

The origins and development of a Scottish surgical instrument maker: the family firm of Archibald Young from 1771 until 1886

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ABSTRACT

The origins and development of Archibald Young, an Edinburgh family firm of surgical instrument makers, are examined. Over five generations the firm developed from a cutler's apprenticeship in 1771 into a prominent manufacturer of surgical instruments at the Edinburgh International Exhibition of 1886. Archival sources include parish registers, business receipts, newspapers, Annual Directories, the Register of Edinburgh Apprentices and Burgesses, Minute Books of the Incorporation of Hammermen of Edinburgh, and the Royal Infirmary of Edinburgh Cash Books. The documentary evidence is augmented by examples of instruments held in museums and archives in Britain. The research provides a business history that will aid the dating of artefacts in museum collections and offer an insight into Young's contribution to Edinburgh's medical heritage.

INTRODUCTION

The history of medicine, anatomy and surgery and the growth of the hospitals and health-care within Edinburgh are well documented (Comrie 1932; Dingwall 2002, 2005). The Royal College of Surgeons of Edinburgh can trace its origins to 1505, when the Barber Surgeons were incorporated as a Craft Guild by the Town Council (Dingwall 2005). The Royal College of Physicians of Edinburgh was incorporated by Royal Charter in 1681,¹ the University of Edinburgh's Faculty of Medicine was created in 1726, and the very first Edinburgh Infirmary opened in August 1729.² These institutions nurtured and supported the practising surgeon and physician, the freelance anatomist, the medical professor and their students. All required the type

of specialised instruments that a skilled cutler³ was best placed to supply.

There is also a substantial existing literature on the history of surgical instruments. Focusing on surgical instruments in museums, Ken Arnold and Thomas Söderqvist suggest that 'presentations of the history of surgery hardly make any sense without a strong focus on the material instruments at hand' (Arnold & Söderqvist 2011: 720) and that medical museums 'provide privileged spaces where the aesthetic immediacy and historical meaning of artifacts can coexist' (ibid: 719). Curator Audrey B Davis explores the way in which medical instruments have been documented, collected and analysed and includes an overview of instrument collections held in museums around the world (Davis 1978).

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Claire L Jones highlights the ongoing debate since the 1980s over the varied methodologies used to study surgical instruments, their histories and meanings, including the social construction of technology approach, material culture studies, and using re-enactment to explore instrument function (Jones 2017). The surgical trade catalogue has been largely overlooked until Jones analysed these ‘non-literary forms of print’ from their earliest form as a pocket-sized reference book to their rise into a fully illustrated marketing tool by the beginning of the 20th century (Jones 2013: 583).

The surgical instrument is the focus for John Kirkup, a retired orthopaedic surgeon, who explores the evolution of instruments in response to surgical advances, their form, function, materials and manufacturing (Kirkup 2006). In her books *Antique Medical Instruments* and *Antique Dental Instruments* Elizabeth Bennion explores British instruments up to the 1870s in terms of their aesthetic forms, as collectible antiques and includes illustrations to aid identification of instruments. Both volumes include a directory of makers for the 18th and 19th centuries, however, Bennion only lists the firm of Archibald Young in *Antique Dental Instruments*. (Bennion 1986: 68).

Several publications provided a framework for this case study. W H Weston-Davies in his article on surgical instrument makers presents a broad overview of the development of the trade through time and includes two references to Young which are further explored by the author in this paper (Weston-Davies 1989: 40, 42). Museum curators T N Clarke, A D Morrison-Low and A D C Simpson used archival sources to reveal the histories of 18th and 19th century Scottish scientific instrument makers in order to offer historical context for instruments in the collections of National Museums Scotland (Clarke et al 1989). Finally, for comparative context, James M Edmondson provides a study of surgical instrument makers in America until 1900 with details of manufacturing techniques, business histories and the work of selected makers and their collaborations with surgeons (Edmondson 1997).

CASE STUDY

Although numerous cutlers existed in Edinburgh throughout the 18th and 19th centuries, this paper will focus on the family firm of Archibald Young. As the eldest son of each generation was named Archibald, great care was required when matching records to each individual. For clarity throughout the text, they will be referred to as Young 1st, 2nd, 3rd, 4th and 5th (Table 1).

There are three main reasons for choosing this particular firm. First, there are numerous examples of instruments in museum collections by Young which can be dated to the 19th and 20th centuries, revealing that this firm was in business for some considerable time. Secondly, entries compiled by John Menzies Campbell⁴ and Elizabeth Bennion provide a good foundation for further research (Menzies Campbell 1966: 136; Bennion 1979, 1986). Finally, primary documents have been uncovered which reveal the family history from 1771, when Archibald Young 1st was first recorded as an apprentice cutler.

CUTLER ORIGINS

Let us examine the sources from the late 18th century which provide a glimpse of the first Archibald Young (1758–1831) to train as a cutler. The most probable birth record for Young 1st is 29 June 1758, when ‘Archbald Young Coachman and his spouse Margaret Colvil’ registered the birth of their son named Archbald in the parish of the College Kirk in Edinburgh.⁵

The *Register of Edinburgh Apprentices* contains the following entry: ‘Young, Archibald, s. of late Archibald, coachdriver, to Andrew Boog, cutler, for 7 years 1 May 1771’ (Wood 1963: 73).⁶ Confirmation of this can be found in the Minute Books of the Incorporation of Hammermen,⁷ where it was noted that ‘21st March 1771 Archibald Young Booked Apprentice to Andrew Boog Cutler ... paid to the treasurer six shillings & eight pence.’⁸

At this time the Boogs were a well-established family firm of cutlers in Edinburgh, and *Williamson’s Directory*⁹ reveals their shop

TABLE 1

The family firm of Archibald Young

<i>Generation</i>	<i>Birth and death</i>	<i>Age and cause of death</i>	<i>Shops</i>	<i>Key events</i>
Young 1st	1758–1831	73 Old age	Netherbow Leith Wynd off High Street Reid's Nursery on Leith Walk Ronaldson's Buildings on Leith Walk Canongate Rose Street	Apprentice to Boog 1771 Freeman cutler 1781
Young 2nd	1785–1844	60 Dyspepsia	Leith Wynd off High Street Reid's Nursery on Leith Walk Ronaldson's Buildings on Leith Walk Canongate South College Street South Bridge George Street Princes Street	Apprentice to Young 1st Freeman cutler 1814 Bodysnatching 1826 Cutler to the King Cutler to the Queen
Young 3rd	1812–78	66 Congestion of the lungs	George Street Princes Street North Bridge	Cutler to the Queen Ether and chloroform 1847 Queen's cutler and surgical instrument maker to the Royal Infirmary
Young 4th	1841–1908	67 Tumour of right lung	North Bridge Forrest Road	Manufacturer of surgical instruments and appliances to the Edinburgh Royal Infirmary
Young 5th	1865–1931	66 Pleuropneumonia & Emphysema	North Bridge Forrest Road	Manufacturer of surgical instruments and appliances to the Edinburgh Royal Infirmary

locations were close to the medieval Royal Mile during the 1770s.¹⁰ Their origin is recorded in the *Roll of Edinburgh Burgesses* with the following wording:

Boog, Robert, cutler, 'enters burgess as an apprentice in respect that by the death of Thomas Blair, cutler, there is no quorum of their craft within this City,' by act of Council 20 Apr. 1748. (Boog Watson 1930: 19)

Evidence in the Royal Infirmary Edinburgh (RIE) Cash Book 1769–86 shows annual payments to Andrew and Alexander Boog, who were the only cutlers supplying the hospitals of Edinburgh at this time.¹¹

On 5 April 1781, Young was listed as a master cutler and burgess with the record stating: 'Young, Archd., cutler, B., as p. to Andrew Boog, cutler' (Boog Watson 1933: 174).¹² The Minute Books of the Incorporation of Hammermen also used

the term ‘cutler’ when Young 1st produced three items for his examination in July 1781, with the entry noting,

Archibald Young presented his Essay being a Razor a pen knife and a pair of Scissors begun made and finished in his own shop in presence of Andrew Boog landlord John Orrock & Will[ia]m Wight Essaymasters ... was entered a Freeman Cutler.¹³

Now fully qualified, Young 1st took on his own apprentice and the *Register of Edinburgh Apprentices* recorded: ‘Souter, Alexander, s. of Francis, journeyman tailor, to Archibald Young, cutler, for 6 years 2 August 1781’ (Wood 1963: 61). *Williamson’s Directory* for 1782–3 shows Young trading as: ‘Young Archibald, cutler, Netherbow’.¹⁴ Young married in 1784¹⁵ and on 21 March 1785 ‘Archd Young Cutler and Patricia Stewart his Spouse register the birth of their son named Archibald’ (2nd).¹⁶

Between 1785 and 1805 no advertisements could be found in the Annual Directories for Young 1st. The reason for this 20-year absence is unknown; however, one possibility could be that Young 1st had begun producing instruments for Boog. From 1805, shop locations for Young 1st reappear in the Annual Directories, first at the foot of Leith Wynd¹⁷ and in 1806 at the head of Leith Wynd.¹⁸ Both these locations were within walking distance of Andrew Boog’s shop.

A Hey’s Saw¹⁹ (Illus 1) in the collections of the Royal College of Surgeons of Edinburgh may be one of the earliest surviving examples of a surgical instrument made by Young. It is neatly stamped ‘YOUNG’ and probably dates to the early 19th century.

During the first 20 years of the 19th century father and son traded from numerous premises in Edinburgh and Leith Walk.²⁰ Already trading from Leith Wynd in the Edinburgh Old Town, they took a second shop in 1808 at Reid’s Nursery, Leith Walk.²¹

In 1811 they moved into Ronaldson’s Buildings, Leith Walk,²² and between 1812 and 1816 the Annual Directories list ‘Archibald Young cutler’ with a second premises in the Edinburgh Old Town at 218 Canongate.²³

At the age of 27, Young 2nd was recorded as: ‘Young, Archd., cutler B., in r. of fr. Archd. Y., cutler 29 Jan. 1813’ (Boog Watson 1933: 174),²⁴ and in January 1814 the Incorporation of Hammermen recorded that Young (2nd) had ‘produced his essay being a pen Knife and razor ... in the presence of Archd. Young Senr. as landlord and Andr. Boog & Alexander Duff Essay masters’.²⁵

Young 2nd had already settled down in 1811, with his marriage to Agnes Berrell,²⁶ and the Parish Registers in 1812 record the birth of their son Archibald Young (3rd).²⁷



ILLUS 1 Hey’s Saw, stamped ‘YOUNG’, early 19th century. (HC.I.1.15 Courtesy of Surgeons’ Hall Museums, RCSEd)

By 1817–18 the firm had returned to Leith, where it is clear father and son had separate premises. Young 2nd was listed as: ‘Young, Arch. cutler, Ronaldson’s buildings, Leith walk’ and his father (1st) was close by and listed as: ‘Young, Arch. senior cutler, Reid’s nursery’.²⁸

CUTLER AND SURGEON’S INSTRUMENT MAKER

From 1820 the Annual Directories describe both father and son as cutler and surgeon’s instrument makers. At least one of the Youngs was supplying instruments to the Edinburgh hospitals because the RIE Cash Book 1805–31 records a payment on 30 September 1820 of three pounds and eighteen shillings to ‘A. Young for supplying instruments’ and another on 15 January 1821 of one pound four shillings and sixpence paid to ‘A Young cutlers’ for supplying the hospital at Queensberry House.²⁹

According to the 1819–20 Annual Directory, Young 2nd relocates to 19 South College Street, close to the Royal College of Surgeons of Edinburgh and the University of Edinburgh medical school buildings (living nearby at 4 Potterrow), with this trade entry: ‘Young, Arch. junior, cutler and surgeon’s instrument maker, 19. south College street, – house 4. Potterrow’.³⁰ It is at this address that the surgeon Robert Liston recommends Young as a supplier of cutting forceps for diseased bones to Dr Andrew Duncan in a letter dated 1821 (Kaufman 2009: 40).

Young 1st also relocates to his last shop, at 50 Rose Street in the Georgian New Town of Edinburgh,³¹ an ideal spot to supply cutlery to the wealthy households in their elegant houses. The directory records: ‘Young, Arch. senior, cutler and surgeon’s instrument-maker, 50. Rose street’, where he traded until 1823 when his shop listings cease,³² and Young 2nd takes charge of the business from this point onwards.

58 SOUTH BRIDGE

The Annual Directories 1823–5 list Young 2nd now trading from 58 South Bridge (living above at no. 59).³³ This location was ideally placed opposite the University of Edinburgh’s medical school (today referred to as the Old College) and close to the Royal College of Surgeons of Edinburgh.

Young 2nd advertised regularly in *The Scotsman* throughout the 1820s to promote his products and his role as agent for other makers. In 1824 he placed a notice to announce he was ‘wholesale and retail’ agent for Packwood razor strops of W Addis of London, which give ‘a keen edge to Razors, Penknives and Surgeons’ Instruments’.³⁴ In May 1825 he advertised that:

ARCHD. YOUNG, Junior, ... in addition to his former stock of goods ... has lately selected some fine specimens of newly invented instruments from the first houses in London, well worthy the attention of medical gentlemen.³⁵

In November 1825 a notice promoting John Read’s Stomach Pump and Enema Apparatus³⁶ was placed where ‘further particulars may be had by applying to his agent, ARCHD. YOUNG, Junr. 58, South Bridge Street, opposite the College Gate, Edinburgh’.³⁷ In 1829, S T & C Adam, of Oldbury, Birmingham placed their own advertisement for their patented rupture truss in order to notify ‘Medical Gentlemen and the Public of Edinburgh, that they have appointed Mr ARCHIBALD YOUNG, Jun. CUTLER ... their AGENT for that City’.³⁸

The RIE Cash Book 1805–31 reveals that, from 1823, Young 2nd was supplying the Edinburgh hospitals and was one of five cutlers (Hill, Boog, McLeod and Weiss being the other four) who supplied Queensberry House. Young was paid three pounds fourteen shillings on 3 March 1823 and eighteen pounds four shillings on 6 August 1827 ‘for sundries’. An entry for 1828 records: ‘Paid A. Young Jnr cutler ten pounds’, with the addition of ‘Jnr’ showing this is clearly Young 2nd.³⁹ Although the payments are relatively few for Young at this time (compared

with the other cutlers), after 1831 they increase, both in monetary value and frequency.

His involvement in the development of the Edinburgh hospitals is evident, as he was listed in the *Caledonian Mercury* in 1825 as one of the many subscribers contributing one guinea towards the fund for the proposed improvements to the Edinburgh Infirmary (on what is now known as Infirmary Street).⁴⁰ Another notice in *The Scotsman* shows Young 2nd assisting in the business of fellow cutlers. He and two other Edinburgh cutlers were listed as the contacts with whom prospective buyers could lodge their interest prior to a public auction of the 'whole stock of cutleryware...belonging to the deceased John Moyes, cutler and chirurgical maker'.^{41 42}

BODYSNATCHING LINKS IN 1826

One newspaper article in particular provides an insight into another venture for Young 2nd at this period.⁴³ The account reveals that the home address of Young 2nd was the intended destination for a box that came direct from the exploits of grave robbers in the north-west of England. In 1826 *The Lancaster Gazette* reported the details of an inquest relating to a 'singular discovery of two dead bodies' at Lancaster. The main elements of the report are as follows:

Isaac Sandford, coachman of the New Times coach, running from Liverpool to Lancaster stated, that on Sunday last he received from the Manchester coach at Preston several parcels, among which was a box, covered with a linen wrapper and corded, directed to Edinburgh ... A very offensive smell proceeded from it, and several passengers complained, and said, that if it were not removed when the coach arrived at Lancaster, they would proceed no further with the coach ... Richard Hogarth, constable, stated, that in consequence of a complaint made to him ... [he] took possession of the box, which he caused to be removed into a coach-house, and which was found to contain, on being opened, the bodies of a woman and a male infant, in a putrid state; the woman appeared to be between 40 and 50 years old, and 5 feet 6 inches in length, and the child about 6 or 8 weeks old. The box was 22 inches long, 15 inches wide, and 12 inches

deep; and was directed to 'Archibald Young, Esq. 59 South Bridge Street, Edinburgh.' Mr. Richardson, surgeon, stated, that he was present when the box was opened, and examined the bodies ... there did not appear to be any mark of violence about them. The woman was doubled three times; her head was a little elevated, and her knees drawn up to her chin, and the legs pressed down, the child was lying on the left side of the woman.⁴⁴

The details of the Lancaster inquest did not appear to have reached the Scottish newspapers but stories about the exploits of bodysnatchers were regularly publicised at the time.⁴⁵ Indeed, a more sensational event was published in *The Scotsman* in the same month: '... there has existed an organised company of resurrectionists in Liverpool, for the purpose of supplying the medical students of Edinburgh with subjects for dissection'. The ship *Latona* from the port of Liverpool was bound for the port of Leith and the cargo included three barrels marked as 'bitter salts' for a Mr G H Ironson, Edinburgh. They were unloaded the following morning due to their smell and were discovered to contain eleven bodies.⁴⁶

Although the Liverpool discovery had no obvious link to the firm of Archibald Young, and the modes of packing and transportation were different, this and other newspaper stories reveal an organised trade in bodies from the north of England to Scotland. It suggests that Young, as a maker and supplier of the 'tools of the trade' to the medical community of Edinburgh, was involved with this underground world. The fact that the destination of the Lancaster crate was his private address at 59 South Bridge suggests he was aware of the contents. Ruth Richardson in her work *Death, Dissection and the Destitute* reveals that during the 1820s there was increased vigilance by the Edinburgh public to protect graveyards from the activities of the bodysnatchers, and procuring bodies became more difficult and subsequently prices increased to meet demand (Richardson 1988: 101). This resulted in more bodies being transported from other parts of Britain and offers one explanation why Young became involved at this time. Perhaps he took advantage of his



ILLUS 2 Amputation instruments stamped 'YOUNG'. The brass plaque on the lid (not shown) is inscribed 'Presented to Dr McCrae By the Students attending the Anatomical Rooms of Mr Lizars during the Session of 1827 & 1828 as a mark of respect for the Professional acquirement which he displayed as their Demonstrator.' (HC.I.12.19 Courtesy of Surgeons' Hall Museums, RCSEd)

business connections in England to contribute to the dissection needs of the anatomists and surgeons of Edinburgh.

The skill of Young 2nd at this time is evidenced by the case of amputation instruments shown in Illus 2, purchased as a gift for a Dr McCrae by his medical students attending the dissection rooms of Dr Lizars for the session 1827–28. The date on the brass plaque on the lid is helpful, as the instruments themselves are only stamped 'YOUNG', and allows us to view the style of surgical sets Young was producing in the 1820s at 58 South Bridge. Numerous surviving sets of instruments by Young were presented as prizes or gifts from medical students to tutors (or vice versa). Dating is straightforward because they include an engraved plaque with the year of presentation.

SURGICAL INSTRUMENT MAKER AND CUTLER TO HIS MAJESTY

The year 1831 brought changes for the firm. On 5 January 1831 Young 1st died aged 73,

of 'old age',⁴⁷ and in November Agnes, wife of Young 2nd, died aged 50, of 'water in [the] chest'.⁴⁸ The Annual Directory for 1831–32 reveals that Young 2nd moved the firm into larger premises at 40 South Bridge, where he is no longer listed as 'junior'.⁴⁹ He remarried to a Margaret Bryson⁵⁰ and was registered as a merchant in Leith (Boog Watson 1933: 174) and his son, Archibald Young 3rd, now aged 19, was probably working in the firm at this point.

In December 1831 an advertisement in *The Scotsman* 'respectfully informs the Nobility, Gentry and Public' that Young 2nd is 'Surgical Instrument Maker and Cutler to His Majesty' (William IV reigned 1830–37) and announces a 'cheap sale of cutlery and surgical instruments'.⁵¹ The extensive list included household items such as table knives and forks, pruning knives, pen, pocket and desk knives, highland dirks, and products useful to other trades such as 'tailor's scissors', 'razor straps and best warranted razors'. Also offered were rather unexpected items such as guns, pistols, writing desks, and reticule and purse clasps. The advertisement concluded by reminding readers of 'an excellent

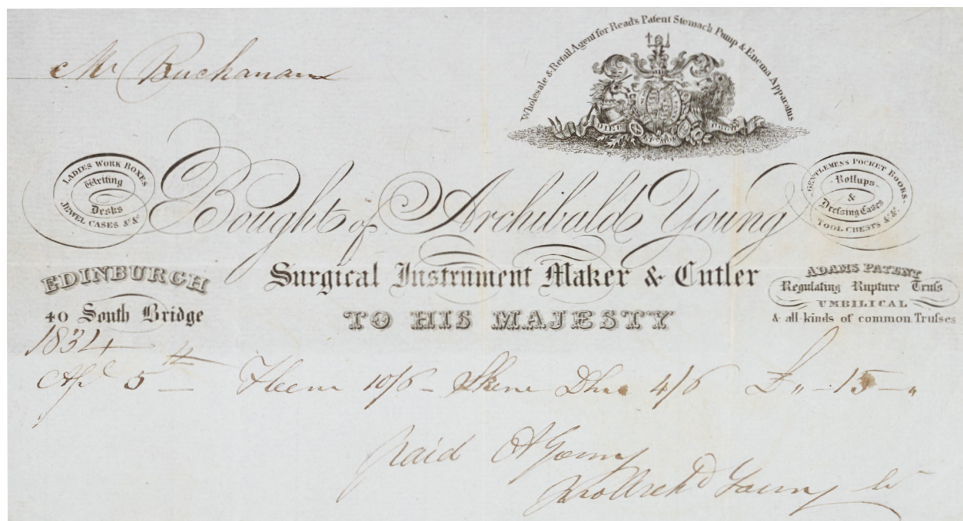


ILLUS 3 Stomach pump marked 'YOUNG CUTLER TO THE KING EDINBURGH'. (HC.I.19.2 Courtesy of Surgeons' Hall Museums, RCSEd)

stock of surgical instruments' and that the firm were agents for Read's patent stomach pump and Adam's patent rupture truss supplied 'at the patentee's prices'. The Annual Directory 1832–33 lists Young as 'Archibald, cutler and surgeons' instrument maker to his Majesty, 40 South bridge – house 39'.⁵²

A surviving example of a stomach pump made by Young resides in the collection of Surgeons' Hall Museums, Edinburgh (Illus 3) and was made during the reign of William IV. The pump, complete with rubber tubing, sits in a velvet lined wooden case, and the syringe displays a brass plaque marked 'YOUNG CUTLER TO THE KING'.

An example of a receipt issued by the firm in 1834 is held in the Science Museum, London (Illus 4). The new address of 40 South Bridge, the royal appointment and the description of 'Surgical Instrument Maker & Cutler' are clearly displayed, and the sale was for a 'Fleem' and a 'Skene Dhu',⁵³ a particularly Scottish item. The receipt emphasises they were 'Wholesale & Retail Agent' in Scotland for Read's Patent Stomach Pump and for the 'Adam's Patent Regulating Rupture Truss'. They placed regular advertisements in *The Scotsman* newspaper



ILLUS 4 Archibald Young receipt dated 1834, at 40 South Bridge showing the Royal Appointment for the sale of a 'Fleem' and a 'Skene Dhu' to a Mr Buchanan. (1985-1128/36 Courtesy of Science Museum, London)

describing the benefits of these products: ‘wearers of ADAM’S TRUSS ... can easily increase or diminish its pressure ... without removing it, or putting themselves to any inconvenience’.⁵⁴

The RIE Cash Book 1831–39 reveals that the Boogs received no further payments for instruments after 1831. Annual payments are made to John McLeod, with Young receiving three payments and Robert Borthwick only one. In 1831, McLeod was paid the most with twenty-six pounds fourteen shillings ‘for surgical instruments’ in comparison to Young who was paid six pounds one shilling and sixpence. By 1839 the accounts show that Young had become the main supplier, receiving the largest payment of forty-six pounds and fifteen shillings with no recorded payments to McLeod from here on. The cash book does not record details of the items the Youngs supplied but occasionally other makers’ products were recorded: for example, payments in 1836, 1837 and 1838 were made to James Fortune, who was described as an ‘artificial leg maker’.⁵⁵

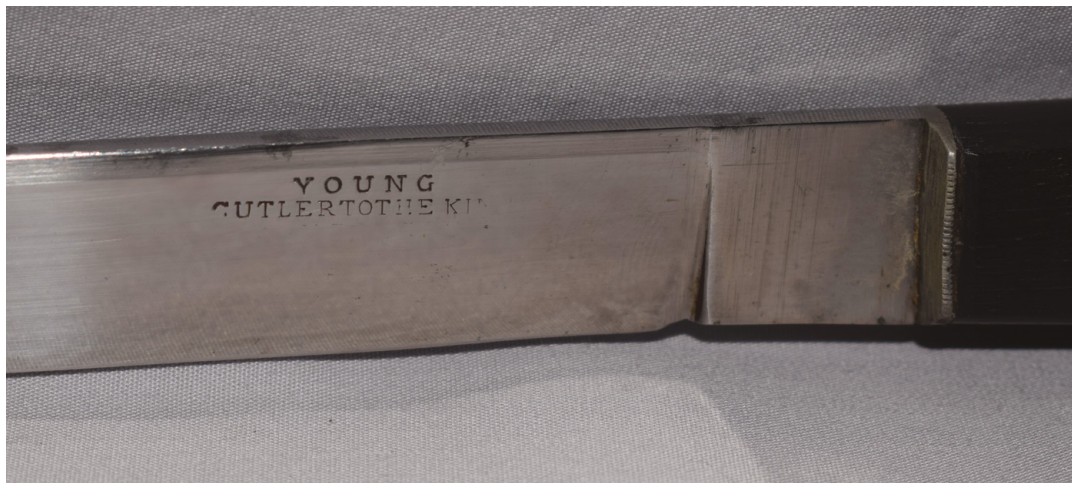
SURGICAL INSTRUMENT MAKER AND CUTLER TO THE QUEEN

The Annual Directory 1835–36 shows Young 2nd and Young 3rd briefly opening a second shop at 69 George Street.⁵⁶ The following year they had moved to 79 Princes Street,⁵⁷ where the firm remained for 25 years. It was at this prominent corner location that the firm received a royal appointment from Queen Victoria (reigned 1837–1901) and this can be seen in the Annual Directory of 1838–39.⁵⁸ Both father and son can be found in the *Roll of Edinburgh Burgesses*, with Young 2nd listed as ‘cutler’ and Young 3rd listed as ‘junior’ plus ‘burgess and merchant’ in right of his father by 1839 (Boog Watson 1933: 174). Evidence of this business relationship can be seen in *The Scotsman* newspaper in 1845 when a notice confirmed Young 3rd ‘had the sole management of the business for some years prior to his father’s death’.⁵⁹

Instruments from this period were stamped ‘YOUNG CUTLER TO HER MAJESTY EDINBURGH’ (Illus 5). A set of amputation knives belonging to



ILLUS 5 Blade from amputation set that belonged to Dr James Donaldson Gillespie marked ‘YOUNG CUTLER TO HER MAJESTY EDINBURGH’. (HC.I.12.21 Courtesy of Surgeons’ Hall Museums, RCSEd)



ILLUS 6 Blade of amputation knife from a set awarded to George Mackay in 1840–41 marked 'YOUNG CUTLER TO THE KING' with the n and g worn away. (HC.I.12.7 Courtesy of Surgeons' Hall Museums, RCSEd)

Dr James Donaldson Gillespie was used when he was surgeon at the Royal Infirmary of Edinburgh from 1849 until his retirement in 1871.⁶⁰ The wooden handles (ebony) and leather case were typical of the materials used before the introduction of antisepsis in the 1870s and before improvements in hygiene moved away from porous materials such as wood.

There is evidence that Young 2nd and Young 3rd made up sets of instruments using stock stamped with the royal appointment from the previous monarch. This can be seen on the blade of an amputation knife from a set awarded to George Mackay⁶¹ in 1840–41 (Illus 6). Even though 1840 is early in Queen Victoria's reign, the wording 'YOUNG CUTLER TO THE KING' is visible along the spine of the blade.

The Census of 1841 records Young 3rd as living a short walk from the Princes Street shop at 4 Northumberland Place with his wife Mary, one-year-old daughter and a servant,⁶² and in September of that year Young 4th was born.⁶³ On census night his father Young 2nd was staying with a shoemaker and his wife at Innerleithen near Peebles.⁶⁴ Three years later on 16 December 1844 Young 2nd is recorded as having died aged 60 with the cause of death noted as 'Dyspepsia'.⁶⁵

QUEEN'S CUTLER AND SURGEONS' INSTRUMENT MAKER TO THE ROYAL INFIRMARY

The Annual Directory 1842–43 records Young 3rd as 'Queen's cutler and surgeons' instrument maker to the Royal Infirmary', emphasising the firm's continuing royal appointment and connection with the Edinburgh hospital, and the listing remained the same until 1879.⁶⁶ The RIE Cash Books 1839–44 and 1844–50 show evidence of hospital supply with quarterly payments to Young 3rd for 'cutlery and repairs' and 'surgical instruments', and the firm is listed as regularly as other suppliers, such as Duncan Flockhart & Co for drugs, R F Bell for leeches, Kemp & Co for chemical apparatus and William Richardson for artificial limbs.⁶⁷

ETHER AND CHLOROFORM EXPERIMENTS OF 1847

The year 1847 was pivotal in the exploration of anaesthesia in Edinburgh. In 1846 ether had been successfully used in Boston, USA as an anaesthetic for dental treatment and in Edinburgh by Robert Liston for a leg amputation. However, ether was difficult to work with and this led

Edinburgh physician James Young Simpson and his assistants to test a variety of other gases on themselves. It was the suggestion by chemist David Waldie that led Simpson to test chloroform (Dingwall 2011: 167).

The involvement of Young 3rd had been briefly mentioned by historians (Shepherd 1969: 87–88, 96; Bennion 1986: 68; Weston-Davies 1989: 42) but they provide neither sources nor any account of his role. Evidence from two meetings of the Medico-Chirurgical Society of Edinburgh in 1847 reveal that Young 3rd was a willing experimental subject for both ether and chloroform.

In February 1847, one of the topics discussed at the fifth meeting of the Medico-Chirurgical Society of Edinburgh was the effects of ether inhalation. Dr Spittal drew the attention of the Society to a public statement of ‘the danger from explosion taking place in the air-tubes during inhalation of ether vapour, should this accidentally catch fire’. He was able to confirm the absence of explosion

having, on repeated occasions, made the attempt to ‘*blow-up*’ my patient at his own request. The person alluded to was Mr A. Young, cutler. He applied lighted tapers to his mouth in every stage of the influence of the ether, as also to that of one of his own assistants, when under the effect of ether, with the same uniform result. The light was always *extinguished*. After repeated trials, at different times, he found it impossible to produce combustion in the smallest degree, although the flame of the taper was drawn into the mouth fully an inch.⁶⁸

Later that year, in November, at the ‘first winter meeting’ of the Medico-Chirurgical Society of Edinburgh, members were eagerly waiting to hear James Young Simpson (1811–70)⁶⁹ ‘draw the attention of the Society to the use of Chloroform, the powerful anaesthetic agent which he had lately discovered’. After the meeting ‘Dr Simpson ... stated that any gentleman who felt inclined might try the effects of chloroform on his own person’ and

Mr Young, cutler, at once presented himself. About a tea-spoonful of the preparation was placed on a silk

pocket handkerchief, folded together in the hand. After a few inspirations, complete insensibility was produced, on recovering from which, he said that he had experienced exactly the same sensations as when he had taken ether.⁷⁰

Both events demonstrate the active participation of Young 3rd and his integration into the medical circles of Edinburgh.

ARTIFICIAL LIMBS, WATER CUSHIONS AND BANDAGES

During the 1850s and 1860s the size and composition of the workforce was stable; at the same time, the range of products expanded, and there was an increasing focus on hospital supply.

The 1851 Census records Young 3rd, aged 40, as ‘Cutler and Surgical Instrument Maker’ and ‘employing eight men and four apprentices’ at 79 Princes Street. He was resident at 2 Alva Street, within walking distance of his shop, with his second wife Ann⁷¹ and two children from his first marriage, including his nine-year-old son Archibald Young 4th.

The RIE Cash Books for the 1850s record the usual quarterly payments to Young 3rd and show the firm supply only ‘cutlery’, ‘surgical instruments’ and ‘surgical instrument repairs’ during this decade. The supplier of artificial limbs continued to be primarily William Richardson but other Edinburgh makers were paid regularly, including Thomas Heriot for ‘cloths for dressings’, William Walker for ‘waterproof cloths’ and George Thornton for ‘water pillows’.⁷² There are a handful of payments to other makers, including one payment in 1856 to McMahon for ‘artificial limbs’, and two payments in 1857 to an unidentified maker for ‘boots for club feet’.⁷³

In earlier volumes the RIE Cash Books operated a simple accounting system for each quarter, noting the supplier’s name followed by the items supplied. In the early 1860s, they were reorganised into headings and subheadings, with Young and other medical suppliers listed under the headings ‘Mechanical Supports’ or ‘Mechanical and Surgical Furnishings’ and then listed under new

subheadings. These included 'Artificial limbs', 'Trusses, Splints, Bandages', 'Air & Water cushions' and 'Club Foot Boots'.

The year 1861 was significant for Young 3rd, as for the first time the RIE Cash Book 1857–62 lists the firm as supplying other medical aids. Between 1857 and 1860 payments look much the same, with quarterly payments to Youngs for 'cutlery' and occasional payments to different makers, including one payment to Charles Watson for 'repair of water beds', three payments to artificial limb maker Robert Fortune and two payments to a David Mackenzie for 'cutlery'. However, from the April–June quarter of 1861, alongside 'surgical instruments' there are payments to 'Archd Young cutler' under the new subheadings of 'artificial limbs', 'air & water cushions', 'splints' and 'trusses & bandages'. In

April 1862 the first payment was made to Youngs for a 'club foot boot'.⁷⁴ Regular payments continued for instruments, trusses, splints & bandages and artificial limbs but there was a single payment in 1865 for 'club foot boots'.⁷⁵ In 1867 there was an entry for supplying 'the dentist' and another in 1868 for 'water cushion repairs'.⁷⁶

A surviving receipt dated 1857, held in the Science Museum, London (Illus 7) shows further evidence of diversification of their medical supply with the sale of a large water cushion and vulcanised urinal. The receipt is virtually identical to the 1834 example, and the firm continued to advertise Read's stomach pumps, Adam's rupture trusses, ladies' writing desks and gentlemen's tool chests, with only the royal appointment and the address for 79 Princes Street having changed.



ILLUS 7 Receipt dated 1857 marked 'Surgical Instrument Maker & Cutler TO HER MAJESTY' for the sale of a large water cushion and vulcanised urinal. (1985-1128/37 Courtesy of the Science Museum)

58 NEW BUILDINGS, NORTH BRIDGE

The 1861 Census recorded Young 3rd living at 27 Dundas Street with his daughter Elizabeth and son Young 4th now aged 19. Father and son were both recorded as 'cutler surgical instrument maker' with Young 3rd employing '8 men & 4 boys', revealing the workforce had remained relatively unchanged since 1851.⁷⁷

In 1862 after a quarter of a century at 79 Princes Street, Young 3rd moved the firm to 58 New Buildings, North Bridge,⁷⁸ perhaps taking advantage of a new shop and being a little closer to the Royal Infirmary, the University's Medical School and Surgeon's Hall.

Young 4th was recorded as 'surgical instrument maker – assistant' on his marriage to Agnes McArthur in 1863⁷⁹ and again on the birth register for their firstborn son in 1865, Archibald Young 5th.⁸⁰

Archive documents reveal the connections with Young 3rd and the medical community at this time. In 1866 the Royal College of Physicians, London hosted an exhibition by the Obstetrical Society of London 'to bring together the instruments and the practitioners in one space to discuss the specialism'. Of the 69 exhibitors, only two Scottish instrument makers attended: Archibald Young and Hilliard of Glasgow. Young exhibited various instruments including a specula designed by Sir James Young Simpson for visual examination of the uterus, and osteotomists, used for removing portions of bone.⁸¹

In 1868 Young 3rd was listed in the General Committee for the 'Rebuilding of the Medical Hospital of the Royal Infirmary of Edinburgh' and had donated ten pounds as a subscriber of the project.⁸²

The Edinburgh surgeon Patrick Heron Watson detailed a method for applying his new lever lithotrite for removal of a large bladder stone and noted that the instruments were 'made or converted for me by Mr Young the eminent surgical-instrument maker of this city' (Watson 1869: 1072).

The RIE Cash Book 1869–1871 continues to reveal Young 3rd as the main supplier for 'surgical instruments' and 'medical furnishings', but

payments to other Edinburgh makers were more frequent, suggesting that the Infirmary's demand for surgical supplies had increased. For example, from 1869 four payments were made to J Gardner for 'surgical instruments' with one entry noting he was paid for a 'stomach pump', and from December 1869 regular quarterly payments were made to Harry Hilliard for 'artificial limbs'.⁸³ By the 1870s developments in antiseptic procedures revealed a new category for 'Antiseptic Dressings', with payments to Macfarlane & Co for 'carbolic cloths', Glasgow Apothecaries Co for 'protective silk' and Edinburgh County Prison for 'oakum'.⁸⁴ Young 3rd had continued to diversify, with payments recorded in the RIE Cash Book 1872–74 for 'waterproof sheeting' and 'articles of rubber and Gutta percha'⁸⁵ and from the first quarter of 1876 the first payment is recorded for 'Poroplastic'.⁸⁶ Evidence of the firm's awareness of current surgical methods can be seen with the publication of a paper, first read in January 1878 before the Edinburgh Obstetrical Society by Dr Mundé, and reprinted for Archibald Young in April 1878, describing the use of the dull curette for gynaecological procedures.⁸⁷

The 1871 Census records Young 4th aged 29, as 'Cutler Instrument Maker' and resident at 5 Atholl Place with his wife Agnes, son George and a servant,⁸⁸ and his father Young 3rd aged 59, as 'cutler instrument maker' and employer living at 40 Findhorn Place.⁸⁹ In 1878 Young 3rd died at home aged 66 of 'congestion of the lungs', with the death register recording him as 'cutler to Her Majesty and surgical instrument maker'.⁹⁰ His death brings to an end the era of royal appointment for the firm.⁹¹

TOWARDS FORREST ROAD AND THE NEW INFIRMARY

In 1879, on the south side of city, the new Edinburgh Royal Infirmary at Lauriston Place was completed and ready for patients. Close by at Teviot Place, the University of Edinburgh's new medical school was ready to teach students for the winter session of anatomy in 1880

(Turner 1919: 412). The close proximity of surgical instrument makers to the major hospitals in cities such as London was typical at this time (Jones 2013).

Between 1879 and 1884 Young 4th began to move the firm to premises immediately opposite the new Infirmary and Medical School. In 1879–80 he was still listed as trading from 58 North Bridge.⁹² In 1880–81 he took a second premises at 57 Forrest Road⁹³ and in 1881–82 a third address was added at 61 Forrest Road⁹⁴ and by 1884–85 the firm were trading solely from 57 & 61 Forrest Road.⁹⁵

Two business stamps reveal this transition period. The first can be found on a case of minor surgery instruments presented for session 1879–80 to John Dickie for the Junior Division 3rd Prize in surgery presented by Dr Patrick Heron Watson (Illus 8). Each slim blade had enough space to be stamped 'YOUNG EDINR' but the underside of the case is stamped 58 North Bridge. The prize date of 1879–80 reveals the set was completed before the firm moved to Forrest Road.

The second is on a cased Potain's aspirator⁹⁶ (Illus 9) in the anatomy collections of the University of Edinburgh and shows a stamp for 61 Forrest Road and 58 North Bridge before the firm moved entirely to Forrest Road from 1884. The address at 57 Forrest Road was to be developed primarily for female customers so it was unlikely to be stamped on surgical instrument cases at this point.

The entry for Young 4th in the Annual Directory 1881–82 includes an additional note, '*See *Adv.* p. 105', which directs readers to the only full-page advertisement placed in the directories by the firm in the 19th century (Illus 10).⁹⁷ This is a rare example of existing imagery for the firm and offers a visual reminder of their services as 'manufacturers of surgical instruments and appliances to the Edinburgh Royal Infirmary'. The text confirms they are situated 'Opposite New Royal Infirmary' and also advertises they have 'private fitting rooms', and 'Ladies' Separate Entrance' at No. 57.⁹⁸

Simultaneously Young 4th placed a full-page illustrated advertisement in the Edinburgh



ILLUS 8 Minor surgery instruments awarded for 3rd Prize in surgery Presented By Dr. P. Heron Watson F.R.C.S.E to John Dickie. Underside of case stamped in gold lettering 'A. YOUNG 58 NORTH BRIDGE EDINBURGH'. (HC.I.12.28 Courtesy of Surgeons' Hall Museums, RCSEd)



ILLUS 9 Fabric lining inside the case of a Potain's aspirator stamped 'ARCHD YOUNG 61, FORREST ROAD & 58, NORTH BRIDGE EDINBURGH'. (AN07316 Courtesy of The University of Edinburgh Anatomy Collection)

University Calendar featuring the Forrest Road shop with the new Royal Infirmary opposite. The customer this time was the medical student and the advertisement focussed on the supply of essential study items such as dissecting cases, stethoscopes, clinical thermometers and microscopes. The addition of the words 'human osteology' reveals the firm were suppliers of skeletons required both by medical students and for the anatomy department of the medical school.⁹⁹

POST-OFFICE DIRECTORY ADVERTISER. 105

ARCHIBALD YOUNG,
MANUFACTURER OF SURGICAL INSTRUMENTS AND APPLIANCES
To the Edinburgh Royal Infirmary,
57 & 61 FORREST ROAD
(Opposite New Royal Infirmary),
AND
58 NORTH BRIDGE
(Opposite General Post Office),
EDINBURGH.

RUPTURE TRUSSES CAREFULLY
FITTED.
ARTIFICIAL LIMBS FOR EVERY
FORM OF AMPUTATION.
CRUTCHES AND ARM SLINGS.

LADIES' ABDOMINAL BELTS.
ELASTIC STOCKINGS, LEGGINGS,
KNEE CAPS, THIGH PIECES,
ANKLETS, AND WRISTLETS.
GENTLEMEN'S BELTS AND SUS-
PENDERS.

PRIVATE FITTING ROOMS.
Ladies' Separate Entrance — 57 FORREST ROAD.

WATER BEDS AND CUSHIONS.
HOT-WATER BOTTLES AND AIR
CUSHIONS.
ICE BAGS FOR HEAD OR SPINE.
MALE AND FEMALE URINALS.
WATER BEDS FOR HIRE.
BED SLIPPERS, INJECTION IN-
STRUMENTS.

SHOULDER BRACES.
BRONCHITIS KETTLE, AS FIGURED.
CROUP KETTLES. VAPOUR BATHS.
INHALERS AND RESPIRATORS.
HEARING-HORNS, CONVERSATION TUBES, Etc.



ILLUS 10 Advertisement in the 1881–82 Annual Directory with illustrations (from top to bottom) of a truss, abdominal belt, leg diagram (a reference for elastic stockings), water bed and croup kettle. (Courtesy of National Library of Scotland)

MANUFACTURER OF SURGICAL INSTRUMENTS AND APPLIANCES

By the 1880s the focus for the firm was as a 'manufacturer of surgical instruments & appliances to the Edinburgh Royal Infirmary' and this is reflected in surviving receipts, other literature and new evidence that the firm imported products manufactured overseas. The RIE Cash Books 1877–82 and 1881–86 also reveal that the firm continued to be the main suppliers of surgical instruments and medical furnishings to the hospital.¹⁰⁰

A surviving receipt dated 1884–86 (not illustrated) provides evidence of the firm's supply to the general practitioner, including the sale of roller bandages, syringes and a Politzer's bag.¹⁰¹ The receipt header lists identical products to those seen on the 1881 advertisement (Illus 10), such as elastic stockings and trusses, and now emphasises 'No. 57 is reserved for ladies with female attendance'.

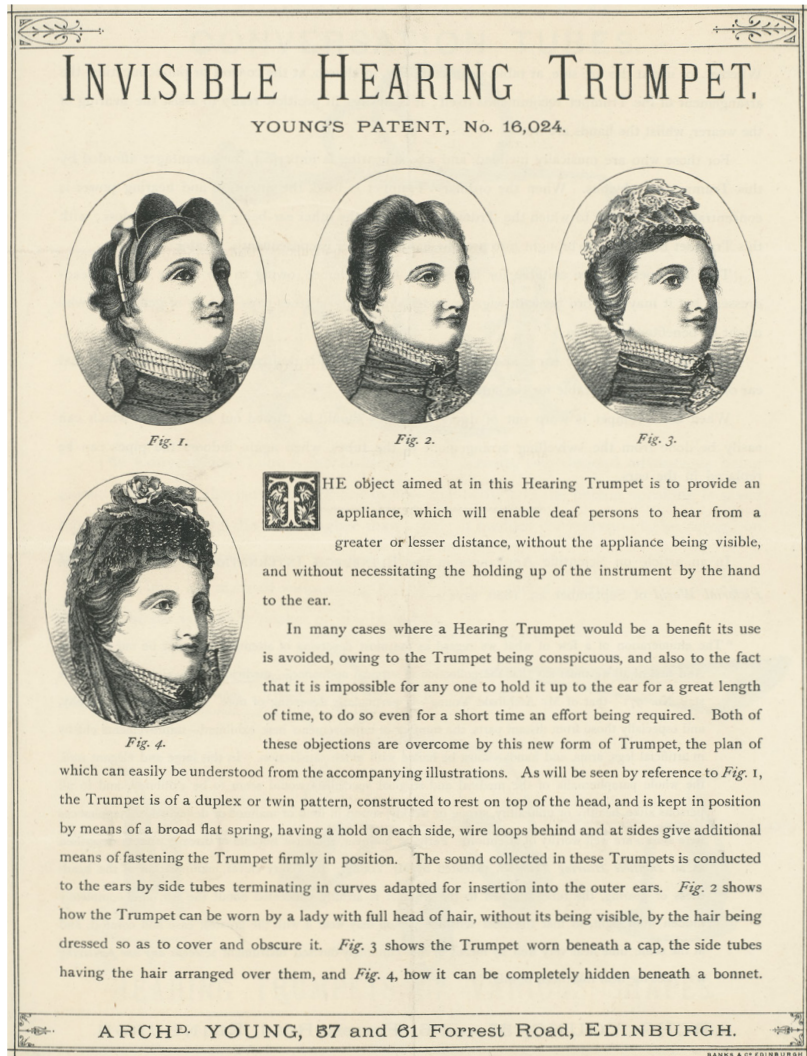
In the collections of the Hunterian Museum in London there exists a small cardboard box of tupelo tents (not illustrated),¹⁰² which reveals an international trade connection for Young. The printed paper label states they were 'Manufactured expressly for Archibald Young Nos. 57 & 61 FORREST ROAD' and stamped 'Made in America', and shows these products were being supplied to the firm from 1884.

THE EDINBURGH INTERNATIONAL EXHIBITION OF INDUSTRY, SCIENCE & ART 1886

Inspired by the extravagance of the Great Exhibition, London in 1851, the International Exhibition of Industry, Science & Art, Edinburgh 1886 was the first event of its kind to take place in Scotland. Young 4th was listed as a member of the subcommittee in charge of printing and advertising for the exhibition. The five-month event opened on 6 May 1886 and was located on the green fields of the Meadows, where a purpose-built exhibition hall had been constructed to display the very best of artistic creativeness, mechanical invention and scientific development. The site was a ten-minute walk from Young's premises on Forrest Road.

A book that accompanied the exhibition included a list of medical appliances which Young 4th displayed for the event:

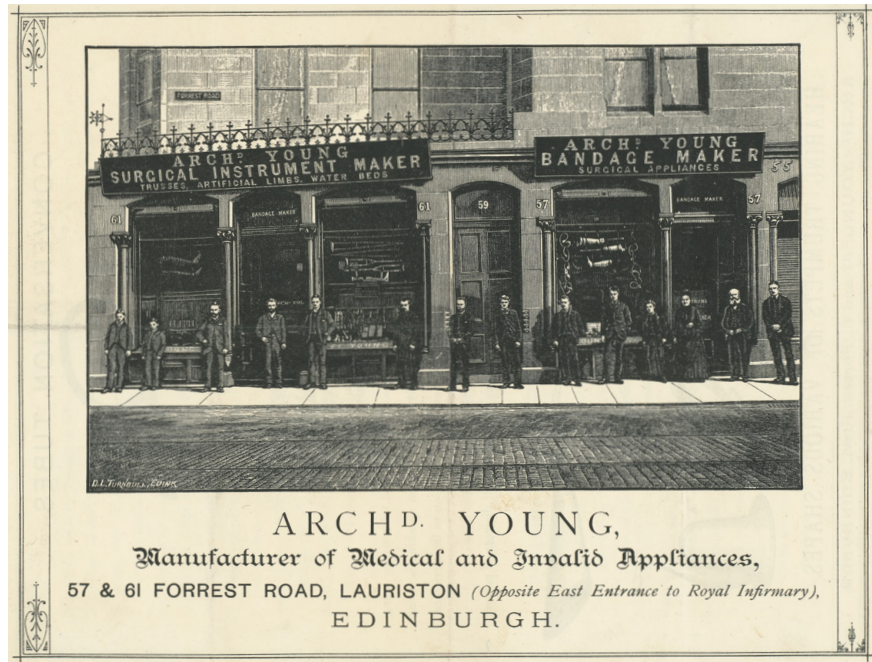
Displayed in the central court stand 971 Young, Archibald, 61 Forrest Road, Edinburgh. – Medical and Invalid Appliances; – Improved Artificial Legs, for amputation at thigh below knee, and at ankle joint. Improved Artificial Arms and Hands, for amputation above and below elbow. Rupture Trusses, various patterns. Ladies' and Gents' Supporting Belts. Elastic Stockings, Leggings, Knee-caps, Anklets, and



ILLUS 11 Front page of the brochure for Young's Invisible Hearing Trumpet dated 1886 with illustrations demonstrating its discreet use. (APS.4.90.15. Courtesy of National Library of Scotland, Edinburgh)

Thigh Pieces. Artificial Eyes. Conversation Tubes and Hearing Trumpets. Young's Patent Hearing Trumpet. Medical batteries, induced and continuous current. Invalid's Water Beds and Cushions. Clinical Thermometers. Turkish and Vapour Baths. Croup and Bronchitis Kettles. Steam Inhalers. Oral and Orinasal Inhalers. Enema Syringes and Douches. Bed Baths. Head and Spinal Ice Bags. Martin's Rubber Bandages. Roller Bandages. Bandage Rollers. Supports for Knock Knees. Steel Spinal Support. Poroplastic Support. Shoulder Braces. Invalids' Bed Rest. Crutches. Arm Slings.¹⁰³

The author has not found a surviving trade catalogue for Archibald Young; however, a promotional brochure for an 'Invisible Hearing Trumpet' (Illus 11) patented by Archibald Young is held in the archives of the National Library of Scotland.¹⁰⁴ Using illustrations coupled with a description, the brochure announces that 'by a very clever manipulation of the headdress or gearing, the tube attached to the trumpet is artfully concealed about the ear, and completely hidden from sight'. It reveals evidence of the



ILLUS 12 Back page of the brochure for Young's Invisible Hearing Trumpet dated 1886 showing staff members outside 57 & 61 Forrest Road. (APS.4.90.15 Courtesy of National Library of Scotland, Edinburgh)

innovation by Young 4th of a discreet hearing aid aimed primarily at the female customer.

The brochure includes a review from *Pictorial World* magazine which states that

in this large and elegant stall, the whole paraphernalia of the medical and surgical specialists would seem to be exhibited ... the most notable of these is what is described as an *Invisible Hearing Trumpet*.

The review is dated 23 September, which suggests the brochure was produced in the last weeks of the exhibition and could have been available for customers visiting the shop after the exhibition had ended.

The last page features an image of the firm at this time: an engraving of members of staff standing in front of 57–61 Forrest Road (Illus 12). Two of the individuals may be Young 4th, the father, and son Young 5th (see Table 1) and they might be the two men standing in front of the central doorway. An integral part of their move to Forrest Road was that the smaller shop was aimed at

female customers. The woman standing by the door of No. 57 is likely to have been the staff member employed to assist female customers.

CONCLUSION

THE FIRM OF ARCHIBALD YOUNG: FIVE GENERATIONS

The aim of this case study was to uncover the origins and development of Scottish surgical instrument makers Archibald Young, information which could, in turn, aid the dating of instruments in museum collections. Archival documents revealed the family chronology and previously unknown business history through five generations (see Table 1).

The first Archibald Young had the good fortune to be apprenticed to Andrew Boog in 1771 and became a Freeman Cutler in 1781. He worked in the Netherbow, Leith and finally in the Edinburgh New Town. The Incorporation of

Hammermen Minute Books revealed the items of cutlery produced by both Young 1st and 2nd for their examinations to become Freemen cutlers. Young 1st died in 1831.

Young 2nd, after his apprenticeship to his father, worked in Leith, Canongate and then South College Street, moving closer to the Royal College of Surgeons and the University, where medicine and anatomy were taught. Through newspaper advertisements in the 1820s we see Young 'selecting ... newly invented instruments from London' for the 'medical gentlemen' of Edinburgh, revealing regular connections with London makers and a knowledge of their latest inventions. He was wholesale and retail agent for London firms such as W Addis, and other makers, such as Adam in Birmingham and John Read in London, placed their own advertisements stating Young was their agent in Scotland. He subscribed to improvements planned for the Infirmary in the 1820s and responsible for managing a stock sale after a fellow cutler's death. The newspaper relating the trade in bodies from Lancashire suggests a willingness of Young 2nd to supply dissection and take risks for financial gain, and a surviving set of instruments presented as a gift to an anatomy demonstrator shows his close links to this aspect of medical teaching. By 1831 Young 2nd had gained royal patronage and was advertising as 'surgical instrument maker and cutler to His Majesty', and instruments from this period are stamped 'cutler to the King'. By the end of his life he was trading from prestigious locations on George Street and Princes Street. Young 2nd died in 1844.

Young 3rd gained royal patronage as 'Queen's cutler and surgeons' instrument maker to the royal infirmary' with RIE Cash Books showing he was being paid more for 'cutlery and repairs' and 'surgical instruments' than other instrument makers. Accounts in 1847 describe his willingness to be a test subject for ether and chloroform alongside medical men who were, in all likelihood, his customers. The censuses for 1851 and 1861 list a sizeable workforce of '8 men and four boys', which perhaps gave Young 3rd the ability to begin to supply products such as artificial boots, air and water cushions, splints and

bandages from 1861. It is at this point that we see documentary evidence for Young's collaboration with surgeon Patrick Heron Watson to create a new lithotrite to aid surgery, and also his involvement in obstetrics, including exhibiting instruments designed by James Young Simpson at the Obstetrical Society of London in 1866 and a paper published for Young 3rd on the dull curette in 1878. The RIE Cash Books show that the firm was paid more each quarter than instrument makers such as Hilliard and Gardner in the 1870s, and with the early introduction of antiseptics and aseptic procedures Young 3rd began supplying waterproof sheeting and Poroplastic. He worked at South Bridge, George Street and Princes Street and moved the firm to New North Bridge in 1862. Young 3rd died in 1878.

Young 4th traded from 58 North Bridge until he moved the firm to Forrest Road by 1882. He used illustrated advertisements in the Annual Directories and the Edinburgh University Calendar to promote their new location opposite the new Royal Infirmary and their focus as a manufacturer of surgical instruments and appliances. A surviving example of promotional literature for Young's patented invisible hearing trumpet demonstrates further innovation for the firm, is directed towards female customers and coincides with their presence at the Edinburgh International Exhibition of Industry, Science & Art in 1886. The image of the staff outside Forrest Road provides a rare glimpse of the workforce, their products and the shop front and further supports their development at this point. A surviving box of tupelo tents by a firm based in the USA reveals an international trade connection by 1884. At this time he and his son Archibald Young 5th managed the business. Young 4th died in 1908¹⁰⁵ and Young 5th took over management until 1927.

AIDS FOR DATING INSTRUMENTS

One method museum curators use to date surgical instruments would be to consult a published catalogue for a firm held in a library or archive. However, no surviving instrument catalogue has been found to date; therefore evidence was collated using other archival records such as trade

directories, stamps on cases and instruments, business receipts and royal appointments.

The evolution of Archibald Young from cutler to manufacturer can be seen by descriptions in the Annual Directories, beginning with 'cutler' in 1782, 'cutler and surgeon's instrument maker' in 1820, 'Queen's cutler and surgeons' instrument maker to the Royal Infirmary' by 1842, and finally with 'Manufacturer of Surgical Instruments & Appliances to the Edinburgh Royal Infirmary' in 1881. Surviving receipts reflect this change too. The flamboyant script of the receipts for 1834 and 1857 feature the royal appointments, the firm as agent for other makers, the shop addresses and other regularly stocked items such as writing desks and rupture trusses. In contrast, the 1884 receipt reflects the focus of the firm as manufacturers of instruments, their location opposite, and close association with, the New Infirmary and lists many more medical items, including spinal and limb supports, water beds and inhalers. All the receipts list sales for small medical items such as a fleam, a sharp instrument for treatments such as bloodletting, in 1834, a urinal in 1857 and a Politzer's bag in 1884 for treating the middle ear.

Links to the medical community in Edinburgh can be seen in surviving instruments made by Youngs. Some clearly show sets presented as class prizes, and despite being stamped only with 'YOUNG', many often display a plaque with the year of presentation. Instruments stamped with a royal appointment offer a time period that corresponds to the reign of a particular monarch, for example the stomach pump (Illus 3) produced during the reign of William IV (reigned 1830–37), with corroborating evidence found in an advertisement in *The Scotsman* newspaper for 1831. Instruments owned by Dr James Donaldson Gillespie can be dated within Victoria's reign (1837–1901) and matched to the working life of the surgeon. The Annual Directories revealed shop locations that could be matched with business stamps found on cased instruments, for example the case of minor surgery instruments given as a prize in 1879–80 (Illus 8) corresponds with the last year the firm traded from 58 North Bridge, and the address stamped on the Potain's aspirator (Illus 9) was

made in the transition period between 58 North Bridge and 61 Forrest Road but before the firm moved entirely to Forrest Road in 1884.

This study concludes in 1886 because the International Exhibition represented a high point for the business in the late 19th century and seemed a natural point to close. As we have seen, Youngs collaborated with surgeons through the 19th century in the development of instruments and this is one aspect of the firm's history that requires further research. The continuing history for Archibald Young, from 1887 until the family sold the firm in 1927 and its closure in 2002, requires further research, which the author intends to pursue in future. Throughout five family generations, from a cutler in 1771 to a manufacturer of instruments by 1886, Archibald Young could be defined as one of the pre-eminent surgical instrument makers in Scotland.

ACKNOWLEDGEMENTS

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NOTES

- 1 Royal College of Physicians of Edinburgh 'College Timeline', <https://www.rcpe.ac.uk/heritage/college-timeline>. Accessed 20 April 2023.
- 2 NHS Lothian 'Royal Infirmary of Edinburgh History', <https://org.nhslothian.scot/aboutus/royal-infirmary-of-edinburgh-history>. Accessed 22 August 2023.
- 3 The noun 'cutler' is defined by the Oxford English Dictionary as 'one who makes, deals in, or repairs knives and similar cutting utensils'.

- 4 John Menzies Campbell (1887–1974) was a Glasgow dentist who donated his dental collection to the Royal College of Surgeons of Edinburgh in 1964.
- 5 NRS 685/1 290 526. The birth record omits ‘i’ in ‘Archibald’.
- 6 The abbreviation ‘s.’ stands for son.
- 7 The Incorporation of Hammermen of Edinburgh was the trade organisation for those working in metal, with trade privileges and obligations for individuals who began as apprentices and became fully trained ‘freemen’ and burghesses.
- 8 ED8/1/9: 44.
- 9 Precursors of the modern Yellow Pages, the Annual Directories were printed by private publishers in the late 18th century and by the Post Office from the early 19th century. They listed principal members of the city such as gentry, clergy and professionals and lists of local manufacturers, trades and other business services.
- 10 NLS 1774–75: 13.
- 11 LHSA LHB1/13/1. Most payments were around 31 December each year.
- 12 The abbreviation Archd. stands for Archibald, ‘p.’ stands for [ap]prentice and ‘B.’ for burghess.
- 13 ED8/1/9: 21 July 1781.
- 14 Edinburgh Central Library DA1834: 91.
- 15 NRS 685/1 510 278. His wife’s name is not stated on the marriage record.
- 16 NRS 685/1 370 274. His wife’s name is noted on the birth register.
- 17 NLS 1805–06: 147.
- 18 NLS 1806–07: 212. Leith Wynd began at the Netherbow and travelled through the valley where Waverley railway station is today, past the west side of Calton Hill and down to Leith Walk.
- 19 The Hey’s Saw is a small, curved saw used to cut through the bones of the skull during surgery, designed by English surgeon William Hey (1736–1819) and recommended in his treatise *Practical Observations in Surgery* printed in 1803.
- 20 Leith Walk was (and still is) a direct route connecting Edinburgh with the port of Leith.
- 21 NLS 1808–09: 301.
- 22 NLS 1811–12: 327.
- 23 NLS 1812–13: 286.
- 24 ‘B.’ stands for burghess, ‘r.’ stands for right and ‘fr.’ for father.
- 25 ED8/1/10: 29 January 1814.
- 26 NRS 685/3 180 10.
- 27 NRS 685/3 110 313.
- 28 NLS 1817–18: 345.
- 29 LHSA LHB1/13/3. Built in 1667 and former home of the 1st and 2nd Dukes of Queensberry, by the early 1800s Queensberry House was used as a hospital.
- 30 NLS 1819–20: 349. Even after Young 1st stops advertising in 1822 his son is still referred to as junior until Young 1st dies in 1831.
- 31 NLS 1820–21: 364. The Edinburgh New Town, designed by architect James Craig (1739–95), was a plan for grand town houses, mews and shops laid out in a simple grid and located north of the old medieval town. Built in stages between 1767 and the 1890s, the houses were affordable mostly to the very wealthy professional and merchant citizens of Edinburgh.
- 32 NLS 1822–23: 391.
- 33 NLS 1823–24: 420, 1824–25: 238.
- 34 The Scotsman, 13 November 1824.
- 35 The Scotsman, 28 May 1825.
- 36 Read, J 1824, Wellcome Collection. Made of brass, the pump could administer warm or cold liquid and was used as a therapeutic instrument for gastrointestinal complaints such as flushing out poisons or relieving constipation.
- 37 The Scotsman, 26 November 1825.
- 38 The Scotsman, 7 November 1829.
- 39 LHSA LHB1/13/3. The abbreviation ‘Jnr’ stands for Junior.
- 40 Caledonian Mercury, 28 July 1825.
- 41 The adjective ‘chirurgical’ is defined by the Oxford English Dictionary as ‘of or pertaining to surgery; skilled in, practising, or treating of, surgery; surgical’.
- 42 The Scotsman, 19 July 1823.
- 43 The author would like to thank David Breeze for bringing this fascinating story to their attention.
- 44 The Lancaster Gazette, 7 October 1826.

- 45 The Murder Act of 1751 provided the only legal source of bodies for dissection, with the hanged bodies of convicted murderers transferred to the anatomy schools to be used in teaching. High demand outstripped legal supply and resulted in bodies being obtained from other sources. This 'trade' was mostly carried out by individuals known as 'resurrectionists', who demanded monetary payment for each body. The graves of the poor were the easiest targets as these were very often open pits in graveyards. Although the trade was tolerated by the establishment (if it remained discreet), there developed a fear, due to the financial gain involved, that murder would be committed to supply fresh bodies. In Edinburgh, this fear became a reality when, in 1828, William Burke and William Hare murdered 16 people in order to supply Dr Knox with bodies for his private anatomy school. After similar murders took place to supply anatomists in London, the Anatomy Act of 1832, was passed providing much-needed regulation, and the bodies of unclaimed individuals from poorhouses and hospitals were transferred directly to the anatomy schools.
- 46 The Scotsman, 14 October 1826.
- 47 NRS 685/3 330 29.
- 48 NRS 685/3 330 101.
- 49 NLS 1831–32: 205.
- 50 NRS 685/1 640 403.
- 51 The Scotsman, 10 December 1831.
- 52 NLS 1832–33: 209.
- 53 'Fleem' – a fleam was a small multi-bladed knife for bloodletting. 'Skene Dhu' – a sgian dubh is a small knife held in the top of knee-high socks when wearing traditional Scottish highland dress.
- 54 The Scotsman, 30 May 1832.
- 55 LHSa LHB1/13/4.
- 56 NLS 1835–36: 107.
- 57 NLS 1836–37: 107.
- 58 NLS 1838–39: 135.
- 59 The Scotsman, 26 February 1845.
- 60 Dr James D Gillespie (1824–91) was a surgeon at the Edinburgh Royal Infirmary from 1849 to 1871.
- 61 George Mackay (1861–1949) was an ophthalmic surgeon.
- 62 NRS 685/1 108/5.
- 63 NRS 685/1 580 257.
- 64 NRS 762/1/11.
- 65 NRS 685/3 340 607.
- 66 NLS 1842–43: 135.
- 67 LHSa LHB1/13/5; LHSa LHB1/13/6.
- 68 RCSEd1847a: 786.
- 69 Professor of Midwifery at the University of Edinburgh, Simpson introduced anaesthesia for surgery in 1847.
- 70 RCSEd 1847b: 453.
- 71 NRS 685/2 204/1.
- 72 LHSa LHB1/13/7.
- 73 LHSa LHB1/13/8.
- 74 LHSa LHB1/13/9.
- 75 LHSa LHB1/13/10.
- 76 LHSa LHB1/13/11.
- 77 NRS 685/2 33/22.
- 78 NLS 1862–63: 281.
- 79 NRS 685/1 36.
- 80 NRS 685/2 608.
- 81 Obstetrical Society of London 1867, Wellcome Collection.
- 82 RCPE 1868: 35, 37, Wellcome Collection.
- 83 LHSa LHB1/13/12.
- 84 Carbolic cloths, protective silk and oakum (a natural fibre) were used as wound dressings.
- 85 LHSa LHB1/13/13.
- 86 LHSa LHB1/13/14. Patented by hat manufacturer John Tonkin Cocking in 1871, Poroplastic was resin-impregnated felt which could be softened with steam and moulded around the body. After cooling it provided support for treatment by splints and by the late 1870s was used to treat spinal curvature.
- 87 Mundé 1878: 1.
- 88 NRS 685/1 48/18.
- 89 NRS 685/5 87/5.
- 90 NRS 685/5 257.
- 91 Information supplied to the author by the Royal Archives suggests that the firm (Young 4th) did not continue with a Royal Warrant. During a revision in 1884 of those businesses who wished to continue with a Royal Warrant, Archibald Young is listed as entry no. 405, but against his name was the

comment ‘no reply’. There appears to be no associated paperwork remaining.

- 92 NLS 1879–80: 256.
- 93 NLS 1880–81: 263.
- 94 NLS 1881–82: 270.
- 95 NLS 1884–85: 283.
- 96 Invented in 1869 by French cardiologist Pierre Carl Édouard Potain (1825–1901), the aspirator was used to drain fluids and gas from the body such as pus from an abscess or fluid from the chest cavity.
- 97 NLS 1881–82: 105.
- 98 The Edinburgh and Leith Annual Directories began using illustrations in the 1860s and by the 1880s they had become an established way to promote goods and services.
- 99 University of Edinburgh 1881.
- 100 LHAS LHB1/13/15, LHB1/13/16.
- 101 NMS MS.T.1996.143.28. Invented by Hungarian physician Adam Politzer (1835–1920) in the 1860s, a Politzer’s bag consisted of a pear-shaped rubber pump used to push air into the auditory tube to equalise air pressure in the sinuses.
- 102 RCSIC/SCM/203. Devised by Sir James Young Simpson (1811–70), tupelo (or uterine) tents were made from the dried stems of certain species of seaweeds and inserted in the cervix to absorb fluid prior to obstetrical and gynaecological procedures.
- 103 NLS International Exhibition of Industry, Science & Art, Edinburgh: The Official Catalogue. 1886: 185.
- 104 NLS APS.4.90.15.
- 105 NRS 685/6 778.

ABBREVIATIONS

NLS: National Library of Scotland
NMS: National Museum of Scotland
NRS: National Records of Scotland
RCPE: Royal College of Physicians of Edinburgh
RCSEd: Royal College of Surgeons of Edinburgh
RIE: Royal Infirmary of Edinburgh

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