

ROBERT JONES, HIS LIFE AND OURS TO-DAY

Robert Jones Lecture delivered in Nottingham*

on

19th September 1968

by

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THE GRANDFATHER OF the great man whose memory we meet to commemorate had one son, Robert, and three daughters: Mary born in 1837, Elizabeth in 1839 and Susannah in 1842. Robert's father (Fig. 1*a*) planned that his son should become an architect, and he was sent to Fairfield College, Manchester. At the adventurous age of 19 young Robert



Fig. 1. (a) Robert Jones's father. (b) Robert Jones as a young man.

fell in love, and married in Liverpool on 26th September 1856. Their son Robert, the subject of this lecture, was born in 1857, and when he was five years old the family moved to London and settled in Nelson Square, S.E.1, a backwater on the Surrey side of the Thames and within easy reach of Fleet Street. Young Robert's father became a journalist, and although beset with problems in the upbringing of his young family, he possessed the gift of a persistently happy and cheerful disposition, which it would seem was inherited by his son Robert. In 1864 Elizabeth, the second sister of young Robert's father, married a young doctor named Hugh Owen Thomas, who studied medicine at Edinburgh University, and in 1858 settled in Liverpool, where he attempted to assist his father,

* In the composition of this lecture I have had in mind the younger members of the British Orthopaedic Association, to whom, I fear, the name of Robert Jones may not mean a great deal. The Lecture was delivered during a meeting of the Association.

Evan Thomas, the last of the great bone-setters. Hugh Owen Thomas set up in practice by himself in 1859, and it was as a young boy that Robert first met his uncle-by-marriage, who was to influence profoundly his way of life and thought.

In 1869 young Robert (Fig. 1*b*) entered Sydenham College. In 1870 Hugh Owen Thomas settled at 11 Nelson Street, in Liverpool, and in 1873 he offered his nephew Robert, then aged 16, a home in Liverpool so that he could study medicine. In 1875 Robert's father died at the age of 39 from typhoid fever. On his deathbed he said to his wife, 'Had I the chance I'd buy you another ring, and start our married life all over again.'

Robert Jones commenced his studies at the Liverpool School of Medicine in 1873. He was bred into surgery from an early age, and he was an impressive example of the apprenticeship system. His period of apprenticeship commenced with his medical course, continued throughout it and passed without interruption into his assistantship. As a result of this happy association with Hugh Owen Thomas he acquired a specialized knowledge of orthopaedics at a time when his contemporaries were in the earliest stages of their professional careers.

In 1888 he married Susannah Evans, daughter of a well-known Liverpool merchant. In 1889 he was appointed Honorary Surgeon at the Royal Southern Hospital, and at the same time he was appointed Casualty Surgeon to the Manchester Ship Canal, and was on call throughout the construction of the canal.

Robert Jones died on 14th January 1933 at the age of 73, and his ashes were laid to rest in Liverpool Cathedral on 18th January. A commemorative plaque is situated in the south transept of the Cathedral.

Student teaching

The apprentice system

Although it may be unfair to compare his training with that of our present-day students and registrars, there is much to be said for the apprenticeship system, particularly between Consultant and Registrar, and there must be many here who owe a great deal to their Chiefs, as I do myself. The apprenticeship system is also valuable when it develops between Registrar and student, but the size of our firms and lack of time make it difficult for Registrars to develop this admirable form of training. Clinical instruction by the bedside and in the out-patient department is undoubtedly the most valuable form of training for the student. It may, however, be spoilt by 'the bedside lecture'—this quickly sends the student to sleep on his feet—and by the selection of cases for teaching instead of allowing the student to see the broad range of clinical material, as Robert Jones undoubtedly did.

Lectures

In a survey in the *British Journal of Medical Education* on how our students spend their time it was found that the average student in the

clinical period worked six to seven hours a day and one or two hours at night and during the weekends. Lectures were often badly attended but students engaged in duties requiring residence in hospital—especially those on medical and surgical ‘take-in’—often worked long hours and found that these duties were a most valuable introduction to clinical medicine and surgery. Failure on the part of students to attend lectures may be because they are badly delivered; they are often too lengthy, contain too much detail, and fail to bring out essential points. We should perhaps pay more attention to the instruction of our Registrars in lecturing and clinical teaching. However, the attitude of our students to lectures to-day does not differ from that of students of 50 years ago. In 1920 the Secretary of the Examination Hall, Queen Square, London, addressed a letter to the Dean of a Medical School requesting his opinion on the value of lectures and on the attitude of students to them. The reply was that students were not adversely affected when no lectures were given, and that when students were not compelled to attend lectures they did not do so. I think that many of us would agree that lectures are of limited value in the education of the student.

There is no doubt that large groups or firms of students reduce the effectiveness of teaching and allow students to absent themselves without being noticed. Indeed, some students may never attend a set of lectures or clinical teaching during their period as a clerk or dresser in certain departments. Success in clinical teaching requires enthusiasm on the part of the Consultant and the student must reciprocate. Poor student performance and the depressing lack of interest in their work which is so often evident may sometimes be due to indifferent health. They cannot work efficiently if they are not well. Healthy living conditions and adequate physical exercise (I am a strong supporter of mid-week games) are essential, and students living in flats and digs often find it difficult to maintain an adequate standard of fitness. Residential accommodation close to, or in the precincts of, teaching hospitals is needed.

Orthopaedics in medical education

Robert Jones in his opening address before a meeting of the British Orthopaedic Association in November 1920 said:

‘We want every student to imbibe orthopaedic knowledge from a competent teacher. We want his attendance in the department to be made compulsory. The type of cases he will meet in the orthopaedic department is precisely that which confronts him at the examination board and in any remote village where he may practise. The student should be obliged to attend upon at least 20 occasions in the orthopaedic department. Every variety of case should be demonstrated. He should be made familiar with the use of plaster-of-Paris, and orthopaedic surgeons attached to teaching hospitals should be asked to deliver certain systematic lectures dealing with their speciality.’

In January 1942, at Orpington Hospital, Lambrinudi delivered his Presidential Address to the Orthopaedic Section of the Royal Society of Medicine. The title of his address was ‘The Role of Orthopaedics in Medical Education’. He advocated that orthopaedics (including fractures), neurology and urology should be introduced at an earlier

stage of the curriculum in the clinical period, and pointed out that orthopaedics gives an excellent training in observation and deduction, for apart from X-rays it requires no aids to diagnosis, only the eyes, the fingers and an accurate taking and evaluation of history. He went on:

‘ If we are to play our part in any such reconstruction of medical teaching we, particularly those of us in teaching hospitals, will have to re-orientate ourselves. It will require a considerable amount of mental readjustment to change our position from that of a more or less post-graduate teacher to a muddled audience harassed by the prospect of approaching examinations to one of a team of teachers of elementary surgery to eager young students. For the purpose of under-graduate teaching we must seek to simplify our subject, we must get out of the “interesting case” complex, we must learn to extract interest from the commonplace, always to think of the student’s intellectual development, always to try to bridge the gap between what he already knows and what he is going to meet in the immediate future. Moreover I think we should do well to follow the tradition of the teachers of the pre-clinical period, where the heads of the departments themselves undertake the teaching of the fundamentals of their subject, and do not leave it to comparatively inexperienced assistants or registrars as occurs at present in the clinical period.’

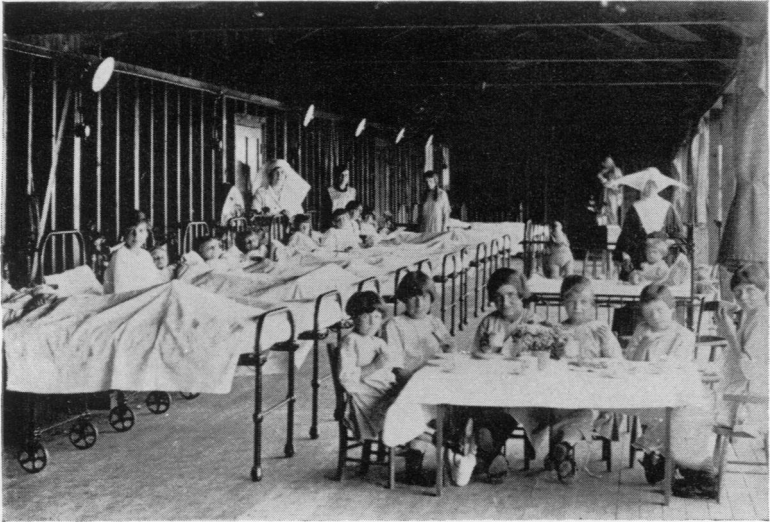


Fig. 2. An open-air ward in a country hospital.

Orthopaedics as a specialty

In the 1880s orthopaedics in the United States was well established, and an American Orthopaedic Association had been formed. In 1893 Robert Jones attempted, without success, to form a British Orthopaedic Association, for orthopaedics was not yet accepted by the medical profession. He was, however, a man of immense vitality, and could afford to wait. He was a keen boxer and cricketer, and a member of Her Majesty’s Volunteers. In 1896, when in camp at New Brighton, he sustained an injury to his foot, and when an X-ray examination was carried out with his own apparatus he was found to have a fracture of the base of the fifth metatarsal—commonly known as a Jones fracture.

In 1900 Agnes Hunt started a hospital for crippled children at Baschurch with accommodation for four little girls and four little boys in two rooms up a narrow staircase. Later two open sheds were built to house 16 boys and 16 girls. It was soon found that the health of the children was greatly improved by open air, rest and proper food. Agnes Hunt arranged to make periodic visits to the Royal Southern Hospital, where her patients were seen by Robert Jones. This was the birth of the Robert Jones and Agnes Hunt Orthopaedic Hospital, and the start of the open-air country centres established by Robert Jones throughout England. Robert Jones visited Baschurch regularly, often on Sundays, examining large numbers of crippled children and operating. All visitors to the operating theatre had to don overalls, caps, masks and canvas coverings for their boots. Other centres were opened at Chailey in 1905, St. Vincent's Hospital, Pinner, in 1906, the Lord Mayor Treloar Hospital at Alton in 1908 and elsewhere (Fig. 2).

At this time many United States and Continental surgeons visited the Royal Southern Hospital in Liverpool to see Robert Jones at work. He operated on 20-30 patients during one session, and many of the cases were sent home on the same day, even though they had had a general anaesthetic under ether. Even at the present time many of our hospitals have inadequate facilities for out-patient operating sessions, and many small procedures such as biopsies, removal of ganglia, manipulations and minor foot procedures are admitted and perhaps kept in hospital for days or longer at considerable expense.

When the First World War broke out Robert Jones was 57 years of age. At this time no provision was made for servicemen with orthopaedic injuries, and many were discharged unfit for military or civilian life. There was a grave shortage of orthopaedic surgeons, and Robert Jones struggled hard to collect the small number that he had trained. By the end of 1915 Robert Jones's advocacy of the Thomas's splint led to its being adopted throughout the entire Front, and he was soon able to demonstrate that the use of this splint had reduced the death-rate in soldiers with compound fractures of the shaft of the femur from 80 per cent to 20 per cent. Thomas's splint or, to give it its full name, Thomas's knee bed splint, is still used in its original form, but unfortunately it is not always used correctly, and many do not appreciate the importance of the system of fixed traction which is so essential to its use.

In 1917 Robert Jones was knighted (Fig. 3a). Towards the end of the war the profession had become anxious about the growth of orthopaedics, and in 1918 the scope of orthopaedics was considered by the Royal College of Surgeons of England. The Council of the College reported that it 'viewed with mistrust and disapprobation the movement in progress to remove the treatment of conditions always previously regarded as the main part of the general surgeon's work from his hands and place it in those of orthopaedic specialists'. Robert Jones was not dismayed, and

advocated that the orthopaedic surgeon should establish his place in surgical practice by friendly rivalry with his general surgical colleagues, and by clearly demonstrating to them the better results obtained by orthopaedic surgeons in orthopaedic problems. However, many of us are well aware that even in the '30s many general surgeons were opposed to orthopaedic surgery, and indeed in some hospitals the care of all fractures by orthopaedic surgeons has only comparatively recently been agreed.

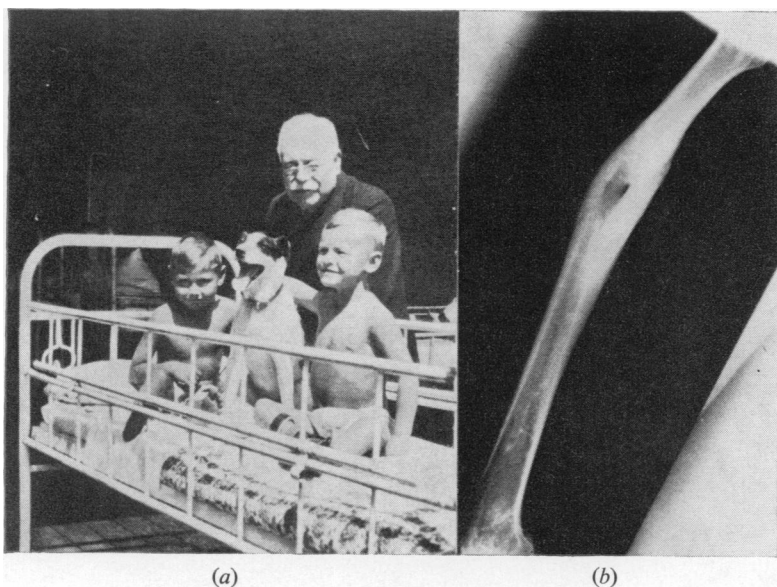


Fig. 3. (a) Robert Jones with his patients. (b) Chronic osteitis following intramedullary nailing of a femoral shaft fracture in a girl of sixteen.

Some principles in orthopaedic and fracture surgery

The principle of rest

Robert Jones had followed the principles which made Nelson Street the most interesting orthopaedic centre in the world. The chief principle advocated by Thomas was rest. In a letter dated 1865 Thomas said, 'Nature cannot be hurried. All we can do is not to thwart her', and 'We must try to assist nature and not oppose her in her efforts to keep diseased structures quiet'. Robert Jones applied himself to the application of the principle of rest, and from the '80s onwards he published numerous articles on this subject.

There is, I fear, a tendency for the young to overlook the importance of rest as a form of treatment. Too many patients are referred to over-worked physiotherapy departments in order to satisfy the patient with

treatment which is often unnecessary. This (what I call 'the orthopaedic bottle of medicine') is an abuse of physiotherapy. Joint injuries in which a precise diagnosis has not been made are often given physiotherapy when a short period of splintage is all that is required. The operation of meniscectomy is traditionally followed by intensive quadriceps exercises when what the joint requires is a period of rest to allow it to recover from a surgical assault. The exercises should come later, and there is much to be said for post-operative immobilization of the knee in a plaster-of-Paris cast. Painful backs due to disc derangement or degenerative spinal changes are often subjected to extension exercises or traction when rest at home or occasionally in a corset or plaster-of-Paris jacket is all that is required. Recovery of the stiff and painful shoulder, particularly the so-called 'frozen shoulder'—a term we should abolish—is delayed by exercises and assisted by simple care on the part of the patient in avoiding painful movements, preceded perhaps by a course of radiotherapy. Rheumatoid arthritis and Still's disease still have a place for simple splintage of painful joints in combination with, and sometimes perhaps in preference to, the physician's treatment. In 1906 Robert Jones reviewed 213 cases of traumatic myositis ossificans collected from the British, American and Continental literature. In considering the pathology he said, 'If a piece of periosteum becomes detached it may be drawn away into the muscle and there start a bone factory'. He advised surgical removal of the bony deposits when they interfered with joint movements. After the operation he recommended rest for three weeks, and advised that early movements should be avoided.

On 6th January 1891 Hugh Owen Thomas died at the age of 57, and Robert Jones and his wife settled at 11 Nelson Street. He introduced a surgical technique not unlike that which we use to-day. It included sterilization of instruments, a ten-minute scrub before operation, sterilized gloves, gown, cap and mask, and rubber boots: probably a more scrupulous technique than that used by many in the 1930s.

Essential clinical diagnosis

The first X-ray in this country may have been carried out by Robert Jones and Dr. Thurston Holland following the setting up of an X-ray plant in Nelson Street, Liverpool, bought in Germany by Robert Jones. He described it as 'a valuable adjunct to our clinical armamentarium, but it should not be allowed to usurp other diagnostic faculties', and said, 'It is deplorable to think of the education of the student to-day who rarely troubles to make himself efficient in the diagnosis of a fracture, but meekly awaits the revelation of an often unsatisfactory X-ray photograph'.

This statement directed to students in the late '80s applies equally strongly to to-day's students. How important it is that our students, and also our House-surgeons and Registrars, should learn the importance of careful clinical examination of injuries. Ununited fractures of the scaphoid are too often the result of inadequate examination of the wrist.

It is important also to realize that an apparently negative X-ray does not always exclude a serious injury. The point I want to make is that a clinical diagnosis should be made before the patient is sent to the X-ray department.

The value of conservative measures

At Nelson Street and at the Royal Southern Hospital Robert Jones followed the example of his predecessor in long hours of work and swift clinical appreciation of the problems of his patients. Orthopaedic surgery as we know it to-day was about to be introduced. I sometimes wonder, however, if we maintain the high standards set by Hugh Owen Thomas and Robert Jones, and if we are following the great traditions laid down by them. A fracture was an injury which they dealt with by simple methods and with patience and diligence, but it would seem that we often fail to appreciate the value of conservative measures, and not infrequently we overreach ourselves in applying complicated methods when simple measures would have been adequate (Fig. 3*b*).

On 7th December 1912 Robert Jones addressed the Liverpool Medical Institute on 'The Present Position of the Treatment of Fractures'. He commented on the school which had arisen on the Continent advocating almost as a routine the operative treatment of fractures, and he pointed out that this school had an inspiring leader in this country in Sir Arbuthnot Lane. About that time the British Medical Association appointed a Special Committee of Inquiry into the treatment of fractures. The last conclusion that the Committee came to read 'For surgeons and practitioners who are unable to avail themselves of the operative method the non-operative procedures are likely to remain for some time yet the most safe and serviceable'—a very sensible conclusion I am sure you will agree. Robert Jones asked: 'Can we improve on our non-operative technique? Can we lay down any laws to guide us when we ought to operate at once?' Apparently no laws were laid down at that time, nor are there any such laws to-day, but the Committee of Inquiry reported that in 147 cases treated by primary operation good functional results were obtained in 80 per cent, a surprisingly high figure, and I doubt if these results would be much improved upon to-day. Robert Jones stated that he operated on the patella, certain fractures of the head of the radius, certain oblique and spiral fractures of the tibia, occasionally upon the olecranon, and upon any other cases which might seem necessary. Many of you will agree that these are the fractures on which we would operate to-day, although we would add fractures of the femoral neck and the trochanter, fractures of the femoral shaft which are irreducible on account of muscle interposition but may not necessarily require internal fixation, and some joint fractures, particularly of the ankle and elbow. However, are we satisfied with the standards of treatment of fractures to-day? My own answer to this question would be 'no'. We cannot ignore the complications that may, and do, follow open reduction and internal fixation, and, although Sir Arbuthnot Lane stimulated great interest in this form of treat-

ment, British orthopaedic surgery has rightly maintained an essentially conservative approach in the treatment of fractures. Infection following the introduction of metal to splint a fracture, and for other purposes, can be disastrous, and may lead to an incurable chronic osteitis. Surely the sensible approach to this problem is that open reduction and internal fixation should be carried out only when indicated, and never by election.

The results of conservative treatment give rise to some dissatisfaction. We use essentially three forms of splintage: the Thomas's knee splint, plaster-of-Paris and weight and pulley traction. Robert Jones disliked plaster and intermittent traction, and preferred splints with which we are no longer familiar. I would draw your attention to the abduction frame which he used for fractures of the femoral neck, great trochanter and the proximal third of the femoral shaft, and also of course for infections of the hip joint. This is a valuable splint, and I believe that we should use it to-day.

Many of the poor results following conservative treatment are due essentially to lack of care. In our hospital system the Consultant is responsible for the care of the patient, but much of the routine work is rightly carried out by our assistants who may not always appreciate that the treatment of a fracture of the shaft of the femur in a Thomas's splint, for example, requires careful daily attention to ensure that the fixed traction is maintained, and that the slings supporting the fracture are tightened when required. In fractures treated in plaster-of-Paris casts, particularly those of the ankle, the cast applied after the initial reduction will become loose when the swelling subsides, and will require changing. It is at this stage that the position achieved after the initial reduction of the fracture may be lost. To maintain a good position the limb must be placed in the position of reduction, and the plaster must be carefully moulded. Skill in plaster technique is acquired only by practice, and the employment of plaster technicians reduces the opportunity for our assistants to acquire this skill. There are many other details in the care of fractures which are essential to success, and it is therefore important that the work of our assistants should be carefully supervised, and that every fracture should be seen by a Consultant in order that he may inspect and direct the treatment. Only in this way will we maintain the high standard set by Hugh Owen Thomas and Robert Jones.

Progress in hip surgery

In January 1935 McMurray, an assistant of Robert Jones, reported on 89 cases of arthritis of the hip treated between 1920 and 1935. The procedures employed were manipulation, rest, arthroplasty, arthrodesis, pseudarthrosis and osteotomy. Manipulation gave some good results in the early stages of the arthritis, and is used occasionally to-day. Rest in a plaster-of-Paris spica in patients with 'infective arthritis' (probably rheumatoid arthritis) in some led to a painless ankylosis; in osteoarthrititis pain was occasionally relieved and the range of movement

increased by reduction of muscle spasm. Arthroplasty gave poor results, but it should be recorded that Robert Jones performed an arthroplasty on an ankylosed hip in 1902; the reconstructed head of the femur was covered with gold foil, and 21 years later he was able to report that the patient still retained an effective range of movement. Arthrodesis gave some good results, although it was described as 'a severe surgical procedure taking 35 to 40 minutes to complete, and followed by immobilization of the hip in a plaster-of-Paris spica' which is still used to-day. Pseudarthrosis relieved pain but the new joint was very unstable. The best results followed the Lorenz-bifurcation osteotomy which McMurray performed 'in a few minutes'. In 12 of the 15 patients submitted to osteotomy the results were good. This operation, which has an inter-

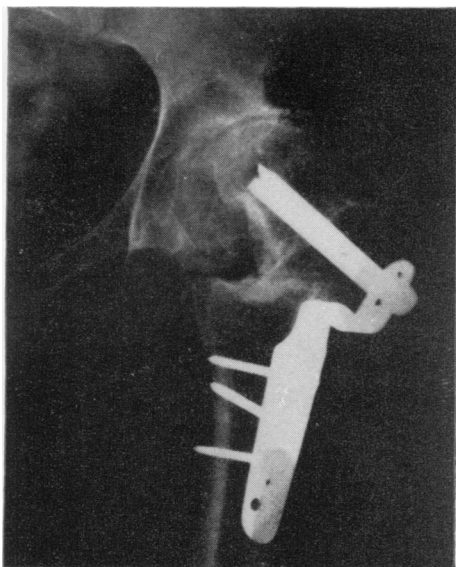


Fig. 4. The McMurray Lorenz-bifurcation osteotomy.

national place in the surgery of the osteo-arthritic hip, is now known as the McMurray osteotomy, but it would have been an advantage if the original title had been preserved. McMurray insisted that this operation would not be successful unless the femoral shaft was displaced medially so that it lay beneath the lower lip of the acetabulum, giving the femoral head an additional point of support. The Lorenz-bifurcation osteotomy is indicated in patients with advanced osteo-arthritis, marked deformity and limited movement (Fig. 4). In these circumstances this osteotomy gives good results. Many of the patients on whom we operate to-day have disabling pain but often a good range of movement and little or no deformity. It is these patients who are often suitable for a varus osteotomy.

Before proceeding with an osteotomy the range of movement at the hip should be carefully examined. Examination under a general anaesthetic demonstrates the range of movement more accurately than examination of the conscious patient in whom movement may be restricted by pain and spasm. Indeed, a final decision on the appropriate surgical procedure may await examination of the anaesthetized patient, and an X-ray may also be required. Many of the patients we now see are suitable for a varus osteotomy, which is particularly indicated when the femoral head can be replaced in the acetabulum by abduction and medial rotation. I believe that the pain in osteo-arthritis, and indeed the osteo-arthritis itself,

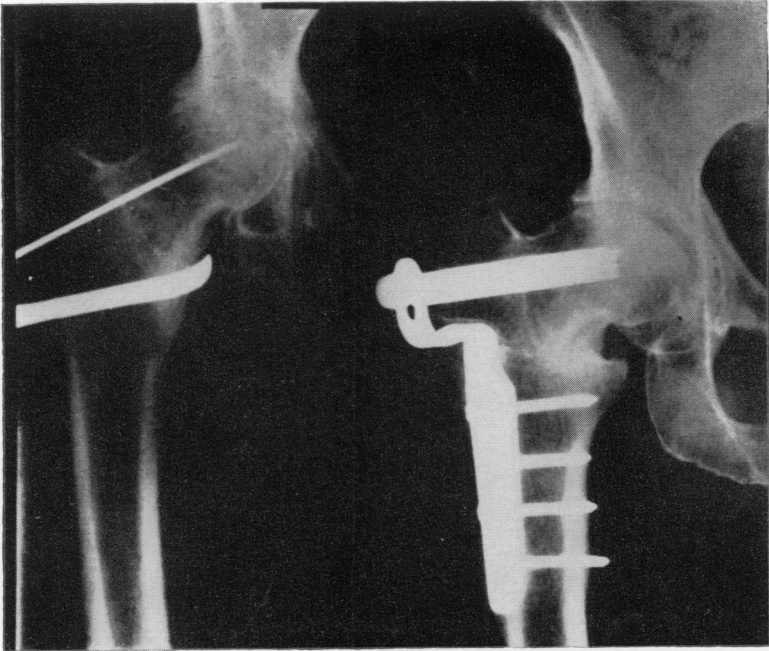


Fig. 5. Return of the joint space following varus osteotomy.

is due to abnormal movement, and that an osteotomy is essentially a stabilizing procedure. Stability is achieved in the Lorenz-bifurcation osteotomy by the bifurcation, and in the varus osteotomy by replacing the femoral head in the acetabulum and the varus position of the femoral neck. Both procedures give good results provided they are used and performed correctly, but the varus osteotomy may now have a wider field than the McMurray Lorenz-bifurcation. The demonstration of abnormal movement in the osteo-arthritic hip by X-ray is very difficult but it would seem quite clear, both clinically and radiologically, that the femoral head subluxes from the acetabulum antero-superiorly, and that the

object of the varus osteotomy should be to control this abnormal movement by replacing the femoral head in the acetabulum.

Arrest of the osteo-arthritis and improvement in the X-ray appearance of the joint can be expected in the majority of cases after a varus osteotomy (Fig. 5). The widening of the joint space immediately after the osteotomy is an indication that the subluxation has been corrected. My good friend Karl Nissen has emphasized that better results follow osteotomy when it is carried out before the osteo-arthritis is unduly advanced, and particularly before the femoral head is deformed. With this I agree, but surprisingly good results can be achieved in patients with severe joint changes.

However, the operation of osteotomy will not be consistently successful unless the surgeon sets out with a definite objective in mind other than

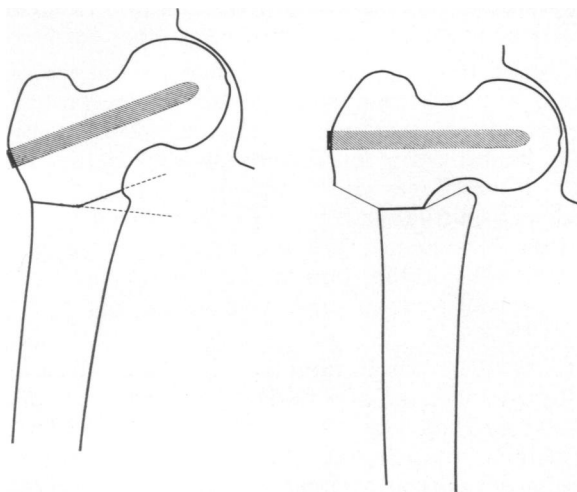


Fig. 6. Angled osteotomy. The dotted lines indicate the degree of varus obtained.

merely dividing the femur, although good results may follow the inadvertent varus osteotomy.

To perform the varus osteotomy successfully, control of the proximal fragment is essential. I have also found that an angled osteotomy is helpful. It allows a varus position of the proximal fragment and medial displacement of the shaft without removing a wedge of bone (Fig. 6). Finally, compression of the osteotomy is a tremendous contribution.

We are aware that osteotomy is not the only form of surgical treatment for osteo-arthritis of the hip, although I believe that it is one of the best procedures. It is, however, a pleasure to be able to state that Great Britain leads the world in joint replacement arthroplasty. McKee and Charnley, followed more recently by Ring, have shown that brilliant results can be obtained by these procedures. It is essential, however, that the orthopaedic surgeon treating the arthritic hip should be familiar

with all the procedures available—osteotomy, arthrodesis, pseudarthrosis and joint replacement arthroplasty—and that to perform only one of these procedures shows a lack of appreciation of the various forms of hip surgery which are available. Not many years ago the Judet arthroplasty enjoyed great popularity, but many of us soon realized that the procedure had its weaknesses. It would seem that there is a risk that our enthusiasm for the joint replacement procedures of to-day, which are so attractive to the patient and the surgeon, may land us in the embarrassing situation that followed the Judet, and it is important that we should not overlook the value of other procedures that are available in the treatment of the osteo-arthritic hip, particularly osteotomy. I have been impressed by the complications that may follow joint replacement arthroplasty, particularly infection, and it would seem that this procedure requires a higher standard of aseptic technique in the operating theatre than that normally provided.

With these doubts in mind, I hope unfounded, about the joint replacement procedure, I would draw your attention to the protest of Robert Jones, supported by Hugh Owen Thomas, against the routine excision of tuberculous joints, before the Liverpool Medical Institute on 18th January 1888. Robert Jones said: 'Excision at any stage is a confession of failure, and surgical triumph is to be found not in the obliteration but in the restoration of a joint.' We know that an osteotomy will often restore the osteo-arthritic hip joint, and there is much to be said for preserving it. Perhaps we should restore more hip joints.

To return to the title of this lecture: there is no great difference between the years of Robert Jones and ours to-day. We follow the principles laid down by him and by Hugh Owen Thomas, but there has been a change in orthopaedic material and method. In England tuberculosis and poliomyelitis have almost vanished, and many of the beds that patients occupied, often in country hospitals, have been taken by patients suffering from cerebral and spinal palsy. In hospitals in the cities much of our time is taken up in treating degenerative conditions of the spine and major joints, the orthopaedic problems of rheumatoid arthritis, a never-ending supply of acquired deformities of the female foot produced by the fantastic footwear supplied by fashionable shoe-makers, scoliosis, congenital deformities of the foot and hip (although major surgical procedures on young children with congenital dislocation of the hip will soon, we hope, disappear from the surgical curriculum) and the injuries following trauma. Improvement in anaesthesia and resuscitation has allowed us to perform major surgical procedures which were not permissible in the days of Robert Jones, such as the surgical treatment of scoliosis and joint replacement hip arthroplasty, although the place for and results of the latter procedure have not been fully evaluated. It is perhaps chiefly in change of method that we differ from Robert Jones; we use more metal and other foreign material such as acrylic cement in internal fixation of fractures,

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replacement arthroplasties and scoliosis. Although many of our patients benefit from the use of these materials there is, sometimes, a price to pay in the form of wound infection which dogs us despite our modern operating theatres, antibiotics, suction drainage, etc., and some of us no longer strictly practise the 'no touch' technique of Arbuthnot Lane. It is, perhaps, in the treatment of fractures that we may not always measure up to the high standards set by our predecessors, and it is here, I believe, that we should seek improvement.

Concluding my lecture, I am aware that I have expressed my own opinion on a number of topics without, I hope, giving offence; and I trust that I have done justice to that great man, Robert Jones.

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I also wish to acknowledge the assistance received from *The Life of Robert Jones* by Frederick Watson, from which I have quoted freely.

DONATIONS

DURING THE PAST few weeks the following generous donations have been received:

£2,502	2s. 5d.	Medical Sickness Annuity and Life Assurance Society Limited (7-yr. covenant, £210 p.a. + tax, to funds of Nuffield College) (further gift).
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In addition there have been a number of gifts under £100 which total—£346 10s. *The following Fellows in the Faculty of Anaesthetists have generously given donations or entered into a covenant with the College:*

- F. F. Cartwright, F.F.A.R.C.S.
- D. C. Hughes, F.F.A.R.C.S.