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SIR J. Y. SIMPSON—HIS IMPACT AND INFLUENCE*

BY

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JAMES YOUNG SIMPSON was one of the great men of medical history and it is right that we in this College should honour his name for he was, first and foremost, an obstetrician. But Simpson's interests ranged far beyond any one specialty, and his writings, as I shall show, are astonishing in their variety. He was a life-long student of archaeology, an authority on folk lore, and an experimentalist in many lines of research. He was moreover an innovator, and it is a sad fact that his name in this connexion is now so little remembered. How many of us when picking up a uterine sound, for example, pause to reflect that this instrument, together with the expanding uterine tent, was devised by Simpson, who thus made intra-uterine exploration a systematic procedure in gynaecological practice? Above all, Simpson was an inspired teacher, and he could be roused to vehemence when faced with prejudice or bigotry.

It is not my purpose to discourse on Simpson's life-story. That has been admirably done in the first Simpson Memorial Oration by Douglas Miller of Edinburgh. Instead, I shall present, so to speak, three snapshots to give a background for my later remarks.

SCENES FROM SIMPSON'S LIFE

The year is 1830. Imagine a small and rather mean baker's shop in the far from prosperous village of Bathgate, near Edinburgh. A lad, barely 14 years of age, has returned from the daily bread-round and is retiring behind the

counter in the hope of securing a few minutes of uninterrupted study, for he is preparing himself in Latin for entry to the University of Edinburgh. This is James Young Simpson, the seventh child of the family. He has shown an unusual aptitude for learning, but with the family living at poverty level a higher education had seemed to be beyond reach until an older brother promised help with the lad's future board and keep. What this help amounted to in money terms is now difficult to say, but here I would remark that in those days the Scottish universities set aside a special "Meal Monday" when needy students could return to their homes in order to fetch another sack of meal for sustenance during the remainder of the term. The relative costs of student necessities can be judged from an entry which Simpson was, at a later date, to make in his diary:

"Finnen Hadies 2d. and Bones of the leg £1, 1s.; Subject £2.† Spoon 6d. and Bread and Tart, 1s. 8d.; Snuff 1½d. and *Early Rising* 9½d."

We further learn that the cost of franking a letter addressed to his parents in Bathgate was 6d., and this expense was so great that Simpson did not feel justified in indulging in the luxury oftener than once in each term.

Let us now turn to the year 1847. Simpson is now thirty-six years of age and has just received

† The relatively high cost of anatomical material is a reminder that this was the time of the "Resurrectionists", and of the notorious Burke and Hare murders, when high prices were demanded for corpses supplied to medical schools.

* Simpson Oration, 22nd November, 1963.

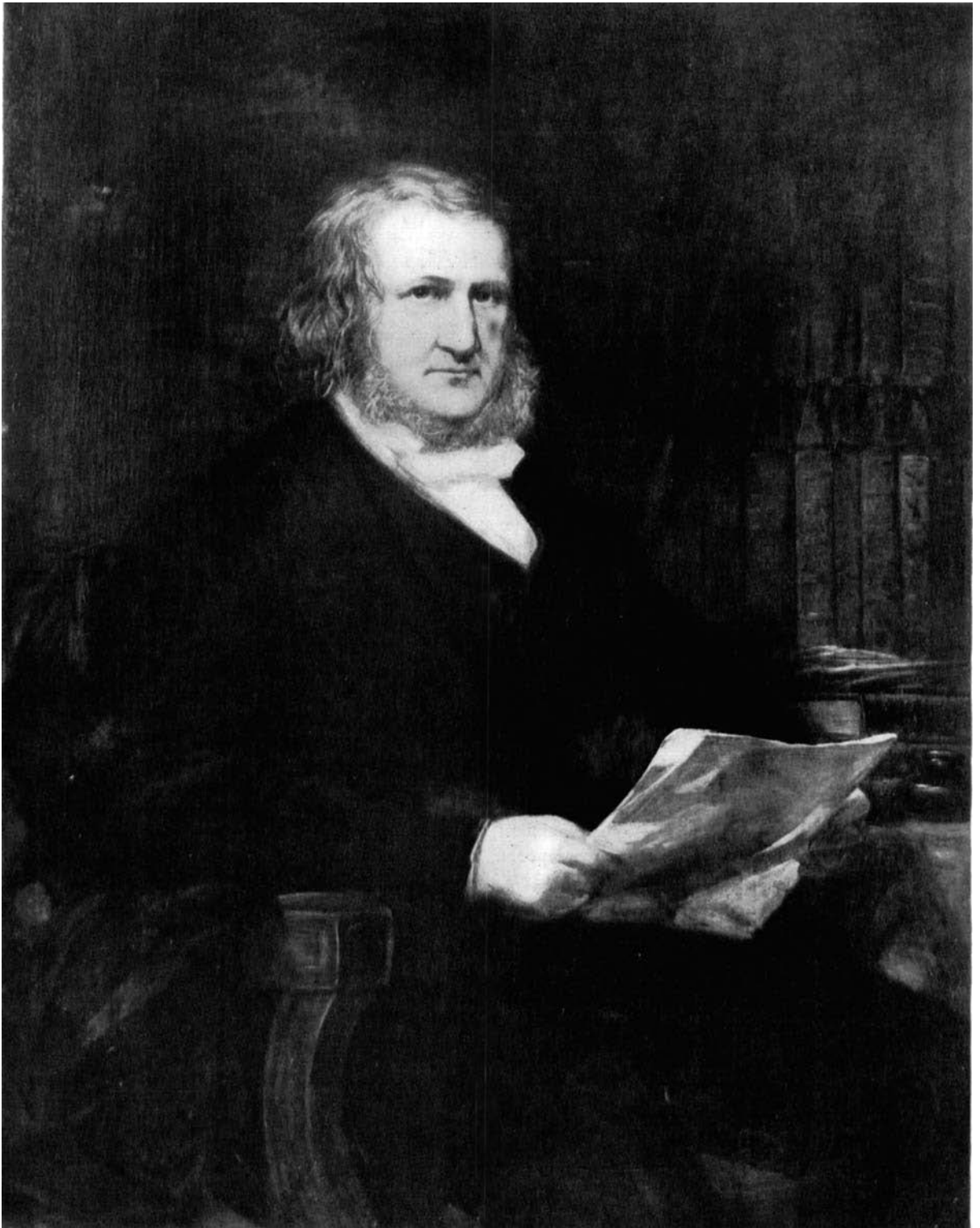


FIG. 1

Sir James Young Simpson.

(From photograph of a portrait kindly supplied by Mr. F. Stabler.)



FIG. 2

Cast of the head of the first child to be delivered with the help of anaesthesia. The original bronze cast (from which this replica has been made) was lost for many years. At the time of the Simpson Centenary celebrations an extensive search resulted in the finding of an unidentifiable cast in an old store cupboard. With the help of the technical department of the Royal Scottish Museum the label was cleared of opaque varnish and the writing, hitherto undecipherable, confirmed the suspected identity of the head. (Photograph kindly supplied by Professor R. J. Keller.)

a letter notifying him of his appointment as Physician to the Queen in Scotland—a letter which, by strange chance, arrived at the very hour when he was administering the first anaesthetic ever to be given to a woman in labour. That operation was, incidentally, the version and extraction of an 8 pounds foetus (Fig. 2) in a woman whose pelvis was grossly contracted and whose previous labours had

ended in mutilating deliveries. He is writing to his brother and the words are these:

“Flattery from the Queen is perhaps not common flattery but I am far less interested in it than in having delivered a woman this week without any pain while inhaling sulphuric ether. I can think of nought else.”

As stated, the drug used was ether; chloroform as an anaesthetic agent was still unknown. To my mind it is regrettable that Simpson's name is so exclusively associated with the latter substance for the measure of his originality and daring is found in his deliberate resolve to induce unconsciousness in a childbearing woman by any form of volatile drug. We have only to think of the recent history connected with thalidomide to realize the magnitude of the unknown danger and the strength of his critics who prophesied that a child born under its influence might well develop into an idiot, even if it were lucky enough to be born alive or its mother to escape death from haemorrhage or convulsion.

My third picture is not of Simpson himself but of the reaction to his death. The year is 1870 and the whole country is in mourning. Tribute is paid to him in Parliament by the Prime Minister, Mr. Gladstone; and in Edinburgh as the hour of the funeral draws near the business of the city slows to a halt. The University has closed its class rooms; the Stock Exchange has suspended transactions; the traffic is stilled, and an assembly estimated to number 30,000 people watches the mourners as they stretch in procession the entire length of Princes Street.

A notice in the journals about this time may be of some interest.

“At a meeting of the committee, presided over by the Earl of Dalhousie, the form of a national memorial to the late Sir J. Y. Simpson was agreed upon as follows. First, a monument and a statue in Edinburgh; second, a marble bust in Westminster Abbey; third, a hospital in Edinburgh for the diseases of women, constructed on those principles which Sir James so often and so clearly expressed; fourth, similar hospitals in London and Dublin should sufficient funds be obtained.”

THE EDINBURGH FACTIONS

I believe that it is a fashionable pursuit of the modern biographer to pick on some supposed psychological peculiarity of his hero and to make subsequent events conform with this reading of his character. Perhaps I am in danger of falling into this very error, for I believe I can see in the unfolding of medical history a pattern of events that had its origin in Simpson's character and the factions and squabbles of his time.

Factions and Squabbles. These words are too light for the present context: Wrangling and War might be better, for how else can we describe the animosities that then bedevilled the Edinburgh Medical School? What can we think, for example, of the respected member of the Faculty who waited outside the hospital gates, horsewhip in hand, it is said, for a colleague whose views were at variance with his own? Colourful episodes such as this seem to have been the order of the day, and Simpson, although tolerably discreet, was certainly not passive. Here I quote from an obituary notice which was later to appear in one of the journals:

"We shall attempt no judgment or criticism on local personal feuds, but shall merely remark that there is clearly something real in the influence of the northern air, and remind our readers that it was a Scotch dog of whom it is mentioned that he was moody and unhappy because 'he could not get enough o'fechting'. That Sir James was not more to blame than others we believe highly probable; to prove that he was no less so we are forced to leave to those who are better acquainted with the facts."

Those who know the story of Simpson's life will remember that his election to the Chair of Midwifery was a fiercely contested event which had been decided by one vote. The unnamed professor who, according to a letter written by Simpson at that time, did so much to oppose him was with little doubt none other than the great James Syme, Professor of Surgery in the University (Fig. 3). It is easy to suppose that Syme with his aristocratic background resented the intrusion of the one-time baker's boy into the professorial ranks; but whatever the reason may have been, Simpson early incurred his wrath, and a bitter feud ensued which was to have strange consequences.



FIG. 3

James Syme.

"The Napoleon of Surgery."

Let us first consider James Young Simpson. Provoked as he must have been by Syme's words and actions he replied with force only when unjustly attacked. That his younger assistants showed less discretion is more than probable. Now, there was amongst Simpson's followers at that time one who was later to become an acknowledged leader in gynaecological surgery. I refer to the enigmatical Lawson Tait, a man who embodied genius with audacity, learning with prejudice, benevolence with hate (Fig. 4). Tait was loyal to his guide and mentor, Simpson; but to Syme he was opposed and his contempt extended to all who owed Syme their allegiance.

Let us now consider James Syme. Here was a man of great character, possessed of superb technical skill who towered over his surgical contemporaries, themselves no mean exponents of the art; not without reason historians have referred to Syme as the Napoleon of Surgery. And now let us turn to a junior assistant in his



FIG. 4
Lawson Tait.

ranks. This young man, a Quaker, educated at University College in London, had visited Syme as the first stage of a planned European tour. So impressed was he that he remained in Edinburgh first as Syme's student and later as his assistant. That young man was Joseph Lister, and it was on Syme's recommendation that he was later made Professor of Surgery in Glasgow where, as we all know, one of the greatest, and probably the most far-reaching of any innovation in medicine took place—the introduction of the Antiseptic Principle or, more simply, *Listerian Surgery*. It is not my present purpose to enlarge on Lister's achievement; it is enough to state that while the new doctrine quickly gained ground in the North and in Europe generally, it was for long ignored in the South or was grudgingly adopted with little understanding of its real meaning.

For Lister's own character there can be nothing but praise. He was a man of absolute integrity and kindly, generous disposition. If he had a fault it was his reticence in proclaiming in terms sufficiently loud that even the mentally

deaf might hear, that a new era in surgery had begun.

But now to come to the point: Lister was Syme's protégé. And as Syme's protégé Lister was the convenient secondary target for those whose venom was primarily directed at the master.

It is not difficult to guess at subsequent events. Lawson Tait pointedly ignored Lister's teaching and jeered at the microbes and the Listerian antidote of carbolic acid. And so on the one side we see Lister, the self-effacing scientist expounding his doctrines in sober, measured terms; while on the other is Lawson Tait, the brilliant surgeon, witty, forceful and ebullient who scornfully refuted the new doctrine. For Lister the immediate battle was lost, and the acceptance of his doctrine throughout

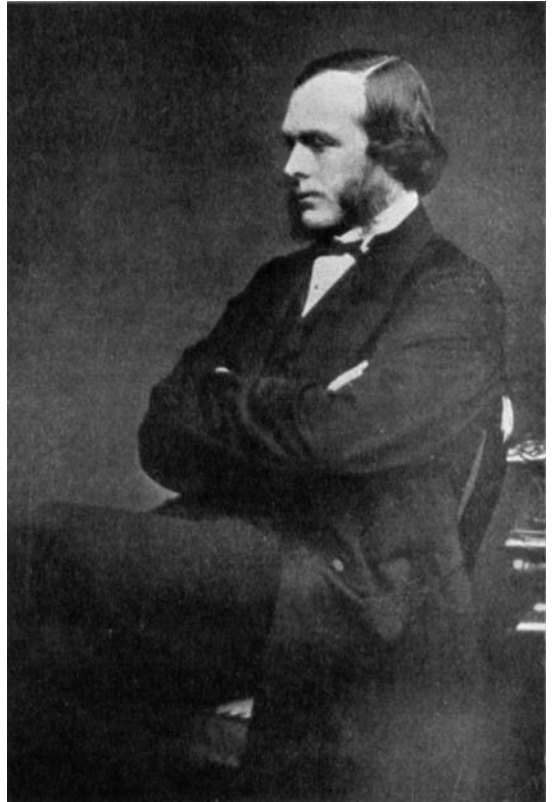


FIG. 5
Joseph Lister.

A portrait made at about the time of his revolutionary work.

the southern portion of our land was grievously delayed. Nor is this all. If the facts are as I see them, Lawson Tait was guilty of something very near to deliberate deceit.

When Lister's own writings are studied it will be seen that the essence of his doctrine was the need to destroy germs present on the skin or which might gain access to an open wound through dressings, surgical instruments or even hospital dust. Further, he repeatedly asserted that many ways might be discovered of destroying these germs, but that the immediate practical method was the application of certain chemicals of which carbolic acid seemed the most promising. It is therefore bandying with words to say that the *aseptic system* (which used physical heat for sterilizing instruments and dressings) was antagonistic to, or that it superseded, the *antiseptic system*. On the contrary, the one was the natural development of the other. Yet Tait, while deriding carbolic acid and the Listerian doctrine in general, insisted on the most thorough washing of hands and scrupulous cleansing of instruments. Most significant of all he stored his marine sponges (then used in place of the present-day gauze swabs) in a weak solution of carbolic acid.

That Lawson Tait obtained results far ahead of those of his contemporaries—including the redoubtable Spencer Wells—is well known. That he obtained them in defiance of Listerian rules as he implied is simply not true, and is evidence of a blind antagonism towards a one-time colleague with whom, had he chosen to unite, he might have moved mountains. And so the old methods persisted. Doubters were confirmed in their unbelief; "laudable pus" continued to masquerade under its false name, and festering wounds still remorselessly followed the surgeon's knife.

Where did Simpson himself stand in this unhappy controversy? His record, and his renown in battling for all manner of innovations made him peculiarly qualified to express judgment. Moreover, he had already inveighed against the curse of infectious gangrene. "Hospitals", he had said, "are deliberately sacrificing the lives they are instituted to save. A patient is safer in the gutter than in a hospital!" With these facts in mind it is disappointing to record that Simpson said little, and the little he said was derogatory.

Now, it is easy to impute to Simpson the same animosities which, with little doubt, possessed the mind of Lawson Tait, but this would be less than just. A study of the relevant dates will show that Lister's first publication appeared barely three years before Simpson's death, and by that time Simpson was a rapidly ageing man, soon to experience those cramping pains around his chest, the deadly nature of which he must have been well aware. Yet he was still accomplishing a vast amount of daily work. The Edinburgh hotels were thronged with his patients. Visitors by the score would crowd his house for the honour of breakfasting with the great man. His services were in demand throughout England as well as Scotland. There were even visits to the Continent. It is on record that on such an occasion Simpson was received in a social gathering at Madame Victor Hugo's salon. "The excitement", we are told, "was something tremendous, and for a time you could hear the sound of *ss-ss-ss* running through the room as there passed from mouth to mouth the exclamation, '*C'est Simpson, c'est Simpson!*'" Working at this impossibly high pitch and with the sentence of death already on him it is inconceivable that he would have been willing, or able, to enter into new battle over a subject whose experimental basis was obscured from his knowledge. A protest that the discoveries were not original but had been preceded by similar work of a Frenchman named Lemaire was his disappointing and only response.

SIMPSON, THE WRITER

Let us now consider Simpson as a writer.

The famous pamphlets by which Simpson routed his opponents in the "Battle for Anaesthesia" are well known. We can now afford a wry smile when we recall that reputable medical men of his time could describe the pains of labour in such nonsensical terms as "a desirable, salutary, and conservative manifestation of life-force". Imagine what it must have meant to many an ill-fated woman when to the pains of normal labour were added the suffering inflicted by operations such as internal version or, perhaps, craniotomy, followed by the brutal extraction of a mutilated foetus. Was anaesthesia then, to quote again from writers

of the time, "an unnecessary interference with the providentially arranged process of healthy labour"? It seems incredible that it needed a Simpson to fight the battle for these wretched women, yet this is fact; and the older men amongst us can still recall stories told by those who knew the harder days. It needed Simpson's reasoned argument and his vehemence in debate to expose and destroy the bigotry and indifference of his time.

Simpson's method of logical reasoning is interesting. Naturally, his phraseology conforms with the somewhat pompous style of his time but never is there a sentence without purpose or argument without conviction. Nor is clear thought spoiled by verbosity; well must he have understood the truth of Pope's couplet,

"Words are like leaves; and where they most abound

Much fruit of sense beneath is rarely found."

From his immense range of publications including topics so varied as, for example, the *History of Leprosy and Leper Houses in Scotland*, discourses on the Pyramids of Egypt, or medical lectures to the number of nearly 200, it is difficult to select one for special analysis. Almost at random I choose a little-known pamphlet which bears the title, *Are Females Born Co-Twin with Males, Sterile?*

Characteristically, Simpson opens his discourse with a quotation. It comes from a medical textbook of the day and reads as follows:

"It is a popular opinion, and I do not know any instance to discountenance it, that if twins be of different sexes, the female is sterile."

With his reader's attention now fixed Simpson engages at once to his task. A few sentences are used to point out that this, or some very similar condition, exists in cows, and he turns in support to the writings of John Hunter (1779):

"When among black cattle the cow brings forth a male and a female in the same birth, the male is a perfect bull-calf, but the apparent female is almost always imperfect in its sexual organization. Female cattle of this kind, born co-twin with males, have long been distinguished in this country under the name of free-martins."

Next he records his own investigation of free-martins "killed in the shambles of this city" and

states that all of them were formed after the imperfect and abnormal types pointed out by Mr. Hunter. He continues:

"The butchers in Edinburgh and its neighbourhood, of a number of whom I have made enquiries upon the subject, seem to be perfectly familiar with the fact, that in the free-martin, whose flesh they usually reckon of a superior quality, the womb, or calf-bed, as they term it, is in almost all cases apparently wanting; and all our intelligent agriculturists in the Lothians are acquainted with the sterile character of these animals."

Simpson now turns to ancient history. He finds reference in Roman writings to the existence of sterile cows ("tauræ") which were set aside and trained to the plough. He speculates on the probability that these animals were free-martins.

Next he explains the complexity of the subject, and points out that the circumstances governing the formation of the free-martin are not universally applicable. He finds no evidence of the occurrence in sheep or in other animals which are normally uniparous but occasionally produce opposite-sexed twins, and states:

"I have hitherto been equally unsuccessful in tracing out any instance of a twin mare or she-ass, born under the circumstances already pointed out, being reared to maturity."

Turning to the human species he has this to say:

"Prejudice in reference to the infecundity of human females born co-twin with males exists to a considerable extent amongst the peasantry of the Lothians, and has very probably been derived from the analogy of the free-martin cow."

Clearly, this belief could lead to serious trouble, and Simpson uses words calculated to arrest his reader's attention.

"The mischief", he declares, "to which the opinion might give rise, in causing a girl to be rejected as a wife for a defect, or taken for an excellence, according to how sterility might be regarded, which she did not possess, is incalculable."

It is now necessary to establish the frequency of occurrence of dissimilarly sexed twins. This he does by a study of records of the Edinburgh,

Dublin and London hospitals, and he concludes that, contrary to current opinion, it is "by no means uncommon, for one case can be expected in every 199 labours".

He can now, so to speak, bring up his heavy artillery. Numerous records are presented of females of dissimilarly sexed human twins who did in fact have issue. Included is the case of a woman with plural pregnancy whose female infant was co-quadruplet with three males; this infant became, in the course of time, herself the mother of triplets. Of 123 females born co-twin with male no fewer than 112 had families, only 11 being without issue although married for several years.

"Females born under the circumstances we are considering were", he concludes, "*unproductive in the proportion of 1 in 10.*"

But these figures are not enough; they must be measured against the proportion of unproductive births to be expected in society in general. Simpson now examines the records of the two large, self-contained villages of Grange-mouth and Bathgate, "one community chiefly a sea-faring population, and the other of persons engaged in agriculture and manufacture". Allowing for couples not yet married for 5 years, he finds that *one marriage in 10 is without issue*. Still pursuing his object he examines, with admirable resource, the histories of marriages contained in a work on the British Peerage for 1833. The proportion of barren marriages there recorded is, he finds, "1 in 6 $\frac{1}{2}$ ".

Simpson can now "form a just conclusion" that females born co-twin with males are at least as productive as females in general. He concludes:

"In relation to such a question as the present, all minds are too liable to be impressed with and recollect instances illustrative of the supposed rule and common opinion, whilst the apparent exceptions to it are unattended to or forgotten . . . The whole enquiry forms an apt illustration of an old remark that in medicine it often requires a much greater extent of observation and research to disprove satisfactorily an alleged and accredited fact, than is ever expended, either upon the original development or subsequent confirmation of it. In the present

instance, the results turned out to be perfectly contradictory to the opinions which I, in common with others, held regarding the infecundity of the female in double-sexed twins, when I commenced looking into the subject; and instead of finding my preconceived ideas confirmed by the investigation, they have, on the other hand, been completely confuted by it."

As a perfectly constructed scientific paper I can think of nothing to better this publication by Simpson—a publication that lies forgotten in the library's deepest dust.

SIMPSON, THE CONTROVERSIALIST

It is fitting that I should now return to the main work for which Simpson will ever be famous. This was the introduction of anaesthesia into midwifery and the later discovery, with his assistants Matthews Duncan and George Keith, of the anaesthetic properties of chloroform. Too often he is remembered only for the latter and is referred to, somewhat inaccurately, as "the discoverer of chloroform". Certainly this was a very notable event, but in retrospect one may question whether this drug—delicious and dangerous as it has been called—did not do as much harm as good, for the discovery of its properties was made before the merits and uses of the safer ether anaesthesia had been fully explored.

As I have earlier stated, it is my belief that Simpson's greater service was his vindication of anaesthesia not only in childbirth but in surgical operations in general. By refuting all manner of ill-founded criticism, and by adducing positive evidence in its favour—the statistical proof, for example, that limb amputations performed under its aid were less mortal and not more mortal, as had been alleged by his critics—these were the arguments that carried the day and will ever remain as evidence of his greatest single achievement.

The disputes to which I have referred may now be buried in history but they were very real issues 100 years ago. Had it not been for Simpson anaesthesia would have made slow and halting progress, and the spectacular advances in operative techniques that took place in the half-century after Simpson's time—

advances that immensely influenced obstetrics and gynaecology as well as surgery—would, with little doubt, have been grievously delayed.

It was Simpson's custom to round off an essay with a quotation. I shall now join with other writers in borrowing his own adaptation

of Shakespeare's words which he used to head an address on the new-found use of anaesthesia in childbirth.

“Not poppy, nor mandragora,
Nor all the drowsy syrups of the world
Shall ever medicine thee to such sweet sleep.”

Gilbert Burns was to Robert, the poet, the baker's boy set himself to improve upon the already substantial elements of education which are always vouchsafed to the humblest child in Scotland. After the burden and heat of the day—

“Non indecoro pulvere sordidus,”—

he was invariably found conning his Ruddiman, and, amid the jeers of a thoughtless rabble of urchins under his window, continued evening after evening to force his way through the crust of the dead languages. From this self-imposed curriculum he passed to the University, where, as a bright dark-eyed lad, of homely yet *distingué* appearance, he attracted the notice of Professor Pillans, himself a son of the soil, and ever on the watch to give a helping hand to all youthful aspirants. He commenced his medical curriculum in 1827, with the energy and enthusiasm of one who has struck the path to which he feels he has been predestined. The “first turf,” so to speak, was cut on his career, and compared with his fellows, his progress was that of the railway carriage as against the post-chaise. In 1830 he became licentiate of the Royal College of Surgeons of Edinburgh, after which he applied for the parochial surgeoncy in the village of Inverkip, on the Clyde. This situation, however, fortunately for himself and for science, he failed to get,—a disappointment which, as he afterwards said, cost him a heavier pang than many a far greater discomfiture. In 1832 he obtained the *summi in medicinis honores*, and his inaugural thesis so impressed Dr. John Thomson, the Professor of Pathology, that he made its young author his class assistant. The catalogue of the preparations in the pathological museum was one of his earliest performances, and in its lucid and vigorous descriptions, written in a bold, almost boyish, hand, may be seen to this day the fair augury of the future professor. He continued to struggle on as an extra-academical lecturer on midwifery, winning the admiration and attachment of his fellows, by whom he had been appointed President of the Royal Medical Society, and leaving everywhere the impression that a new light might any day burst on the medical world if the opportunity were but afforded to the young, keen-eyed, yet almost femininely soft-mannered physician. That opportunity came with the death of Dr. Hamilton, in 1840, when the Chair of Midwifery fell vacant. The patronage was vested in the Town Council. Politics and local considerations played a prominent part in determining the choice of that body, composed, as it was, mainly of the *bourgeoisie*. The contest was severe; but, owing chiefly to the exertions of Sir William Drysdale, Mr. Law, the Dean of Guild (now Lord Provost), and Mr. Duncan Maclaren (now M.P. for Edinburgh) Simpson carried the day, in the teeth of competitors from nearly all the great centres of medical education. A happier choice was never made; and when, in 1858, the Town Council was deprived of its patronage, its vindicators appealed to such elections as that of Simpson and of Sir William Hamilton, four years earlier, as proof of the ability with which they had exercised their trust; forgetting that in both cases the successful candidate was elected only after the opposition of the majority of the council had been overawed by public opinion. At the age of twenty-nine, James Young Simpson was at length in the position where he could give his genius full play, and the class of midwifery, which had somewhat languished under his shrewd, accomplished, but rather easy-going predecessor, became at once among the most attractive in the university. His course of lectures was a model for the clearness with which the theoretical department was kept detached from, yet made to fit in with, the practical, whilst the attention of the class was always enlivened by exquisitely apposite anecdotes felicitously told. His popularity as a practitioner kept pace with his acceptance as a teacher; and in the former capacity Nature seemed to have endowed him as happily for success as in the latter. His winning manners, his power of entering fully and at once into the mind and heart of the patient, the impression he created of a man's strength with a woman's tenderness—the hand of iron in the glove of velvet—wonderfully reinforced his professional sagacity and skill. His services were in far greater request than he could adequately meet; and while he had to enlarge his house and convert it into something like a private hospital for the reception of those who insisted on being always as near him as possible, he yet incurred a good deal of evil-speaking from the inevitable breaches of punctuality

SIR JAMES YOUNG SIMPSON.

On Friday, the 13th inst., was consigned to its last resting place the mortal part of Sir James Young Simpson, Bart., for thirty years Professor of Medicine and Midwifery in the University of Edinburgh. No physician of our time has been followed to the grave by mourners more numerous, more diverse, or more sincere. As a man, as a citizen, as a practitioner, and as a *savant*, his rank was among the foremost, while in his combination of all these capacities he was, perhaps, unique. Great as were his achievements in the worlds of practice and inductive research, the lesson taught by his life is his most precious bequest to posterity. It is a lesson, indeed, of which his native land has often been the teacher, but one which can never be too often taught. His father was a baker in the village of Bathgate, in West Lothian, some twelve miles from Edinburgh, and James Young Simpson, born on June 7th, 1811, was the youngest of three sons. When yet a mere boy James was apprenticed to his father's trade, in Dean-street, Stockbridge, Edinburgh, but soon betrayed his capacity for work of a very different kind. Aided by the example and advice of his elder brother, who seems to have proved to him what

he committed. But even with those narrow-minded people who could make no allowance for his position, he had but to pay the longed-for visit, and the domestic cloud would vanish before the sunshine of his presence. Seven years, however, had barely elapsed when his restlessly inquisitive mind wrung from nature a secret which was destined to bring comfort and calm into households he was never to enter, and to patients he was never to see. Anæsthesia was a physical condition for which the physician and the surgeon had long been seeking a safe and certain agent, but with very partial success. In 1846 etherisation was first applied by Morton, a dentist of Massachusetts, and the good effects produced by it gave a fresh impulse to the search for anæsthetics. At last Simpson, acting upon a hint supplied him by Mr. Waldie, a chemist in Liverpool, made a series of experiments with chloroform, and so succeeded in assuring himself of its efficacy that he did not hesitate to proclaim it to the world as the long sought for yet finally discovered anæsthetic. Before making this announcement he had satisfied himself, at the cost of much labour and of many hundred pounds, that chloroform was open to no serious objection in competent hands—a conclusion which was more than confirmed by thousands of eager and enthusiastic experimenters. The discovery at once wafted him to a height of fame parallel if not superior to that of Harvey, of Jenner, of Hunter, or of Bell; and though, as usual, the spirit of detraction has not been asleep, and attempts, as elaborate as they are ungenerous, have been made to dethrone him, his triumphant replies to his assailants, particularly to the latest and most formidable of them, Dr. Bigelow, have strengthened his position by bulwarks which nothing can shake. Those, indeed, who questioned his right to the name of discoverer only betrayed their incapacity to take the soundings of his intellect. Few men in modern times have possessed in equal measure with himself the combined strength and nimbleness of faculty by which alone Proteus is to be fettered or Psyche to be caught; few indeed could so wrestle with the fleeting spirit of science and refuse to let it go till, like Jacob of old with the angel, he had wrung from it a blessing. The hostility he roused had its roots in that subtle combination of envy and fear with which the mere man of talent looks upon the man of genius—a hostility ancient and ineradicable—displayed not only towards him, but towards every thinker of every age who soars on wings denied to his contemporaries.

His professional and scientific advance was now coincident with his advancing years. Like Dante on the slope in the "Inferno," he climbed

"Si che'l piè fermo sempre era'l più basso."

But his ascent was relieved by many half-way houses of inquiry on the level he had gained; and particularly in antiquarian research he amassed a store of detail which of itself would have sufficed to perpetuate his memory. Just as he would employ the intervals of a tedious case in a lady's boudoir or by her bedside in preparing his literary contributions to the medical and scientific journals, so he would amuse himself in a visit to a remote part of the country by researches into the local traditions, into the remains of Roman or still earlier occupation—by collecting and assorting the dry bones of history. Here, again, his capacity for picking up knowledge was wonderful. He had in a moral sense, what he professed and practised in a physical, the art of "delivering" the most casual cross-comer of his special knowledge—the *τέχνη μαιευτική* so humorously claimed for himself by Socrates. The essence of these curious investigations he would embody in a paper to be read before the Royal Society or the Society of Antiquaries, and the archives of these institutions are enriched by communications on such subjects as "Roman Medicine Stamps," "Medical Officers in the Roman Army," "Ancient Notices on Leprosy in Scotland," and many of similar tenor. A more elaborate work was his "British Archaic Sculptures," of which men who make the study of antiquities the business of their lives speak with the profoundest respect; while his long-promised, but, we believe, unfinished work entitled "Aemona; or, notices of an oratory on the island of Incheolm," is one among a host of the other antiquarian inquiries which, imperfect though they be, yet explain the appreciative mention made of their author in the "History of Scotland," by Dr. John Hill Burton.

Honours, academic, royal, and municipal, now poured

down upon him "thick as leaves in Vallombrosa." In 1849 he was elected president of the Royal College of Physicians; in 1852 president of the Medico-Chirurgical Society; in 1853 Associate of the French Academy of Medicine; in 1856 he received the Laureateship and Gold Medal of the French Academy of Sciences and the Montoyne Prize of 2000 francs; while in the same year King Oscar, of Sweden, conferred upon him the Knighthood of the Royal Order of S. Olaf. But the fierce light of popularity that beat upon him did not dazzle his vision or deflect his energies from his great calling—the relief of the suffering of mankind. In 1858 he demonstrated by an elaborate series of experiments the superiority of inorganic over organic sutures in surgery, and urged the substitution of gold, silver, or iron wire for the silken or hempen thread then almost universally in vogue. In spite of the jealousy of his surgical brethren, his recommendations are now adopted all the world over; but his theory and practice of acupressure as a mode of arresting hæmorrhage from divided arteries, most ingenious and efficacious as it was, tried their self-love still more. We need not recapitulate the ignoble opposition his paper encountered at the hands of his local contemporaries. Suffice it to say that his great work on "Acupressure," published in 1864, and received with applause by European and Transatlantic surgeons of the highest stamp, more than compensated for the ungenerous treatment vouchsafed to him at home; while the success of the device proved in impartial and able hands so signal as almost to justify him in his oft-repeated saying that the invention of acupressure would one day do more than even the discovery of chloroform for his fame. In January, 1866, he received, in consideration of his services to science, the honour of a baronetcy, which was followed up by the bestowal on him of the degree of D.C.L. at the Encænica in Oxford in the same year. With every fresh dignity conferred upon him, he proceeded to earn a claim to others still higher; and, accordingly, fresh from the labour of devising and establishing acupressure as a resource of surgery, we find him entering upon a still wider question, that of the aggregation of the sick and hurt in hospitals. The controversy roused by his very striking papers is still undecided; indeed, the last of his rejoinders to the assailants of his views in *THE LANCET* was promised to us—a promise which remains unfulfilled. But whether or not his generalisation is too wide for his premises, it will be conceded that he has propounded a most momentous and far-reaching problem, and called the attention of the medical world to phenomena and to facts which, but for him, would have awaited a much later, if even less sagacious inquirer. Among his manuscripts there is also, we believe, a partially finished scheme for stamping out zymotic disease in general, and small-pox in particular; and this, we hope, will at no distant day see the light for the instruction of the profession and the benefit of mankind.

Successful beyond precedent as was his career, it was not unchequered either by domestic suffering or public disappointment. He lost several of his children—a bereavement which, with his strong capacities of affection, could not but afflict him sorely. Perhaps his most poignant wound was that inflicted by the death of his son, Dr. David Simpson, in his twenty-sixth year, to whom as the inheritor of much of his talent, he looked forward as also the transmitter of his name and title. Again, the acerbity, not to say the unfairness, with which his claims as a discoverer or inventor were canvassed, told injuriously upon him; and, most of all, when the post of Principal of the University, which a majority of the curators had decided on awarding to him, was withheld from his grasp by the intervention of some of his colleagues. The bitterness of the disappointment was but partially assuaged by the great and unusual public honour vouchsafed to him in October, 1869, when he was presented with the freedom of the City of Edinburgh by Lord Provost Chambers, whose speech elicited from him a reply full of honest pride in his personal history, with the least touch of spleen at the ungenerous hostility of his academic brethren. He could always, however, even in his most embittered hour, fall back upon the appreciation, as discriminating as it was fond, of the mass of his fellow-countrymen. Since the days of Sir Walter Scott, we doubt if there was a Scotchman who commanded so much hearty and loyal affection from all grades of the people. He typified in his own person so much on which the Scottish nation

prides itself: he was a son of the soil; he was the architect of his own fortunes; he was pious without cant, and Godfearing without austerity. His almost fierce intensity in the pursuit of facts was relieved from hardness or literality by his generalising power, under whose sway the scattered phenomena of science would rise up and settle into form, symmetrical and soft in outline. He had a lively fancy which sparkled as wit; and a genial imagination which glistened as humour. He was a "kindly Scot," in the twofold sense of that epithet, hospitable at home and free-handed abroad. His house was a sort of metropolitan Abbotsford, in the easy access to it enjoyed by the stranger, from whatever part of the world he came, with or without a formal introduction. The daily luncheons, at which the student of ethnology might have found guests illustrative of his whole science, were among the features of Edinburgh, which few visitors failed to appreciate, enlivened as they generally were, if only fitfully, by the presence of the genial professor, whose love of fun, even to the verge of mischief, relieved the more serious topics of conversation. In society he moved about in the most versatile capacities, now as Prospero, with his power over the living elements, now as Ariel, in the resuscitated regions of the past, now as Puck himself in the diplomacy and intrigue of the present. The marvel is not only that he played so many parts at once, but also that he played them all so well and so long. Indeed, it was but a few weeks before his death that signs of impaired health appeared. The liberties he took with his constitution may be inferred from his proceedings in 1866, when he went to the Oxford Encænna. The day after he was made D.C.L., he started for Devizes, which he reached in the evening, when he took a hasty meal and drove to Avebury to see the standing stones, not getting back till midnight. Next morning by five o'clock he was in his carriage *en route* to Stonehenge; and on his return took the train to Bath, where he examined the antiquities of the neighbourhood. Arriving in Edinburgh at midnight, he found a telegram summoning him to Northumberland. Snatching a few hours' sleep, he caught the 4 A.M. train to London, thence to Northumberland, where he saw his case, and started again for Edinburgh to resume his work. What constitution could stand such tear and wear? A rheumatic seizure in 1867 had shaken his system; and impairment of the heart's action had set in. Gradually *angina pectoris* declared itself, insomuch that, in December last, a lady, while waiting for him one day in the room next his consulting-room, heard a loud scream of intense agony. It was from Sir James Simpson that it proceeded; and a large dose of chloric ether having given him relief, he resumed his work. This was the state of his heart when he undertook two fatal journeys to London. In the spring of the present year his exertions were such that almost his only sleep for a fortnight previously was in a railway carriage. But yet he gave evidence at the close of February in the Mordaunt trial, and, owing to the delay in the transmission of a telegram, he had to make the journey twice. He suffered greatly from the severe cold on his return, and was hardly able to get to the university, where he delivered his last lecture. Shortly afterwards, he took to the sick bed, from which he never rose. The progress of his disease was steady and rapid. On Saturday, the 30th ult., a change came over him distinctly for the worse. He lost his mental activity, and could answer, but not ask questions. Œdema of the lower extremities set in; dyspnoea, with occasional anginous spasms, became urgent; and on the 6th of May, at ten minutes to eight in the evening, Sir James Young Simpson expired.

We have been informed by Mr. Jonathan Hutchinson that the honour of burial in Westminster Abbey was very nearly obtained for Sir James Y. Simpson. The proposal originated in London, and was warmly taken up by a large number of those who admired Sir James's character and his unselfish devotion to the advancement of our art for the benefit of humanity.

Sectio Cadaveris of the late SIR J. Y. SIMPSON.

The autopsy was made at his residence, Queen-street, Edinburgh, on Sunday, the 8th of May, 1870, at half-past 2 P.M., forty-three hours after death. The examination was conducted by Dr. J. Bell Pettigrew and Dr. John Chiene, in the presence of Drs. Andrew Wood, Warburton Begbie,

and John Moir, and Dr. Munro, the late Sir James Simpson's assistant.

External appearances.—The body was well nourished. Decomposition had set in. There was considerable discoloration in the lower part of the face, and in the neck and upper part of the chest.

Head.—After reflecting the scalp, which was thicker than usual, the following measurements were taken:—Circumference, below the frontal eminences and over the occipital protuberance, 22½ inches; length from ear to ear over vertex, 13 inches; length from occipital protuberance to a point between the superciliary ridges immediately above the nasal bones, 13 inches. The skull-cap was removed with difficulty, the dura mater being adherent. There was considerable subarachnoid effusion. The brain was then carefully removed. The internal carotid arteries were about twice their normal size, and their walls were much thickened. They were unusually patulous. The basilar artery and its branches were somewhat enlarged, and showed masses of atheromatous deposit. The anterior, middle, and posterior cerebral arteries were also atheromatous; in short, all the arterial vessels of the brain, as far as could be seen with the naked eye, were atheromatous. The weight of the entire brain, after the dura mater was removed, was 54 oz. The cerebellum was then detached by dividing the crura in front of the pons Varolii; it weighed 5½ oz. The convolutions of the cerebrum were remarkable for their number, depth, and the intricate nature of their foldings. They were packed and twisted on each other in such a manner that many were dwarfed, and failed to reach the surface. The plethora of grey matter occasioned by this arrangement was most evident in the anterior lobes and islands of Reil. On section, the brain was congested, but otherwise healthy. There was no fluid in the ventricles.

Thorax.—The pericardium was enveloped by a layer of fat, in parts nearly half an inch in thickness.

Heart.—The organ contained no clot, and weighed 18½ oz. It was dilated, flaccid, and pale. The right ventricle, on its external surface, was loaded with fat, as was also the left, though in a minor degree.—Right ventricle: The cavity was dilated, and the walls were pale and infiltrated with fat. Towards the apex they were of a deep-purple colour, and at this part the endocardium was thickened, and of a deep-red colour, with greyish patches interspersed. The lining membrane was otherwise healthy. There was evident thinning of the walls towards the infundibulum, where the muscular tissue was almost entirely replaced by fat. The tricuspid and pulmonary valves were healthy. The right auriculo-ventricular orifice admitted three fingers.—Left ventricle: The cavity was dilated, and the walls, which were slightly hypertrophied, were pale and fatty, as in the right ventricle. At the left apex, on its septal aspect, the wall of the ventricle was thinned, and the muscular substance replaced by fibrous tissue. At this point there was an aneurismal dilatation the size of a pigeon's egg. It communicated by a large opening with the cavity of the left ventricle, and was filled with firm, fibrous coagulum, which projected through the opening into the cavity. The left auriculo-ventricular orifice admitted two fingers. The septal segment of the mitral valve was atheromatous, thickened, and of a deep-purple colour. The aortic valve was competent; the segment of the valve opposite the mitral opening was, however, of a deep-red colour, and considerably thickened. The aorta was slightly dilated, and atheromatous.

Lungs.—Slight pleuritic adhesions were found on the right side. The right lung on section was observed to be intensely congested, the congestion gradually increasing towards the base. In the latter situation the lung presented a remarkably deep vinous colour, resembling black-currant jelly, and indicated a certain amount of diffuse pulmonary apoplexy. This part of the lung sank in water. The left lung was in a somewhat similar condition. In it, however, the congestion had not proceeded so far.

Abdomen.—On making a longitudinal incision along the median line, the abdominal wall was found to be rather more than an inch and a half in thickness, and consisted chiefly of fat. The omentum was loaded with fat.

The liver was slightly fatty, and weighed 4 lb. 3 oz.

The kidneys were slightly increased in size, and each of them was enveloped in a layer of fat about half an inch in thickness. The capsule of the right kidney was normal,

and, on being stripped off, revealed a smooth surface. The vessels on the surface of the right kidney were found to be minutely injected. On section, the substance of the right kidney presented a deeply congested appearance. It was of a purplish, mottled brown colour, and here and there yellowish-white, irregularly shaped patches, about the size of a small bean, could be detected. The left kidney resembled the right, with this difference, that at the points where the white irregularly shaped patches occurred in the right, recent clots of dark blood were found.

The *spleen* was somewhat larger than usual. On section, a considerable quantity of dark jelly-looking blood escaped, which greatly diminished its size. The substance was unusually pulpy. Altogether, it resembled a mass of black-currant jelly.

There was no fluid in the cavity of the peritoneum.

No further examination was made.