGATURE OF THE THIRD STAGE OF THE SUBCLAVIAN ARTERY.

By FRANCIS T. HEUSTON, M.D., F.R.C.S.I.,
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A. N., a pensioner, aged 50 years, was placed under my care at the Adelaide Hospital by my friend Surgeon-Major F. A. B. Daly. He had served in the army for twenty-one years, during eighteen of which he was in the band as a clarinet player, and was discharged from the service in July, 1887, in good health. In the summer of 1892 a heavy board fell on his left shoulder, and although he had no pain until May, 1895, he attributes his affection to this accident. In November, 1895, he consulted Surgeon-Major Daly for pain in the left shoulder, clavicular and scapular regions. The superficial veins over the left clavicle were slightly enlarged, and a slight difference was noticed in the radial pulses, but no *bruit* could be obtained; aneurysm being suspected, he was given large doses of potassium iodide, and his diet was regulated. This treatment gave such relief that he resumed his work as night porter at the United Service Club.

In January, 1896, the pain in the shoulder and back returned with increased violence, and at times shot down the left arm and to the region of the diaphragm. He was then admitted to a civil hospital in this city, but was soon discharged without relief, his case not being recognised. He then again consulted Surgeon-Major Daly, who found his symptoms to be much better marked than when he saw him before, and that a well-marked tumour had developed in the left posterior inferior triangle of his neck.

The patient was admitted to the Adelaide Hospital under my charge on February 26th, 1896. He is a well-built, healthy-looking man, and states he has a severe continuous pain in his left shoulder and back, in the region of the scapula. This pain is relieved by placing his arm over his head. The left arm is greatly swollen and oedematous, its superficial veins are markedly distended and tortuous, the

left clavicle is raised and the supra- and infraclavicular depressions obliterated owing to a tumour which occupies the subclavian triangle and the axilla as far as the lower border of the pectoralis minor. This tumour has a distensible pulsation, and well-marked *bruit* and thrill. There is marked difference between the right and left radial pulse, and visible pulsation of the carotid and brachial arteries.

Ligature of the subclavian artery being decided on, the usual transverse incision for exposing the third stage was made, and the artery exposed as it passed from beneath the scalenus muscle. It was of normal appearance, but its sheath was very adherent. A strong catgut ligature was passed round the vessel and tied, the ends of the ligature being removed, the deep structures were united by catgut hidden sutures, and the skin by silkworm. The wound was dressed with zinc sulphite gauze, and the arm swathed in cotton wool.

The subsequent progress requires little note; the wound healed by first intention, although a stitch abscess occurred at the site of the most anterior skin suture. Pulsation returned in the radial artery on the eighth day after operation, and the patient left hospital on the twenty-third day to resume his duties at the United Service Club.

The patient was shown at the Surgical Section of the Royal Academy of Medicine in Ireland on May 1st, two months after operation. Since leaving hospital he had been engaged at his usual work as night porter at the United Service Club. The left radial pulse was small, but the artery was of good tension. The tumour had lessened considerably in size, and had no pulsation or *bruit*. All the other symptoms had disappeared. Eleven months have now elapsed since operation, and the patient continues in perfect health.

On referring to Edmond Souchon's article on Aneurysms of the Subclavian Arteries in the *Annals of Surgery* for November and December, 1895, it will be found that out of 120 aneurysms of the third stage of the artery, 35 implicated that of the left, and 85 that of the right side, and that of 31 traumatic aneurysms operated on by proximal ligature 19 recovered (about 66 per cent.), 4 of those being on the right and 15 on the left side.

A CASE OF REUNION OF TENDON NEARLY FIVE YEARS AFTER ITS DIVISION, WITH GOOD RESULT.

By R. CARMICHAEL WORSLEY, M.R.C.S., L.R.C.P.,
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L. B., a cook, in 1890, when aged 30, broke a window and cut her right wrist badly. The wound was six weeks in healing, some fragments of glass working out. The thumb, index finger, and middle finger afterwards became firmly flexed into the palm. A year after the accident, the tendons of the index and middle fingers were cut down upon and reunited by suture, with good result, after long extension on splints; the extension movements of the index finger, however, remained weak and imperfect. In December, 1895, the thumb was strongly adducted and flexed into the palm. The extensor *primi internodii* and extensor *ossis metacarpi pollicis* had escaped division, but the extensor *secundi internodii pollicis* had been cut, and its retracted ends could be obscurely felt in the scar tissue on the radial side of the wrist.

On January 16th, 1896, assisted by Dr. Bowden and by Dr. Tamplin, who gave the anæsthetic, I cut down on the scar, having made the limb bloodless, and found the ends of the tendon separated by $1\frac{1}{2}$ inch of fibrous tissue traversing the scar. This band contained in its centre some gelatinous-looking substance, which on microscopic examination proved to consist of a few genuine tendon bundles running through the fibrous material. It was impossible to bring the ends of the true tendon together without splitting them, and as I was anxious to obtain strong union I excised an inch only of the fibrous band, and brought the ends together with one stout and two fine silk sutures. Rigid antisepsis was aimed at, and the forearm and hand placed upon a splint, with the thumb over-extended on a wire arm. The wound healed by first intention. There was very severe pain for a long time up the