

**James Syme : Regius Professor of Surgery in the University of Edinburgh, 1833-1869 : a study of his influence and authority on the science and art of surgery during that period ; delivered before the Royal College of Surgeons of England, December 11th, 1894 / by Oliver Pemberton.**

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BRADSHAW LECTURE

1894

BY

OLIVER PEMBERTON, F.R.C.S.

Kelvin q 50



Presented

176. - 1899

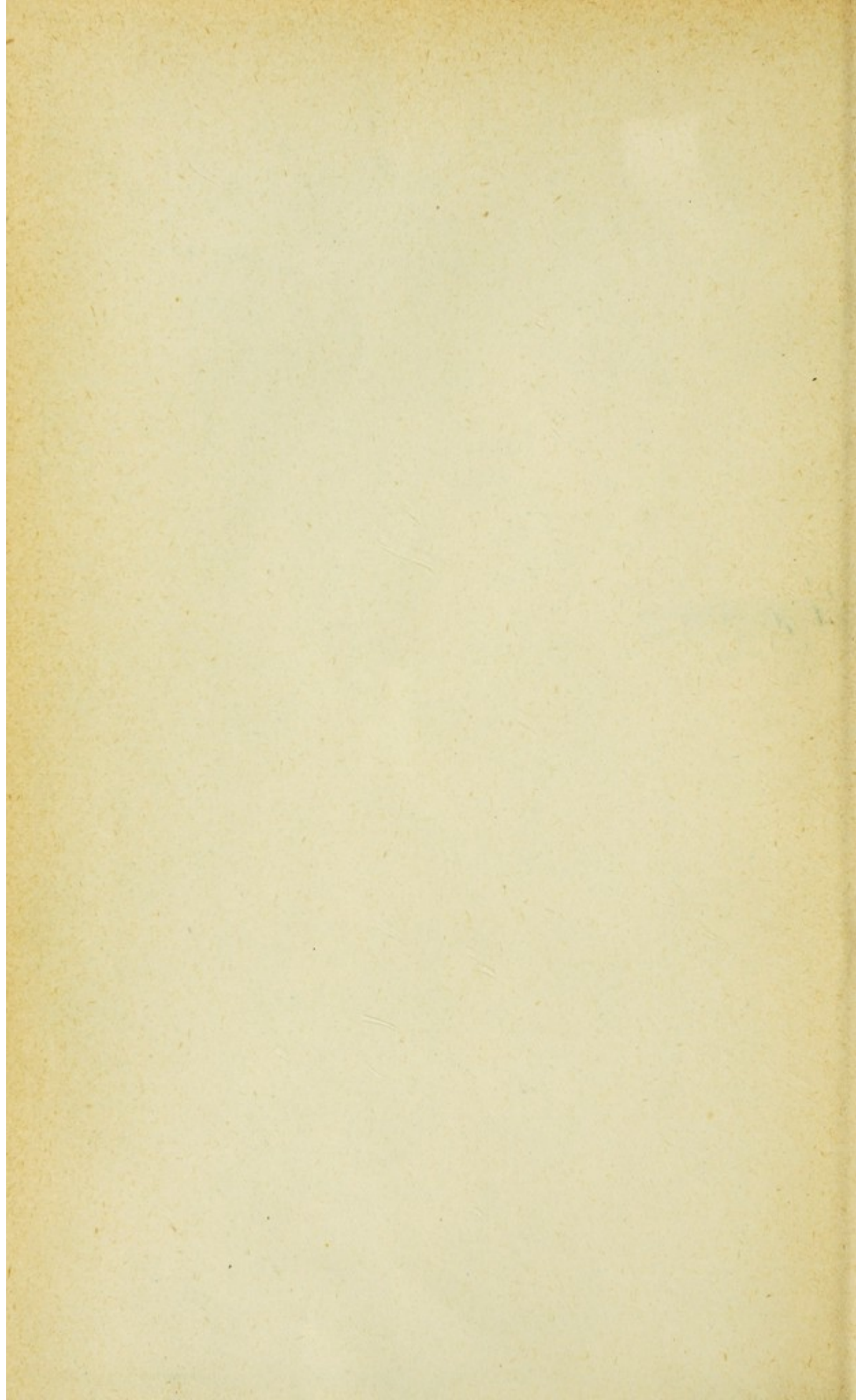
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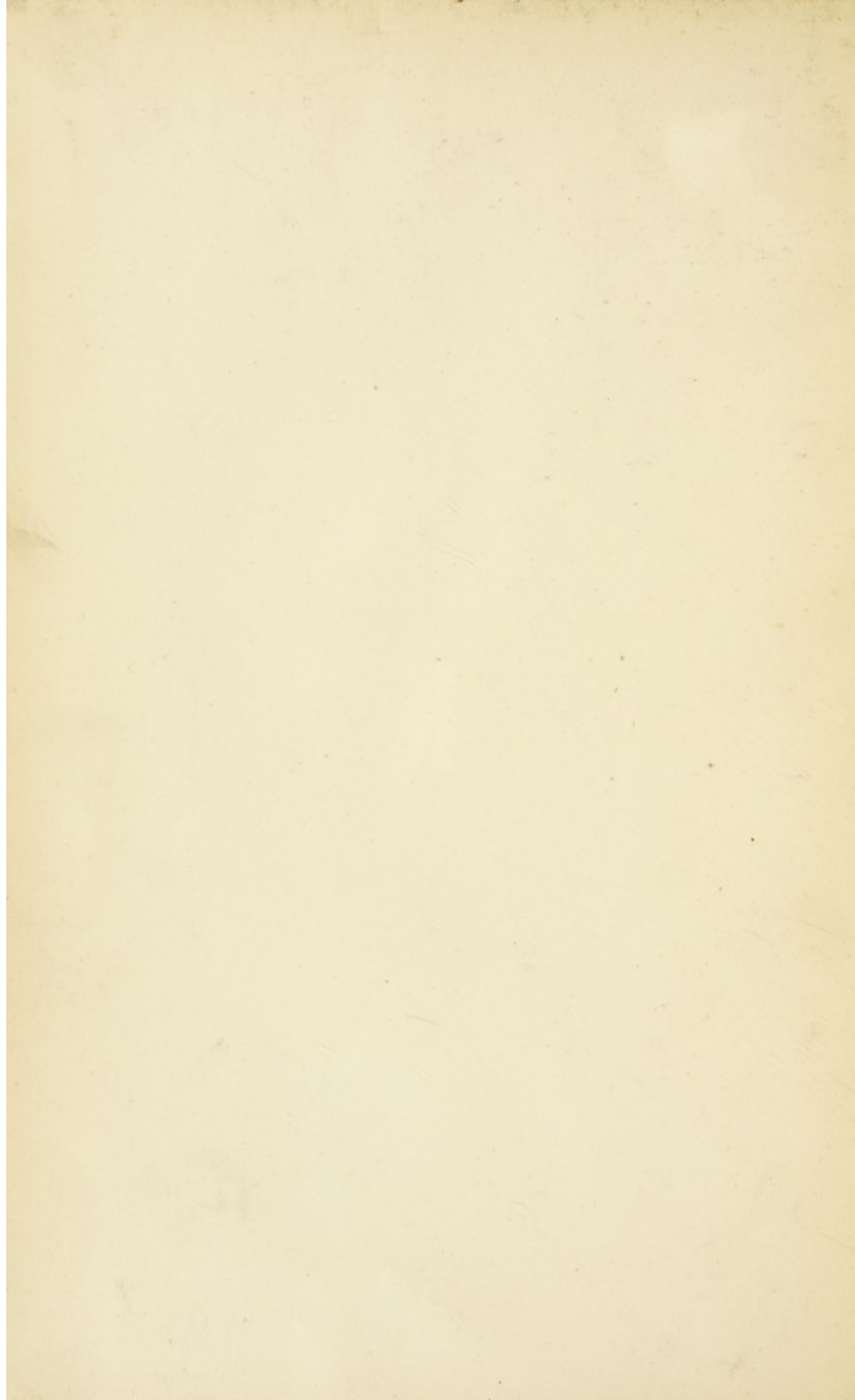






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For  
The R<sup>l</sup> Hon  
L<sup>td</sup> & L<sup>td</sup> P.R.S.  
with the writers comprised  
Birmingham March 1895.

BRADSHAW LECTURE FOR 1894,

DELIVERED BEFORE

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND,

DECEMBER 11TH, 1894.





Answered thanking  
April 3. 1895

65, TEMPLE ROW,  
BIRMINGHAM.

March 22 - 1895,

Dear Lord Kelvin,

I venture to think  
that some memorial,  
of the work of a  
great Scotchman  
and a greater  
surgeon, of, and  
belonging to all  
countries, might

Dear Mother

You see we were very busy at our  
meeting last year - James left  
Dartmouth because of the bad weather -  
The Williams' recalled them; but James  
soon left Dartmouth & came back  
again - because of the bad weather  
in his callus in London - a rare &  
true Scott in deed!

Believe me, most truly  
Your Affectionate Son  
Alfred Russel



might not be however  
incomplete - more  
interesting to you.

you must have known  
James Syme & I  
knew you love to  
hear about any  
in our time who  
in benefiting mankind  
have sacrificed their  
own



*BRADSHAW LECTURE FOR 1894.*

JAMES SYME,  
REGIUS PROFESSOR OF SURGERY IN THE  
UNIVERSITY OF EDINBURGH,

1833—1869.

A STUDY OF HIS INFLUENCE AND AUTHORITY ON THE SCIENCE  
AND ART OF SURGERY DURING THAT PERIOD.

*Delivered before the Royal College of Surgeons of England,  
December 11th, 1894.*

BY

OLIVER PEMBERTON, F.R.C.S.,

MEMBER OF COUNCIL OF THE COLLEGE ;  
PRESIDENT AND EMERITUS PROFESSOR OF SURGERY IN MASON COLLEGE,  
AND  
CONSULTING SURGEON TO THE BIRMINGHAM GENERAL HOSPITAL ;  
FOREIGN CORRESPONDING MEMBER OF THE SOCIETY OF  
SURGERY OF PARIS ;  
HER MAJESTY'S CORONER FOR THE CITY OF BIRMINGHAM.

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1895.  
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To  
SIR JOSEPH LISTER, BART., F.R.S.,  
SURGEON EXTRAORDINARY TO THE QUEEN.

MY DEAR LISTER,

I hope you will accept the dedication of this Lecture.

You must be beyond all men best able to place a just value on any tribute offered to the memory of Syme—you, his Son-in-Law—you, his successor in Clinical teaching, and his follower in the development of the highest forms of surgical science.

Believe me to remain,

Yours ever truly,

OLIVER PEMBERTON.





## THE BRADSHAW LECTURE FOR 1894.

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MR. PRESIDENT AND GENTLEMEN,

It is not, I venture to think, an inappropriate fulfilment of the intention of the founder of this lecture that, apart from some special subject of surgical science or practice that might be selected, the consideration of the career of a great surgeon could be chosen as affording material of the highest interest and value. More especially is this the case when it happens that the life in contemplation—that of James Syme—bestowed benefits not only on the country of his birth, but on all countries where human suffering sought relief at the hands of surgery.

Though upwards of twenty years have passed away since the death of Syme, I feel convinced that those amongst us who knew the man and his work, or those who can only learn what he was by his writings, will unite in a judgment that very few in the history of surgery have equalled him in his absolute devotion to his calling, and none have surpassed him in the utility of his practical suggestions for the preservation of the lives and limbs of his fellow-creatures.

If the earlier period during which Syme taught clinical surgery was not so striking in its developments as the later, arising from what followed the discovery of anæsthetics, the application of the antiseptic system, and the use of ligatures antiseptically prepared, it must be borne in mind that the difficulties surrounding the successful practice of surgery at that time were augmented, and demanded the extreme of personal attention. Notwithstanding, Syme overcame them.

His self-reliance, sagacity, and fertility of resource were his most assured endowments, and these he cultivated and matured as time went on and gave him experience. It may be truly affirmed that the period covered by Syme's commencement of practice and the resignation of his chair comprehended a period in the advancement of the science and practice of surgery—a space of fifty years unequalled in the history of the profession. To the last his mind was open to the adoption of additional means of simplifying the practice of surgery, and so long as these did not clash with those principles of thought and action which for ever guided him in his calling, he would readily become the staunchest advocate of change.

One cannot trace the career of a great surgeon without dwelling, if only for a moment, on some of the influences that contributed in early days to subsequent eminence. The thorough ascendancy with Syme,\* as well as with those who preceded him, rested on the fact that he both learnt and taught anatomy. The foundation of the northern school of surgery, begun and maintained from the days of John Bell to those of William Fergusson, owed its solidity to this mastery of anatomy. The surgeons of Edinburgh as early as 1505, as provided by the first Charter granted to them, had to examine the applicant for admission to the Incorporation in anatomy, and were to have a body for dissection once a year. This was a beginning culminating in 1694 in the completion of the surgeons' anatomical theatre for dissection, and finally, under Munro's influence, led to the establishment in 1726 of the medical school of the university. It was not yet, however, that surgical anatomy, the only true guide of the operating surgeon, was placed in the front. This was reserved for John Bell, who secured its application by enforcing the practice of dissection.

No truer description of this illustrious man can be given than what is contained in the words of Dr. Struthers: "He was not only a bold and dexterous operator, but combined all the quali-

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\* Historical Sketch of the Edinburgh Anatomical School, Edinburgh, 1867.—Struthers



ties, natural and acquired, of a great surgeon to an extraordinary degree. He was original and fearless, and a thorough anatomist. He had intellect, nerve, and also language—was master alike of head, hand, and tongue or pen, and he was laborious as well as brilliant.”

When this master of our craft was passing away in a foreign land,\* the subject of my present thought was entering his twenty-first year, and acting as demonstrator of anatomy to Robert Liston, and not yet a Member of his College of Surgeons. Syme's first qualification was M.R.C.S. Eng., 1821, subsequently he had the unique honour of being F.R.C.S. Eng., Edin. and Irel.

To speak of the Edinburgh School is to call to mind that famous university which, wherever the English tongue is spoken, cannot fail to be regarded as having ever been pre-eminent in the making of our profession. If in its glorious past it stood well-nigh alone, distancing all competition, it will not, I am prepared to assert, be denied that in the present day, at least in certain respects, it maintains its claim to that pre-eminence. I say this without any thought of forgetting our English or our Irish schools; but until this metropolis obtains those facilities for conferring degrees adequate to the opportunities for study no less than to the character, the ability, and the thoroughness of the teaching it possesses, I shall not hesitate to regard our attitude towards the great body of the profession in our country as being unworthy of the position we assume, and which we have only to thank apathy and selfishness that it is yet possible to be maintained.

Liston gave up the teaching of anatomy in 1833. Syme took his place, continuing to teach for the next few years until he lectured solely on surgery. By this he attained that absolute confidence, based on anatomy, which he never lost, that speedily led to his successful application of operative surgery to the cure of disease. I have the expectation that when I shall have drawn attention to what he accomplished, and by what means it was

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\* John Bell died in Rome in 1820.



brought about, the eulogium I have just quoted as having justly belonged to Bell will equally have been merited by Syme.

In 1828, unconnected with any hospital, Syme performed for the first time in Great Britain the operation of excision of the elbow-joint. I cannot speak on this subject of excision of joints in connection with his name without making a passing reflection on the strange vicissitudes of reputation that dogged the adoption by the profession of the most beneficent operation of the century in which he lived. Parks' suggestion, in his never-to-be-forgotten words of the "total extirpation of the articulation," in his letter to Percival Pott in 1782, as a treatment for diseased joints, led only to its application in the knee, so far as his actual work was concerned, and left to the Moreaus the distinction of carrying it out in the elbow in 1797, just two years previous to the date of Syme's birth. After the Moreaus the whole subject seemed to have slept until revived by Syme, who gave an account of what he had done in the first book he published—namely, a "Treatise on the Excision of Diseased Joints"—in 1831, he then having had an experience of fourteen cases.

Undoubtedly to Syme alone belongs the merit of having substituted excision for amputation of the limb in regard to the elbow-joint. He succeeded because, as was ever his wont, he in the first instance established the principle, as alone calculated to secure success in the treatment of caries in joints by excision, that there must be complete cutting or scraping until sound bone was reached. He thus concludes his observations in his earliest record of cases: "The almost forgotten operation of Moreau will now again, perhaps, be reconsidered, and I hope make such a deep impression on the profession as may induce its practitioners to pause before they mutilate a fellow-creature by amputating his arm for disease or injury of the elbow-joint." To this petition, modest and overflowing with humanity, no more fitting judgment can be available than that which has been written down: "If he had done nothing else, he would have been one of the greatest benefactors of the human race." \*

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\* Edinburgh Medical and Surgical Journal, 1870.



The success that attended this proceeding in the elbow led Syme, as time went on, to the belief that it was well to limit its performance to that articulation and the shoulder. As is well known, he dismissed excision of the knee. He tried it. He found the knee did not grow in proportion as compared with its fellow in one instance, and he thought, therefore, an artificial substitute would be more useful than the limb preserved by excision; and this conviction he recorded after the lapse of twenty years from his early experience. Time, however, in this has not verified the correctness of his judgment. Within ten years of its publication our late colleague, Sir William Fergusson, revived the operation of the knee by performing it at King's College Hospital, thereafter following throughout Great Britain, for a good twenty years, the contest between surgeons as to its mode of procedure—a contest ending in the attainment at this time of a well-justified estimate of its value in selected cases in adults and of the adoption of arthrectomy in children.

Fergusson, in dwelling on the period of inaction—in his lectures, delivered in these walls in 1867, on the Progress of Anatomy and Surgery, and referring generally to excision of joints—laments the supineness of the English surgeons in language almost pathetic: "Not a breath, not a pen, not a knife stirred in England on the subject." At the same time that he uttered these words, he rendered to Syme the tribute that he recognised as due—that to him, and to him alone, belonged the establishment of the beneficent operation of excision of the elbow-joint when affected by disease or injury.

Though tibio-tarsal amputation had been not infrequently performed on the Continent previously to Syme's operation at that joint, it is to him that the profession is indebted for its introduction and perfection in this country. In 1842, on September 8th, the first occasion on which the proceeding was carried out, the new feature which has made the operation what it is was established—that of securing the pad of the heel as the covering of the stump. Neither Velpeau nor Baudens seized this idea. Flaps taken from the dorsum of the foot—



from the skin above the heel—resulted in a line of union that exposed an integumental cicatrix alone to bear the pressure in locomotion ; hence arose disappointment and comparative failure. That the pad of the heel retains its thickness after long years of pressure as the medium of support in the stump, and does not become thin and wasted, as in almost every other amputation, no matter where situated or with whatever flaps covered, is universally recognised by surgeons. Well might Syme write \* “that he thought that this form of amputation might be advantageously introduced into the practice of surgery, and that he regretted the many limbs that might have been saved by it, and that he would be glad if what he had said in its favour might encourage others to its performance.”

In this operation, as in many others that we can readily call to mind, the originator was pestered by the suggestion of so-called improvements. These took the form, in the main, of the question as to the sources whence the coverings of the stump were to be derived. Syme, from the first to the last, always insisted on the value of the natural pad of the heel constituting undivided in the stump the medium of pressure, in preference to any other covering from the neighbourhood of the joint. The lapse of fifty years has not lessened the value or humanity of this operation, or altered the guidance recorded in the first instance as to the mode of its performance.

The younger generation of surgeons, with their full knowledge of its excellence, may well wonder at my dwelling on the proceeding with emphatic comment. I cannot, however, forget that when I performed it in the General Hospital, Birmingham, in August, 1853, now forty years ago, it was not even then, eleven years after its introduction, in general adoption, and had not previously been performed in the Midland Counties. I ventured three years later to communicate my experience to Mr. Syme himself,† to me then personally unknown, referring to its applicability to infant deformity, to adult disease as well

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\* *Edinburgh Medical and Surgical Journal*, 1843.

† *On Amputation at the Ankle-joint*. Pemberton. London, 1856.



as to injury. I received from him the following letter, in reading which I tender no apology, as it is not only surgically historical, but it evidences that moderation of tone in alluding to his brilliant proceeding, born, it may be, of some passing disappointment, and yet shewing no trace of want of assurance of ultimate success that is ever the greatest characteristic of genius.

[COPY OF A LETTER FROM PROFESSOR SYME.]

Edinburgh, May 8th, 1856.

My dear Sir,—The results of your experience are very gratifying to me, and will, I hope, tend to lessen the prejudice which still exists against the operation in some quarters. I beg to thank you for the expression of your approbation, which encourages me to persevere in pursuing the great object of my professional life, which is, and always has been, to render some service in improving the practice of surgery.

I remain, my dear Sir, yours very truly,

Oliver Pemberton, Esq.

JAMES SYME.

It is with no ordinary feeling of pride that I recall to mind that the reception of this letter led to a friendship, surgical as well as social, that terminated only with life. Moreover, I was then that which I would I were now—a very young hospital surgeon—whilst the writer was in the zenith of his fame. Beyond this, the circumstance illustrated a marked feature in Syme's character—that of cordially welcoming the younger members of the profession, hailing from any quarter, and discussing with them in social intercourse the story and illustration of the surgeon's art he loved so well.

No subject has more widely elicited a difference of opinion than the treatment of stricture of the urethra. We are all of us familiar with the views of those who have in the past so variously and strenuously advocated the use of dilatation, of caustics, or of internal incision. After failure with dilatation and internal division in a case which came under Syme's care in 1840, he, for the first time carried out the external division of the stricture; subsequent experience convinced him of the value of the proceeding; and in 1849 he laid his views before the profession. The principles involved in Syme's proceedings I must give you in his own words: \* 1. "That there is no stricture truly imper-

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\* Stricture of the Urethra and Fistula in Perineo. Edinburgh, 1849.



meable, and that with time and care in every case an instrument may be passed through it and serve as a guide for the knife. 2. That all strictures which cannot be remedied by simple dilatation, admit of effectual relief only through a free division of the contracted part of the canal. 3. That this object can be attained with certainty and safety only by an external incision in a line corresponding with the raphe of the perineum upon a grooved director passed through the stricture." The publication of these views gave rise to no ordinary controversy both in this country and in France, the main difference ranging between the advocates of internal as opposed to external division. The lapse of years should enable us to review with calmness this field of contention.

There are certain conditions in connection with stricture to the existence of which hardly any of us will feel inclined to demur. In the first place, let me ask what is the meaning of the word "cure" in stricture? In simple stricture due to inflammation of the lining membrane of the urethra there is the "cure" by dilatation only. In organic stricture, originally simply inflammatory, but becoming aggravated by neglect, or too frequently increased by ill-considered surgical proceedings, there is, properly speaking, no "cure." "Once organic stricture, always organic stricture," is my belief. It is in these cases of organic and permanent stricture, where the induration has become non-dilatable or cartilaginous, or where there is fistula, that Syme's views seem to me to commend themselves to our judgment. Believing, myself, in the permanence of these changes established in the urethra, whether by injury or disease, I have never looked with favour on any internal severance of the lining of the canal. Surely the methods employed to forcibly break up the obstruction are the means of artificially inducing the very conditions which have resulted from other and unavoidable causes; and I regard a shut-up wound in the internal face of the lining of the urethra as being attended by dangers to which an open wound on the outside face is exempt.

For carrying into effect external urethrotomy, there never was

in Syme's plan any cutting without a guide; the extent of the obstruction was clearly and completely divided on a grooved staff passed through it in the middle line into the bladder; hence neither hæmorrhage nor extravasation followed. But how about obtaining this guide? Are there no impermeable strictures? In these Syme had no belief. Given time and rest, it was his opinion that no stricture ultimately resisted the passing of an instrument. On this hear his own words: \* "I have never either publicly or privately been unable to pass an instrument since I became satisfied that there was no true impermeability." As to this question of non-impermeability, I venture to express my own concurrence, always excepting those of traumatic origin where complete severance of the canal has occurred.† Syme in 108 cases in which he performed external urethrotomy lost only two patients.

And now what conclusions are we entitled to draw from the evidence I have adduced? Proof that Syme originated a treatment of stricture by external division in which treatment by dilatation and other means had failed; that this treatment maintains at this day the value claimed for it by Syme, bringing about a permanent relief from an intolerable and complicated malady—secured in most instances by no subsequent passing of instruments—the exception to this being the need that one might be wanted about once in three months, an undertaking that the patient can easily be instructed to manage for himself.

The study of aneurysm amongst surgeons in all countries has ever been one of deep interest. In Great Britain the names of Hunter and Jones, of Freer and Hodgson, of Syme and Bellingham, will ever be associated with the successful application of treatment for its relief. Here anatomy and pathology have truly been the guides of surgery. It is with diffidence, before an assembly such as this, that I mention that I have

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\* *Op. cit.*, p. 35.

† On Traumatic destruction of the Urethra. Pemberton, *Lancet*, 1861.



myself enjoyed opportunities\* of inquiring into the value of various forms of treatment and of investigating some of those pathological changes in arteries and veins that lead to the production of some of the less common forms of the disease. Whilst doing this, however, you will, I trust, believe me when I say that it is for the express object of recalling the occasion in 1872 when, within these walls, Professor Holmes delivered his masterly lectures on the subject, to the illustration of which it was my great privilege to contribute specimens of arterio-venous communications, the results of ligature and pressure in the treatment of aneurysmal formations. These lectures, I need hardly state, gave an impetus that yet endures, and shed a clearer light on the more obscure points connected with their progress and remedy.

This interest is naturally awakened in contemplating Syme's treatment of certain aneurysms of the most formidable character, in which, had he not deviated on his own initiation from the Hunterian principle that the artery should invariably be ligatured beyond the confines of the tumour, there had been none other ending save disaster and death. That he had a happy touch in dealing with arteries may well be believed, that since he tied the femoral artery thirty-five times with one failure from suppuration of the sac owing to the use of prolonged pressure and consequent derangement of the general health. To tie the femoral artery safely he suggests that the operation is one not of difficulty but nicety. "This nicety consisted in the use of a clean cut to open the sheath of the vessel, first seen lying white and free from surrounding bleeding from little vessels, then the vessel cleared in the same way of its cellular and fatty substance, and the needle can be passed without difficulty or danger."†

Nothing in what Syme put in practice relating to the treatment

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\* Aneurysmal Varix, Transactions of the Royal Medical and Chirurgical Society, 1861. Aneurysm, Address in Surgery. British Medical Association, 1872. On ligature of Iliac aneurysms, idem, 1877.

† Edinburgh Medical and Surgical Journal, 1866, p. 968.



of aneurysm affected the general view of the Hunterian operation in the great majority of instances. He argued that there were situations, such as was the case in certain axillary aneurysms, where the application of a ligature to the subclavian on the Hunterian principle promised nothing beyond misfortune; while opening the sac and securing both ends of the ruptured vessel, however difficult and arduous such a proceeding appeared, in his judgment promised, if it did not ensure, a favourable result. The belief that all parts of the artery included in the walls of the sac were unsound seemed to forbid the application of the ligature to any portion of the artery close to it, that being held, in all probability, to be unsound likewise.

Reflection as to the modes in which spontaneous aneurysms most frequently commence and extend satisfied Syme that this need not be the case. Guided by this conviction, in 1857 he successfully treated a traumatic aneurysm of the carotid, too low for proximal ligature, by incision and ligature of both openings at the wound. Thus fortified, he operated on a patient forty-seven years of age on February 1st, 1860, in the case of a large aneurysm situated in the left axilla, evidently a rapidly extending one of the axillary artery. The main difficulty and danger of the operation were overcome by the method in which a command over the artery was obtained before it was tied. This was accomplished by a preliminary incision whereby the finger of the assistant was enabled to pass down to the subclavian as it lay on the first rib on the outside of the scalenus anticus. Then the sac was opened freely and safely and its seven pounds of coagulated blood scooped out. The axillary artery was found to have been probably torn across. Its lower end, bleeding, was first secured, and then the upper end from under a divided lesser pectoral muscle. Complete recovery took place at the end of six weeks.

A further proof of the correctness of the impression that Syme formed—viz., that the extent of an artery either close to or within the sac of an aneurysm is not necessarily unsound beyond the point of rupture, and therefore unfit for ligation—



was afforded him in the need to amputate in two instances of axillary aneurysm at the shoulder-joint, the patient's age being fifty-two years in the one case and twenty-two years in the other case. The aneurysms were cut through in the operation, and the arteries tied where they lay within the sac. Undisturbed recovery took place in both cases.

In 1861\* Syme thus treated a gluteal aneurysm. In 1862† he yet further corroborated his opinion in a case of iliac aneurysm in which the common—the external and the internal iliac—arteries were tied, and the argument that the size of the tumour does not depend upon the state of the vessel and therefore is not any measure of the extent to which its coats are impaired was again enforced. On April 20th, the aorta being controlled by Professor Lister with a screw clamp, a free incision was made into the sac, six pounds of blood and clot were emptied, the arterial opening into the aneurysm being obscured in its roof, the ligature was applied to this on both sides, and finally to the internal iliac as well. In all these cases the operation effected a cure.

I have authority to state that Syme did not use any other material than the "small silk" in his arterial ligatures for aneurysm.

It happened that Sir Joseph Lister in 1869, when about to publish his observations on the ligature of arteries on the antiseptic system, read to Mr. Syme the manuscript in the short interval that preceded his apoplectic seizure in that year. The only alteration suggested was, curiously enough, the introduction of the word "small" before "silk," so impressed was he with the value of a diminutive ligature rather than a large one. As a matter of fact, no case of aneurysm occurred in his practice after the catgut ligature, antiseptically prepared and applied, was introduced. Indeed, the catgut ligature was not ready for him before his illness; but he was quite alive to its importance, and took the keenest interest in an account

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\* Transactions of the Royal Medical and Chirurgical Society, 1860.

† Ibid, 1862.

he had received from Mr. Bickersteth,\* of Liverpool—his former house surgeon—of a case in which he had used the catgut with perfect success.

In his treatment dealing with wounds Syme had early the greatest aversion to anything like constriction in their treatment. He went so far as to express an opinion that union by the first intention happened more frequently in the days of Taliacotius than it does at present, for the great, I may say infallible, preventive of adhesion—I mean adhesive plaster—was not then invented. Hence followed his disuse of bandages and the use of compresses of linen. He liked the use of ligatures for the vessels with long ends, leaving the two ends hanging outside the wound, which served, he said, as drains for the pent-up blood and serum.

That he was alive to the value of the "antiseptic method" his contribution to the subject in 1868† affords abundant testimony. The seven cases he adduces may be read with advantage in the face of our present knowledge of the value of the antiseptic treatment of wounds, as well as in recollection of the difficulties that beset its adoption by the profession when Syme wrote. These consisted of the removal of a parotid tumour, the treatment of a vast wound of the knee-joint, of two compound fractures of the leg—a psoas—and of a chronic and acute abscess. In all there were conspicuous the utter absence of fever, the repair without purulent formation, and its disappearance in the instances of its collection in the abscess cavities when opened. Well might he anticipate that such an improvement promised a great diminution of human suffering and danger. So satisfied was he as to the disappearance of suppuration by the adoption of this method that in his last clinical lecture, with which he concluded the winter course, he records that he had in his later practice abandoned the ligature in favour of torsion, as, this proceeding leaving no foreign body in the wound, he no longer wanted the two long ends.

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\* *Lancet*, Vol. I. 1869.

† *Brit. Med. Jour.*, Jan. 4th, 1868.



The evidence advanced is surely sufficiently striking and shows how enthusiastically he entered on the subject of the antiseptic system, and what perfect results he obtained from it with the comparatively imperfect means then at his disposal. Alas, that it should so have been that whilst the record of this conviction was not a year old his first illness took place, and in the summer of 1869 he resigned his chair of Clinical Surgery and his position of surgeon to the Royal Infirmary. The few words of Paterson\* rightly convey the attitude of Syme on this question: "Nothing," he says, "can more strikingly illustrate the freshness of his mind at this late period of his professional life than the readiness with which he received so great an innovation upon surgical practice."

As Regius Professor of Clinical Surgery in the University of Edinburgh for thirty-five years—a chair that Syme really founded—an influence was exercised on the progress of surgery and the education of surgeons by the example he afforded that cannot too strongly be enforced. Following the method of Dupuytren, whose plan of teaching he had watched in Paris, Syme introduced the practice of bringing the patients before the assembled students, and pointing out the diagnostic characters to them, then discussing the principles and details of the treatment to be adopted, and either putting it in practice at once before them or, in the case of a major operation, doing it some other day when they were prepared to follow the steps of the procedure with profit. At the bedside a short exact statement of the case led up to the diagnosis, which was briefly and happily explained. What he had to do was done quietly and with deliberation. He was never flurried, and taught as much, if not more, by what he did than by what he said. Specially he had the faculty to train surgeons—he insisted on the value of caution limiting their judgments ere the issue of any given case was fairly apparent. The love of his life was the study of surgical diseases that admitted of cure by operation.

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\* Life of James Syme, Edin., 1874.



Here he was the surgeon in all respects, for though he investigated the action of the periosteum in forming new bone and proved it by facts—now corroborated by more remarkable instances than he then adduced—this was well-nigh the only departure after engaging in practice he took from his favourite pursuits. This contribution to surgical science was entitled, "On the Power of the Periosteum to form New Bone." \*

Syme based his conclusion that the periosteum had the power to form new bone independently of any assistance from the old one from his well-known experiments on the radius of the dog, in which an inch and three-quarters having been removed together with the periosteum it was found at the end of six weeks that no new bone filled up the gap, whereas in the other leg similarly treated, but without the periosteum being removed, which was carefully left entire except where the slit was open in front, it was found that a compact mass of bone occupied and more than filled the space left by the portion removed.†

In his student days, however, Syme appreciated the value of scientific researches, for he worked diligently and under great difficulties at chemistry—his laboratory a cellar, shared with his fellow student Christison.‡ His discovery of a solvent for caoutchouc in his twentieth year was important, and was permanently valuable to others if not to himself. Throughout his life he was a master of botanical science, both theoretical and practical. Like Brodie, born some sixteen years before him, Syme was, I would maintain, not indifferent to the value of "science" in the study of surgery, and he would, I feel satisfied,

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\* Transactions of the Royal Society of Edinburgh, vol. xiv. Read March 6th, 1857. Question: "Whether the periosteum or membrane that covers the surfaces of bones possesses the power of forming new osseous substance independently of any assistance from the bone itself."

† Paget in Lectures, 1863 (Ed. Turner), p. 184, referring to the importance of the periosteum in the formation of new bone and confirming the truth of recent observations made in France by Flourens, Ollier, Demarquay, and others in reference to the establishment and extension of this power of the periosteum, speaks of them as "facts" long since proved by Syme and now corroborated.

‡ Annandale: Address, Edinburgh, 1877.



have been the first to acknowledge, despite his intense devotion to the "art," the justice of the comment on Brodie, "whose life was said to have proved to demonstration, by a long and admirable career, that devotion to purely scientific pursuits and a deep interest in all concerning scientific progress may coexist with eminent professional skill, with a philanthropic spirit and an enlarged religious mind."\*

Further, in the Hunterian Oration delivered at this College on February 14th, 1887, Mr. Savory, our then colleague, discusses the value of a knowledge of physiology to the surgeon, questioning the extent to which it should occupy the attention of the student of surgery, at the same time laying down the principle that "some knowledge of physiology is essential to the surgeon." With this we shall all agree.

Of Syme it has been said that with him the art of surgery rather advanced than the science. Admitting that in the practice of the art he was supreme, I would ask by what other means than by first mastering its science was he enabled to obtain that knowledge of the principles of surgery which, after long thinking over, he was enabled to apply to its most effective practice as an art. Syme was never in his severest trials of operative surgery, when human life hung on the thread his fingers controlled, like the mariner without his compass; or if strange difficulties arose, as Mr. Savory writes, what then? I answer that Syme ere he started on his voyage first satisfied himself as to the course which his principles mapped out for his adoption; and whatever difficulties, however startling, beset him, the science of his calling, which in its principles he studied and worked out again and again in his career, steadied and aided him and carried him to success in the application of its practice.

Would that the time allotted me permitted of further reference to this subject of science and art in our calling as dealt with by Sir William Savory; I will only say that it comprises in my

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\* Acland: Sketch of Brodie's Life for the Royal Society.

view all that can be said to rivet our attention to the importance of the union between them being for ever inseparable. Conspicuous amongst Syme's qualities was that of absolute self-reliance. With few friends and less money, wanting a hospital for practice and hopeless of an appointment at the infirmary, during eight years he carried on an independent teaching of systematic surgery and started himself a hospital that lasted for four years and closed to him only when the infirmary doors were opened. Here, says Professor Annandale,\* "he originated and practised the method of real clinical teaching which was destined to make his clinical surgical teaching in connexion with the university so complete and so great a reform."

As an operator Syme never contemplated display. Deliberate, absolutely cool, undismayed by the advent of the unexpected, he appeared to have foreseen what would happen and was ready to encounter any emergency. His entire being was concentrated in the one thought—as to the safest means whereby he could relieve his patient. With few instruments, with anatomical knowledge complete for his purpose, he never felt he could fail. If bleeding occurred during an operation it was rare for him to stay the knife. He went straight on and completed the operation, and then arrested all hæmorrhage.

In the past history of eminent surgeons how true it is that a partiality becomes manifest for certain operations to the exclusion of others; perhaps this arises from the knowledge of what it is that we do best. Thus Syme did not excel in lithotomy and hardly practised lithotrity, and it was with difficulty he admitted any value to pressure in the treatment of aneurysm. Stone, it is true, was not as common in Edinburgh as in the northern parts of Scotland, nor as about Norwich or the midland counties, as Warwick and Stafford, in England; hence the opportunities for its frequent performance hardly may be said to have existed.

If on the subjects of excision of joints, of urethral stricture, of

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\* *Op. cit.*



amputation at the ankle-joint, and the treatment of aneurysm I have chosen to dwell at some length, it is because on the repute connected with their development and growth inseparably depends the abiding character of Syme's fame as a surgeon. These alone suffice to establish its solid foundation, but the monument would not be complete did I fail to mention yet other examples of his originality and marvellous sagacity in carrying into effect practical surgery with a boldness, in regard to operative treatment, never previously deemed applicable for their relief. He was the first to excise the superior maxillary bone, to subcutaneously divide the sterno-mastoid for wry-neck, and to disarticulate the clavicle. He dealt successfully with the removal of the scapula, together with amputation of the whole extremity. Lastly, he pointed out the exact treatment of an agonising malady—fissure of the rectum.

There must have been with Syme's nature an endowment that enabled him at an early date in his career to undertake formidable operations, to the successful issues of which he was guided alone by the faculty of being able to think for himself. Here was the keynote of his success, and as he began so he ended. Let me illustrate this, as the whole history of the case I am about to mention abounds with features typical of his surgical character, the soundness of his pathological knowledge, his clearness and accuracy of diagnosis, the immense importance he attached to a serious case, his sanguine confidence when he felt sure of his principles, and his dauntless courage.

In 1827 he removed the greater part of the inferior maxilla in a young man twenty years of age. The growth, which involved the bone, was of enormous size, and had already been examined by Mr. Liston (then his senior colleague in teaching anatomy), who had refused to interfere. "The mouth was closed diagonally across the face, and had suffered such monstrous distension as to measure fifteen inches in circumference. The throat of the patient was almost obliterated in appearance, there being only two inches of it visible above the sternum, so that



the cricoid cartilage of the larynx was on a level with that bone. When the tumour was viewed in profile, it extended eight inches from the front of the neck."\* Syme having satisfied himself that the tumour was not malignant, and confident in his diagnosis, felt that it was susceptible of removal. Success crowned the work; the result fully justified his practice. The patient completely recovered, and twenty-six years afterwards presented himself, having come from America in perfect health.

When it is borne in mind that Syme was then but twenty-seven years of age, outside the pale of hospital support, and that the removal of tumours of the jaw was a comparative novelty, the striking character of this proof of his operative skill is truly remarkable. Sir Joseph Lister, who possesses this trophy of the ability of his illustrious father-in-law, enables me to afford you an inspection of the specimen and of the picture taken before operating. Sixty-seven years have elapsed since the operation was achieved. The fame of the operator endures, and, I venture to say, will endure so long as the story of a great surgical career continues to be held in admiration.

Here I pause. You, my audience of to-day, must be the judges as to whether or not my narrative of the beneficent surroundings that inseparably connect themselves with these measures carried out by Syme for the cure of disease justifies the conclusion that in the contemplation of his professional life we see an authority in the practice of our art approached by few and surpassed by none. I appeal to that wider audience, the members of our calling in these islands, in our colonies, and wherever English surgery is known, to join in agreement with this conviction.

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\* *Edin. Med. and Surg. Journ.*, 1828.

## WORKS ON SURGERY

By MR. PEMBERTON,

together with a record of various contributions to its practice.

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### I.

THE History, Pathology, and Treatment of Melanosis,  
Imp. 8vo. London: Longmans. 1858.

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### II.

ON Excision of the Knee-joint. Illustrating the principal complications which are likely to arise after the performance of that operation, and especially the want of subsequent development and growth in the limb of the young subject. 8vo. London: T. Richards. 1859.

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### III.

CLINICAL Illustrations of Various Forms of Cancer, and other Diseases likely to be mistaken for them, with especial reference to their surgical treatment. Imp. 4to. London: Longmans. 1867. With wood engravings and twelve plates. Price £1. 11s. 6d. plain, and £2. 2s. coloured.

"As Surgeon to one of the largest, oldest, and most celebrated provincial hospitals in England, Mr. Pemberton has enjoyed a very extensive field of observation, which he has cultivated with much zeal and success. Already well known to the surgical world, through many important contributions to its literature, especially on the subject of melanosis and the excision of the knee-joint, he has now, in this most beautiful work, added greatly to his well-deserved reputation."—*Edinburgh Medical Journal*.

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SERIES of Contributions to Clinical Surgery.—*British Medical Journal*, 1856-59. Lithotomy in children. Fissured fracture of the Cranium. Amputation at the Ankle-joint. Radical cure of Hernia. Muco-cutaneous outgrowths.



## ON ANEURYSM.

TREATMENT of Popliteal Aneurysm by the combination of Flexion and Compression. *Lancet*, 1859.

TREATMENT of Aneurysm by Anastomosis by excision. *Lancet*, 1860.

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LIGATURE of the Common Femoral. *British Medical Journal*, 1867.

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TREATMENT of Popliteal Aneurysm by Esmarch's bandage. Med. Congress, London. 1881.

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ON Amputation by rectangular flaps. *Med. Times and Gazette*, 1861. Homicide by Manual Strangulation, causing fracture of the Cricoid Cartilage. *Lancet*, 1869. On the Treatment of Organic Stricture of the Urethra, especially by the systematic use of tapering metallic dilators. *Idem*, 1878. Loose Bodies in the Knee-joint. *Idem*, 1883. Foreign Bodies in the air passages. *Idem*, 1884.

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ON the present means for the cultivation of Medical Science in Birmingham. Hall & English. 1881.

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ON the operative and general treatment of Cancer in the Female Breast. Ingleby Lecture. 1884.

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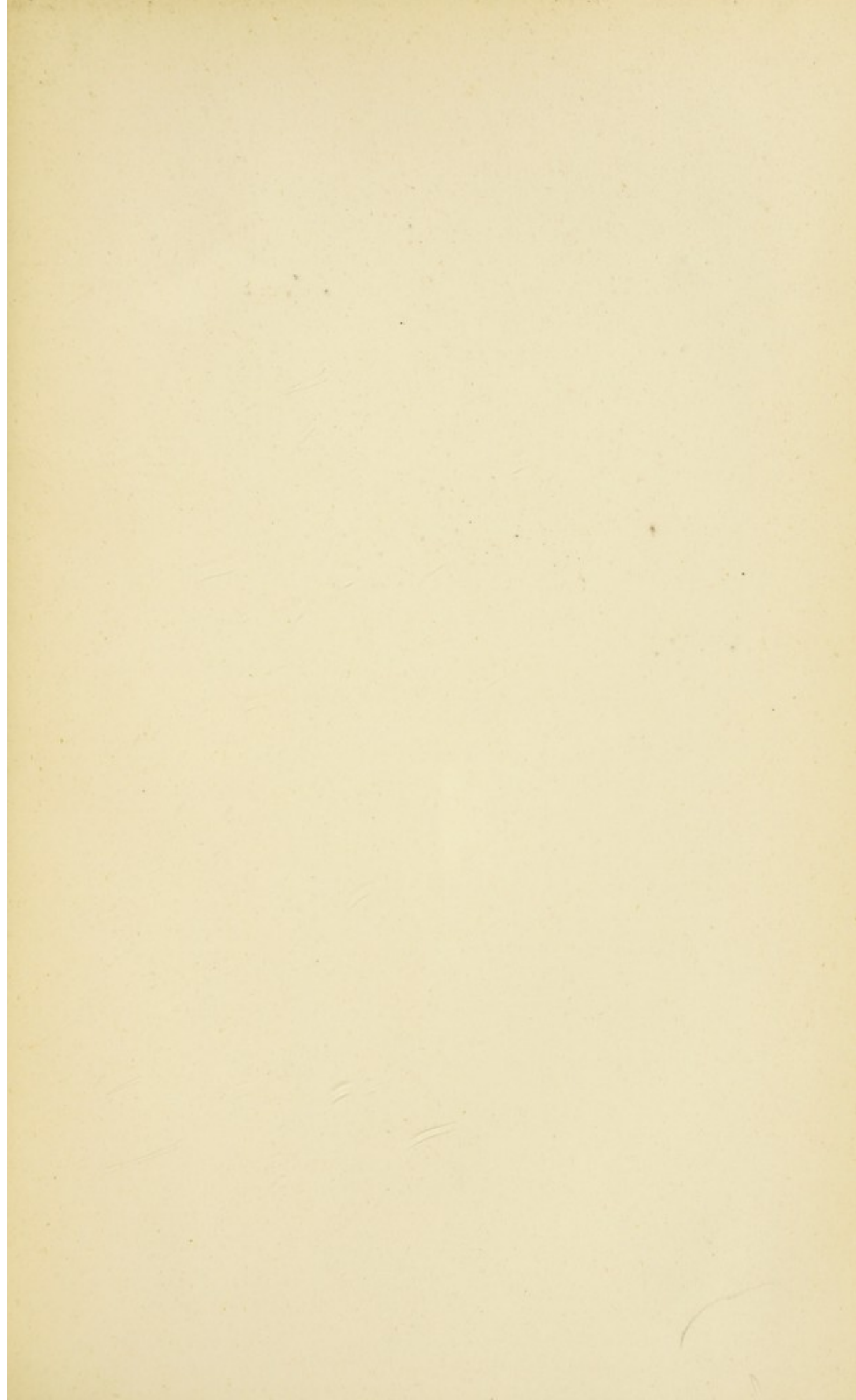
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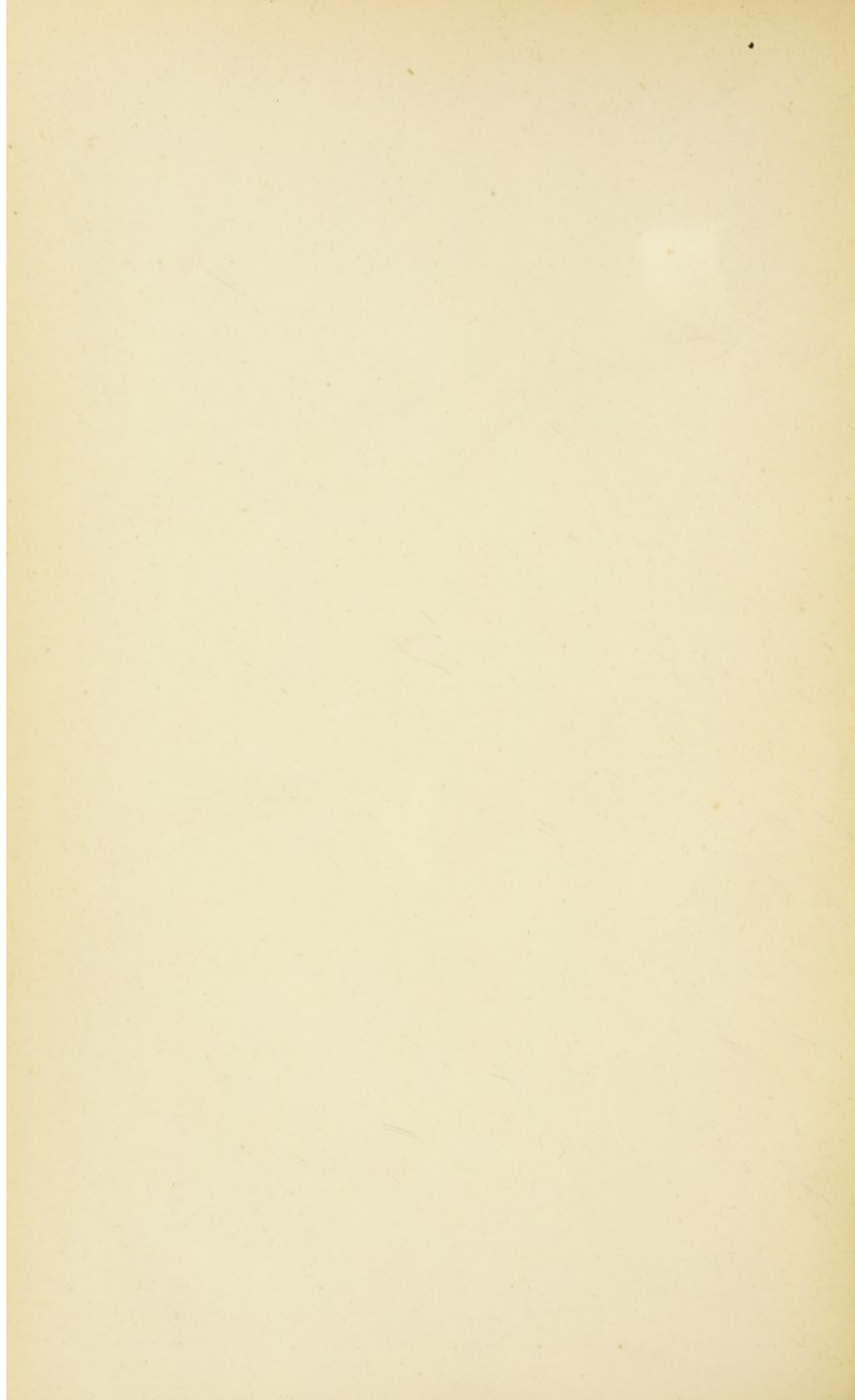
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