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Death and the dead-house in Victorian asylums: necroscopy versus mourning at the Royal Edinburgh Asylum, c. 1832–1901

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Abstract

This article examines the management and meaning of post-mortem examinations, and the spatial ordering of patients' death, dissection and burial at the Victorian asylum, referencing a range of institutional contexts and exploiting a case study of the Royal Edinburgh Asylum. The routinizing of dissection and the development of the dead-house from a more marginal asylum sector to a lynchpin of laboratory medicine is stressed. External and internal pressure to modernize pathological research facilities is assessed alongside governmental, public and professional critiques of variable necroscopy practices. This is contextualized against wider issues and attitudes surrounding consent and funereal rituals. Onus is placed on tendencies in anatomizing insanity towards the conversion of deceased lunatics – pauper lunatics especially – into mere pathological specimens. On the other hand, significant but compromised resistance on the part of a minority of practitioners, relatives and the wider public is also identified.

Keywords

Anatomico-pathology; asylum; burial; cemetery; consent; dead-house; death; dissection; paupers; post-mortem; space

Introduction

The later Victorian asylum was increasingly dominated by anatomico-pathological mental science based on thousands of post-mortems conducted on the dead among captive patient populations. We still know remarkably little, nonetheless, about the conduct of this work and the ordering of the spaces where it took place. There has been substantial research on the wider history of death and anatomizing the destitute. Richardson's seminal study (1987) has recently been majorly extended by the work of MacDonald (2009, 2011), Strange (2002, 2003, 2005) and Hurren (2004, 2006, 2008) on the death and disposal of the sick (and insane) poor at British and colonial anatomy schools, hospitals and workhouses, and also by Sappol's (2002) survey of American dissection traffic. Behlmer (2003) evocatively explored the 'moral panic' surrounding fears of premature burial and dissection among Britain's poorer classes, and Wells (2001) the transgressive fascination of American women

physicians with dead-house pathology. Yet most bodysnatching scholarship (e.g. Bates, 2010; Shultz, 1992) makes minimal reference to burying and dissecting the insane. In the context of Victorian asylums, apart from desultory attention in individual asylum histories (e.g. Cherry, 2003) and Davis's (2008) exploitation of post-mortem data in her monograph on General Paralysis of the Insane at the Royal Edinburgh Asylum, little has been written on the topic, which has been generally neglected in favour of epidemiologically geared analyses of death. The partial exception is Engstrom's (2003) pathbreaking exploration of laboratory mental science's reliance on asylum necroscopies in Imperial Germany. Recent research on the spatial and geographical aspects of medical provision has sensitized scholars to important dimensions of the loci and embodiment of dying in healthcare settings. However, historians have seldom explored the medico-moral and spatial ordering of asylum deaths in any depth. Yanni (2007) made little reference to such subjects in her survey of asylum architecture in the USA since 1800. Even Piddock's (2007) study of nineteenth-century British and colonial asylums, despite inclusion of plans featuring asylum dead-houses and post-mortem rooms, barely touched on these aspects.

The 1832 Anatomy Act (2 & 3 Will. IV. c. 75) expunged the original 1831 Bill's clause stipulating relatives' consent, and 'established a regime of presumed consent to dissection' (MacDonald, 2009: 380; 2011: 10, 100–2, 188). The institutionalized dead could generally only avoid such a fate if formal objection during life, or soon after death, had been made. The ethics and sociocultural mediation of consent has often and inevitably been foregrounded by psychiatric historians (e.g. Fennell, 1996). Engstrom's (2003) survey accorded limited relevance for the issue because most Prussian and German states 'required no explicit consent from patients or relatives before conducting an autopsy' (p. 95). MacDonald's work has elucidated more contextually pertinent concerns around post-mortem dissection in Victorian hospitals (and some asylums). In what follows, analogous controversy and variation of practice is substantiated regarding the necroscopy procedures in British asylums' post-1832.

Beginning by addressing the spatial aspects of burial and post-mortem at Victorian asylums, this article proceeds to concentrate on the medico-moral management of deceased patients and dissection, tracing the expansion and meaning of dissection in the asylum clinic, and prevailing procedures and attitudes regarding consent. While referencing source material from a range of institutional and international contexts, the primary case study is Royal Edinburgh Asylum (henceforth REA), the fourth in a generation of seven Scottish royal asylums.¹

Burial spaces

Designed to accommodate a multiplicity of patients' perceived needs through to their discharges or deaths, it was entirely consistent that Victorian asylums usually had their own mortuaries and that some eventually developed their own burial grounds. REA's patient magazine, the *Morningside Mirror*, occasionally offered gruesomely wry reflection on the

¹Opened initially for private patients in 1813, for much of its history REA provided for the pauper and private insane of the city conurbation and its suburbs, though also receiving significant admissions from nearby and outlying counties.

economic utilitarianism informing contemporary charitable provision, where medical care, bodily intrusions and institutional burial might be presented as ultimate bargain services: ‘You may be clothed, physicked, fed, lodged, or buried – your teeth and eyes plucked out ... at a charge infinitesimally [*sic*] small, compared with the benefit to be derived’ (LHSA MM, 1851d: 5).

As with the majority of asylums (see Philo, in this issue), REA never developed its own burial ground, instead using a range of parish churchyards in the city. Despite less than half the resting places of deceased patients having been identified, Table 1 presents revealing preliminary data outlining some key burial patterns during 1841–1900. Located in the city’s south-west, the asylum was obliged to use cemeteries at some distance. Significant numbers of its deceased were buried during the 1830s–40s in St Cuthbert’s churchyard, in Edinburgh’s west end. Subsequently, the asylum began using some of the five new cemeteries established during 1843–46 on the city’s outskirts, as a result of the filling up of Edinburgh’s older churchyards. With burial at St Cuthbert’s declining, from the 1850s–90s the asylum was regularly served by the city’s largest new burial site, the 10-acre Southern (Grange) Cemetery on Edinburgh’s southside, as well as the Newington Necropolis, to the north-east. The nearest graveyards before 1878 appear to have been the Grange (north-east of the asylum) and Dalry Cemetery (north-west), both within a mile’s reach.² The relatively regular use and proximity of the former cemetery may have inspired at least one mid-century REA-based literary skit on mortality. Scurrilously proposing the incarceration of various Lord Provosts for electoral extravagancies in an 1852 *Mirror* issue, the prolific literati patient John Carfrae highlighted the etiquette demanded in this graveyard’s vicinity, concurrently parodying asylumdom’s privileges and constraints: ‘You will be allowed, Gentlemen, to blow your trumpets in Morningside, under restrictions rendered necessary by a graveyard being in the immediate vicinity, the quiet of whose occupants you cannot be permitted to disturb’ (LHSA MM, 1852: 84). The shadow of death loomed closer with the erection of the new Morningside municipal cemetery in 1878 directly abutting the asylum to the south and constructed on a similar scale to REA’s huge (primarily) pauper west house plot. From the early 1880s through to the 1900s Morningside Cemetery received the bulk of patient burials. In addition, during the 1880s–1900s the North Merchiston (or New Dalry) Cemetery (opened 1881) interred significant numbers of patient remains.

Presumably, as at other contemporary asylums, REA’s paupers were employed in making coffins and shrouds for their cohabitants’ burials. Historians have emphasized the utilitarian, profit element to institutional management of inmate disposal and dissection. Asylum authorities more positively represented the re-skilling, re-socializing and economic efficiency of such uses of patient labour. Some patients, however, brooded morbidly on perceived professional profiteering lurking behind such activities. REA’s ‘most notable inmate’, John Willis Mason, who was *Mirror* editor during the 1880s, referred to the asylum as: ‘a Death & Coffin Manufactory, kept by ... low QUACK DOCTORS, for the sake of BOARD MONEY’ (Mason, quoted in Barfoot and Beveridge, 1993: 193; original capitals).

²The asylum was possibly also using Warriston Cemetery, Inverleith (opened 1843) and Dean Cemetery, Leith (opened 1845), and was certainly frequently using Piershill Cemetery (opened 1883) (all still to be researched).

Whereas some families clearly reclaimed their dying and deceased loved ones, there was limited willingness and ability for relations domiciled at substantial distance from the deceased to provide private burials. REA Treasurer's accounts record regular disbursements and bills for coffins which, crudely calculated against annual deaths, suggest that 10–15s. per coffin was charged during 1845–9, and £1-3s.-9d. per coffin and mounting in 1851 (LHSA REA AR, 1845: 7; 1848: 10; 1849: 9; 1851: 10). Private patients' funeral expenses, however, were invariably higher, and it is doubtful if every dead pauper was furnished with a coffin. Often only 'plain' coffins and shrouds were afforded even for the well-to-do lunatic dead, while hearses were less common in pauper burials.³

Dead-house spaces

If death and burial while confined appeared a worrying eventuality for some asylum patients, more worrying still was dissection post-mortem – a prospect substantially more likely at REA in the century's final decades. Whether in clarifying doubts over causes of death, the wider pursuit of psychiatric knowledge, the production of mortality statistics, or satisfying central Lunacy Commission watchdogs, the post-mortem was significant to mental medicine. By mid-century, research on neuro- and cerebral anatomico-pathology had assumed special centrality for alienists (Engstrom, 2003; Finger, 1995). Most alienists also acknowledged certain limits to post-mortem research, in particular its narrow implications for therapeutics and failure to consistently detect cerebral defect. Leading authorities stressed that key questions about mental disease could only be answered by the combined exhaustive analysis of pre- and post-mortem data: 'partly by inspections of the head in the living subject, partly by the inspection of the brain itself in the dead-house, and partly by the collection of crania and their inspection in connexion with their associated mental manifestations' (Tuke, 1856: 354). More metaphysically-attuned commentators carped repeatedly at uncertainties inherent in pathological findings (including frequent compromise by organic changes occurring between death and post-mortem) and the reductive materialist trend in mental science rendering diseased minds equivalent to diseased brains. Post-1850, however, most alienists advocated persistence and expansion in necroscopical research (Arlidge, 1854). Few doubted that mental disease could 'exist ... without a morbid change in ... the brain', most entertaining the (eventual) power of 'post mortem examinations, chemistry and the microscope [to] answer all the speculations of materialistic philosophers' (Gray, 1866: 69).

Dead-houses (usually termed 'mortuaries' by the twentieth century) were provided at most nineteenth-century asylums. The 1832 Anatomy Act stipulated that, if unclaimed for burial within 48 hours, pauper corpses could be dissected by authorized institutional parties, or sold to a (licenced) anatomy school. This act helped to ensure that it was in the workhouse, the hospital and the asylum – the sites where the largest numbers of institutionalized poor died – that primary authority over dissection was enacted (Richardson, 1987). Hurren (2004, 2006, 2008, also in this issue) and MacDonald (2009, 2011) have stressed the regular supply of lunatic pauper corpses from asylums to anatomists at the major university medical

³The REA invoice for John Dalrymple's burial comprised 18/- for 'plain Coffin & Shroud' plus 19/6 for 'Hearse, Ground & c.', totalling £1-17-6; SFH (30 Sept.) 1853.

schools. REA pauper cadavers likewise constituted a steady trickle to Edinburgh's anatomy schools. Ambitious institutions like REA, nonetheless, developing their own pathological facilities, were considerably less the suppliers than the users of such 'material'.

Dead-houses functioned as much more than mere store rooms for corpses, or sites for pathological research: they were also occasionally where asylum funeral services were conducted, and where (in lieu of on-site chapels) some families spent their final moments with the deceased. REA's first dead-house, however, was a poky quarters, constructed with scant mind to the practicalities of pathological enquiry, and even less attention to patients' and relatives' sensibilities. Medico-moral managerial determination to correct such inconvenience and indelicacy saw the dead-house rebuilt on an entirely new site during 1846–7. REA's managers conceded the longstanding: 'want of a proper apartment for that purpose – removed from the observation of the Patients' (LHSA REA AR, 1847: 3), reflecting the greater onus 'moral architecture' placed on manipulating the impact of asylum space (Scull, 1989). Moreover, this remodelling signalled heightened clinical commitment to anatomico-pathological findings, initially following William Mackinnon's appointment as Physician and Superintendent (1839–46), and more especially during the prolonged incumbency of REA's Resident Physician, David Skae (1846–73).

REA's medical reports devoted substantial space to pathological results, and harped repeatedly upon the scientific utility and increased proportion of post-mortems (e.g. LHSA REA AR, 1844: 12). While Skae's early reports record sharp variations in post-mortem rates, from 46 per cent lows to 88 per cent highs (LHSA REA ARs, 1848, 1852), by the 1860s averages were comfortably above 70 per cent. Clinicians relied substantially on post-mortem findings for publications, including Skae's influential papers on the gravity of patients' brains, the same research being featured in a lengthy report appendix covering 411 examinations of deceased patients (BFMCR, 1858: 52; Skae, 1854a, 1854b, 1854c).⁴ Case books from the 1840s and 1850s initially recorded post-mortems in meticulous detail (LHSA REA CBs). From the later 1850s, however, case-book narratives were less encumbered by extensive reproduction of pathology, Skae being perhaps the first amongst Scottish royal asylum physicians to introduce separate post-mortem record keeping.⁵ Although pathological registers (LHSA REA PRs) failed to survive as part of REA's archive until the 1870s, cross-references in publications and patient notes reveal that they date from mid-century. An article by Skae's (then) assistant, Thomas Clouston (1863) on tuberculosis and insanity, based on 463 post-mortems that Skae supervised during 1851–62, explicitly referenced examinations derived from these registers.⁶ Clouston exploited these data not only to establish phthisis as a disproportionate cause of asylum mortality and substantiate the novel diagnostic classification 'phthisical insanity', but also to champion the superiority of mortality data in asylums where post-mortems were regularly conducted. Echoing mounting international critique of mortality statistics based on mere '*ante-mortem* supposition', Clouston (1863: 37–8) reproached British asylum 'obituaries' for using

⁴Skae's work in this field, partially reliant on earlier research by W.C. Bucknill and, moreover, W. Sankey, was recognized as a significant contribution to a growing literature; e.g. Bastion, 1866: 468–9.

⁵REA PRs by the 1870s recorded each patient's name, age at death, date and time of death, diagnosis and assigned causes of death. The largest sections were devoted to detailing the post-mortem.

⁶Thanks to the anonymous referees for this and other suggestions which greatly assisted in revising this paper.

imprecise terminology such as ‘exhaustion’ and ‘decay’ (terms significantly employed in REA reports under Mackinnon). High mortality rates assigned to tuberculosis in asylums continued to animate Clouston (1864) and other medico-psychologists well into the 1900s. Koch’s isolation of the tubercule bacillus provided particularly urgent momentum for extensive postmortem analysis, prompting the Medico-Psychological Association to establish a tuberculosis committee in 1900 for national comparison of mortality data (BMJ, 1902).

Skae and Clouston’s advocacy of post-mortem-based research was far from unequivocal, however. Both stressed balancing it with scrutiny of patients’ histories, appearance, behaviour and symptoms (e.g. Clouston, 1863: 39). Skae’s reservations regarding cerebro-pathological research resonated with wider professional cautions and saw him substantially departing ‘from the often fruitless search for brain lesions’ (Barfoot, 2009: 478 n.54). Despite emphasizing the many ‘raving’ patients encountered in asylum dead-houses in whom such morbid appearances were entirely absent, however Skae (1854c: 576) was far from advocating that pathological observations be curtailed, let alone ‘abandoned’ (BFMCR, 1858: 41).

By mid-century, with asylums becoming more medicalized environments, there was heightened appreciation of the needful conditions for intricate close pathological bench work (Engstrom, 2003). Skae stressed how REA’s new dead-house: ‘affords ample light and every convenience’ previously ‘wanting ... for ... conducting pathological investigations with comfort and success’ (LHSA REA AR, 1847: 30). During 1851–2 the facility was further expensively renovated with a lavish zinc-surfaced dissection table and ‘the best polished Arbroath pavement’ replacing the originally planned wooden floor (LHSA REA MMin, 29 Sep. 1852). Many of these changes anticipated Burdett’s later blueprint for model mortuary facilities (Burdett, 1891: Vol.2, 148, 228; Vol.4, 80–3). Anatomico-pathology’s spatial realization was nonetheless conditioned by concerns around preserving the familial privacy of mourning rituals. It was also balanced with medico-moral concerns for insulating patients’ sensibilities from sources of nervous excitement. As Skae explained, this ‘new and commodious’ dead-house would ensure that ‘funerals can be conducted without attracting the attention, or exciting the feelings, of the patients’ (LHSA REA AR, 1847: 30). Complaints about its openness to onlookers had also resulted in the addition of fluted windows, though patients’ employment in fashioning all dead-house furnishings reminds us that many would have remained thoroughly cognizant of its contents.

Despite this ‘commodious’ enlargement contemporary plans (Fig. 1) show that the dead-house was a modest, oblong ‘office’ in an outbuilding at this time, c. 324 sq. ft. in extent.⁷ Its size and rudimentary facilities appear to reflect its somewhat limited profile within a therapeutic paradigm prioritizing moral over medical means before mid-century. Introduced to REA’s H-plan pauper west house designed by William Burn just four years after its opening in 1842, it was sited at the building’s very rear, adjoining non-medical buildings. This placement was echoed at most Victorian asylums (e.g. Cambridge, Lincoln and Sussex, see: LC Eng., 1862: App.F, 206, 210, plan; LC Eng., 1872: App.C., 114; Palmer, 1854: 74;

⁷As per scale at the bottom of Fig. 1.

Robertson, 1860: 282–3). Hanwell's dead-house conveniently abutted the asylum graveyard at the western rear. Hanwell's former superintendent had advocated secluding such facilities in basements alongside store rooms to avoid 'exposure' to 'melancholic inmates' especially (Milligen, 1840: 205). A contemporary commentator on Bethlem's facilities similarly observed: 'disposal of the corpse in a dead house removed from sight, and the unseen funeral thence, are ... proofs of the anxiety to save the patients from aught ... calculated to injure their health' (Literary Gazette, 1844). Many continental asylums followed similar plans, including l'Hospice d'aliénés in Berne (McIntosh, 1864: 14). The Venice Asylum 'dead-house and dissecting-room' likewise abutted the kitchen, stores, bake-house and work-rooms, but were significantly more generously proportioned, segregated spaces, contiguous to the physician's office, surgery and laboratory (Robertson, 1858: 228–9).

Seemingly, then, REA's dead-house was conventionally marginal, distanced from visitors', physicians' and manager's rooms, and thus from the institution's public, medical and administrative heart, and patients' living quarters. Larger hospital mortuaries were often, however, similarly sited with little implication of reduced importance, echoing rationales for spatially insulating post-mortem work 'from other hospital routines' in continental clinical settings (e.g. for Edinburgh Royal Infirmary: BMJ, 1875: 133; see also Engstrom, 2003: 96).⁸

REA's dead-house was actually not so far removed from its hub as might appear. The asylum's main entrance/exit was at its west house rear. Architectural studies highlight the back of Victorian asylums as their busiest zones, where their core quotidian activities took place, many consciously modelled to present more appealing, undisturbed public fronts (e.g. Yanni, 2007: 133–4). Through rear accesses passed the regular flow of provisions, patients (alive and dead), tradesmen and most asylum-associated traffic. Dead-house planning prioritized moro-spatial discretion and convenience of ingress/egress for corpse transportation, burial and funeral services, most adjoining coach-houses and stables at rear exits/entrances (e.g. Bristol Asylum: LC Eng., 1862: App. F, 203, plan), and situated conveniently for joineries/workshops where coffins were manufactured (e.g. at REA: 'q' in Fig. 1; Perth District Asylum: LC Scot., 1862: xxiii). By the 1890s, Burdett (1891: Vol.2, 148) was maintaining the 'obvious' necessity that 'the mortuary and post-mortem room ... be quite outside the ordinary paths of intercourse ... so that corpses may be removed through a back door by hearses ... without alarming the inmates'.

Removing REA's dead-house, however, farthest of all from its highest-paying guests' east house lodgings seems unlikely to have erased dissection's spectre even from genteel patients' minds. For much of the period, west house provision was divided between the pauper patient majority and a substantial proportion paying lower/intermediate rates of board. At mid-century, the *Mirror* contained a number of conspicuous references to post-mortems. Describing a pre-fishing outing breakfast involving 12 private patients and an assistant physician, one 1851 editorial jocularly applauded the medico's temporary respite

⁸Burn's asylum (frozen in idealized form in the LHB7/57/21 plan, of which a detail is shown in Fig. 1) was unfinished until about the early 1850s. Early completion of REA's dead-house arguably reflects the prominence more than the marginality of post-mortem research at this time.

from ‘the abominations of physic and the dissecting room’ (LHSA MM, 1851b: 60). Later in that year, an ironic commentary on the annoying longevity of aged annuitants adopted a further post-mortem analogy: ‘I do not ... ask annuitants to hang, drown, or poison themselves, nor to employ others to prepare them for the dissecting table’ (LHSA MM, 1851c: 94). Another skit on holding a Morningside ‘Great Exhibition’ to rival London’s genuine 1851 extravaganza satirically observed: ‘I ... will exhibit the crania of departed agape-monists, and deliver a course of philosophical lectures upon them’ (LHSA MM, 1851a). Stylistic resonances between such editorials and Skae’s writing suggest that the author of some was the physician himself, rather than a patient, the Great Exhibition piece possibly lampooning the phrenological verve of his predecessor, Mackinnon (see below). Whatever its debatable authorship, the propensity of mental science to turn deceased patients into specimens was evidently one core component of the graveyard humour circulating among literate patient readers.

Dead-house crania

Drawing connections between death, pathological enquiry and psychiatric knowledge was also partly encouraged by the early enthusiasm of REA’s medical staff and promoters for phrenology. Quite apart from the famous researches of George and Andrew Combe, who had established the Edinburgh Phrenological Society and Museum in the 1820s, REA’s first Physician and Superintendent, Mackinnon, had not only instituted a clinical lecture series but moreover a museum to house phrenological plaster casts of his patients’ heads. Significantly, this museum was transferred to the renovated west house dead-house around 1846–7 and further expanded over subsequent years. According to Milligen (1840: 197) ‘every asylum ... should have a well-ventilated dead-house, a dissecting room, with a space for a small museum for anatomical preparations, casts &c’ and many duly obliged. Deceased lunatics’ crania comprised a minority among the legions of contemporary casts produced, most belonging to the famous or notorious sane. Inevitably, however, asylum museum collections were more substantially derived from dead patients, while asylum casting was often contingently connected to the post-mortem. William C. McIntosh, Physician-Superintendent to Murray Royal Asylum, Perth, demonstrated this point when unfavourably reviewing la Salpêtrière’s collection by comparison with his own. His procedures and probably those at REA were strongly indebted to the influential Edinburgh Anatomy Professor, John Goodsir, Skae’s early tutor and patron:

a method which I follow ... (suggested by Professor Goodsir) is ... in post-mortem cases, a cast is taken of the face shortly after death; then, at the examination, one is taken of the exterior of the cleaned bony arch, and another of the interior. In cases where no post-mortem is procured, the cast of the face only is obtained. (McIntosh, 1862: 8–9)

It was morbid anatomy rather than phrenology which furnished the primary clinical relevance for patients’ deaths, however. By the late 1840s, professional doubts about phrenology’s claims were emerging with vigour (Barfoot, 2009; Cooter, 1984). Skae (1846, 1847) confronted its doctrines and its leading British proponents head-on soon after his appointment, proffering detailed scientific measurements of crania in Edinburgh’s Phrenological Society museum, and an equally wide experience and sourcing: ‘I have

examined as many crania as either Mr. [James] Straton or Mr. [George] Combe, and can furnish the former with a few choice specimens from burial grounds and select museums' (Skae, 1847: 125).

Remaining open to professional, public and presumably patient scrutiny in the asylum museum, REA's plaster cast specimens were moved post-1850 to the west house front, conveniently accessible via the library and reading room (marked 'P' in Fig. 1). The collection had been substantially expanded by his successor's era. While elements of morbid voyeurism evidently drew visitors to such specimens, asylum museums were also valued for their wider scientific and moral-educational messages (Coleborne and MacKinnon, 2011; Miron, 2009). Many asylums, including Aberdeen Royal, had similar collections, cranial casting even being rendered a constituent of patients' occupational activities (London Medical Gazette, 1847: 556). If most patients had little choice in post-mortem casting, some volunteered willingly for casting or phrenological drawing in life (e.g. Lindsay, 1859: 29–30). Increasingly, however, the meaning of phrenological casts shifted from the educational and scientific to the artefactual, curious and gruesome. Later touristic guides encouraged analogizing mental disease and the macabre, advertising the 'lifeless images' of 'ghastly insanity' in 'cold, white, motionless plaster' displayed in REA's museum with acute gothic vividness (Grant, 1881–83: 39).

Enthusiasm for applying anthropometric techniques to the heads and faces of the insane, mentally defective and criminals continued long after phrenology's decline (e.g. Nicolson, 1873–5; Thomson, 1869; Wilson, 1869). Building on earlier work by a range of continental practitioners, British craniometrists stressed the interface between cerebral and physiognomic abnormalities, mental/moral imbecility and 'tendency to early death' (Macalister, 1868: 359). However, Clouston like many of his alienist colleagues attached 'less importance 'to the gross methods of anthropometry' and 'visible [cerebral] peculiarities' shown post-mortem than to what he termed 'psychometry': analysis of 'psychological facts' via close observation of living patients (Clouston, 1894: 220; see also Andrews, 1892: 313).

Dead-house compulsion, post-mortem consent

Commentary on asylums' dead-house and burial practices was a limited feature of the large-scale 1857 Scottish Lunacy Commission enquiry into conditions and institutions for the insane (LC Scot., 1857: 109, 117, 280). But the enquiry, which inaugurated the 1857 Scottish Lunacy Act and a comprehensive asylum inspection system, did identify significant problems in this regard at Lillybank private asylum, Musselburgh, an institution five miles east of Edinburgh catering for about 72 paupers. Visitation and questioning of witnesses revealed that post-mortems were a rarity and funerals lonely, unceremonious affairs. The dead-house was a redundant, adulterated space, a 'small', 'cold', 'damp shed', doubling for a 'shower-bath' and laundry (p. 109). Sick and dying lunatics were not visited by parish officers, and seldom by parochial medical practitioners; relations were rarely informed of inmates' conditions or deaths and seldom attended burials, and it was unlikely inmates 'could be given for dissection' (pp. 364, 446–7). Witnesses additionally voiced disquiet over indelicate, exposed modes of carrying some pauper lunatics to graveyards (p. 280). The

Lunacy Commission (henceforth LC) condemned such institutions where: ‘during illness and after death little or no regard [is]... paid to the feelings of... relatives or friends’ (p. 255). In their early reports, both LCs noted inappropriate management of a number of dead-houses, as when one workhouse was censured for employing theirs to confine (and thus psychologically sedate) a living patient.

Public, governmental and professional alarm about necroscopies reached new heights precisely as novel appeals for institutional post-mortems to be universalized emerged with vigour in the 1870s. Hospitals like Guy’s were already confronting public and juridical censure of their practices with new admission conditions making post-mortems compulsory unless friends formally objected and medical officers deemed ‘no urgent necessity’ (BMJ, 1870b). The equally disturbing (to modern sensibilities) espousal of the same cause by certain British alienists’ merits emphasis, though coroner’s inquests were already legally required on all prison-based deaths (as medical advocates keenly pointed out) (Wickham, 1877). The medico-psychological lobby for *carte blanche* post-mortems included the *Journal of Mental Science* editors and the West-Riding Superintendent, James Crichton-Browne. Yet obligatory necroscopy was ultimately rejected by the 1877 Commons Select Committee on Lunacy Law, and crucially resisted by Lord Shaftesbury, the Chair of the English LC (JMS, 1878: 471, 519, 521–2).

Debates in the medical and poor law press deepened this controversy, including a letter from Richard H.B. Wickham (1877), the Newcastle Borough Lunatic Asylum Superintendent (a former REA Assistant Physician), backing legal empowerment of institutional post-mortems on all deaths. Passionate objections from other quarters most notably included the Nottingham County Asylum Physician-Superintendent, William Phillimore (1877, 1878). Summarizing this testimony will clarify the key issues, consent and professional ethics residing very much at their heart.

Firstly, prevailing approaches to authorizing necroscopies and disparities in consensual practices were contested. While Wickham claimed it was normative for asylums to accompany death notices with notification of imminent post-mortem, Phillimore emphasized wide inconsistencies. At some asylums post-mortems had become *de rigueur*, formal consent not even being sought. At a minority, prior consent was procured from patients while living. Whereas a few sought written consent using purpose-specific pro-forma, others relied merely on verbal consent. It was not uncommon to accept absence of reply as implied consent – a practice which Phillimore (1877: 908) protested ‘confounds non-assent with consent’. Many used persuasive means to secure permission from unwilling relatives or patients.

Secondly, the scale, utility and legal status of post-mortem examinations were debated. Wickham alleged that, owing to legal ambiguities around the practice and the LC’s strong advocacy, asylum superintendents were ‘in constant hot water’ striving to meet official targets. Phillimore (1877: 909) polemically censured asylums for entering into unsavoury professional rivalries (a post-mortem ‘crusade’) as to performance rates, querying the necessity of thousands conducted each year.

Lastly, divergent readings of relatives' social and spiritual objections were presented. While Phillimore (1877: 908) animadverted the 'doubtful propriety to force upon the poor what we should shrink from doing with the rich', most clinical respondents disdained the basis for post-mortem scruples, blaming relatives' irrational prejudices. Wickham (1877) cast relatives as sharing patients' 'insane taint', or objecting ineffectively because lacking 'business habits'. Pauper insane kin were especially denigrated, as 'uneducated, of dissolute habits, and of the lowest associations', deficient in their emotional responses to patients' deaths. Other asylum specialists were similarly dismissive throughout the 1850s–90s, one alleging that 'strongest' objections came from 'friends who have ignored patients during life', because 'desirous of making a final show of previously neglected affection' (JMS, 1894: 305; see also Lindsay, 1859: 19). While relatives, especially those who felt they should have done more to support asylum inmates, undoubtedly had reasons to assuage guilt after a patient's death, such comments appear an unduly cynical assessment of typical motives for demurring to post-mortems.

Medical commentators (e.g. JMS, 1913: 136) characteristically blamed 'religious scruples on the part of ... relatives' for 'persistent objections', rarely explicitly sympathizing with perceived threats to the bodily/spiritual integrity of the deceased, let alone a good death and confidence regarding the afterlife. Relatives with strong corporeally-rooted attachments, including Catholics and others accustomed to waking the dead, or anxious about a literal resurrection, were particularly apt to object to mutilation or 'sacrilege' of the corpse, especially given that dissection did not always entail returning all body parts. Commonly post-mortems on the insane involved removing the skull-cap; extensive extraction and microscopic and chemical analysis of fluids and tissues, especially of brain tissue and other cerebral matter, arteries and nerves; abdominal and thoracic dissection, including extracting and examining implicated bodily organs from the heart and lungs to the spinal cord and ovaries, as well as (often surgical) intrusions into the throat and other bodily cavities and orifices. Phillimore (1877: 908) discussed decent burial in a rather secular, nationalistic and chauvinistic vein, exclaiming: 'every Englishman has a right to be buried unmutated and decently covered'. Elaborating rather hazily 'I understand that the Jews object on religious grounds to the proceeding' (p. 909), he was possibly unaware that Judaic custom insisted on burial within 24 hours.

While similar controversy over hospital post-mortems was raised earlier in the contemporary medical press (MacDonald, 2011), minority professional censorship received short shrift in such minority publications. Respondents such as the Scottish alienist, Thomas W. McDowall, Physician to Northumberland County Asylum, assailed Phillimore's contentions as misplaced, endangering the altruistic claims and modernizing goals of mental science, and exposing medical officers to lawsuits (McDowall, 1878: 333; 1879). A small number of practitioners had indeed faced professional compromise and legal proceedings for alleged contraventions of the Anatomy and Coroners' Acts. However, most irregularities resulted in rather limited consequences, one typical incident in 1876 merely incurring a guinea forfeiture fee (BMJ, 1877). While alienists concurred that the legal context for post-mortem consent needed clarifying, most played down inconsistencies in practice and appealed for the expansion (not contraction) of pathological data, including James Adam, Superintendent to Crichton Royal Institution, Dumfries (1880–84) (Adam, 1884). Contradicting Phillimore,

Adam argued that obtaining consent was not difficult, positive that asylums were generally following one of two procedures: (a) furnishing relatives with printed necroscopy notification in the event of death, or (b) procuring a coroner's order permitting *carte blanche* post-mortems.

By the 1870s and 1880s, evidence suggests not only that many asylums were carrying out postmortems on all their deceased but also that relatives were prepared to accede more readily to this process. Before seeing the post-mortem as seamlessly enshrined as a routine of the asylum clinic, however, it is important to acknowledge strong resistance to such paradigms. Permission was occasionally given for partial post-mortem only, certain relations baulking at full corporeal dissection (e.g. Sainsbury, 1889: 381, 384; John Doyle, LHASA REA DR and PR, 1/9/1887). While some were anxious to preserve the body unblemished, particularly when corporeal causes seemed absent/clear-cut, others evidently preferred to preserve untarnished their final view of the deceased's face. At some English workhouses and Scottish poorhouses necroscopies on both insane and sane inmates were regularly refused. Richardson (1987) showed that Poor Law Guardians frequently resisted anatomy schools' demands for corpses. Strange (2002, 2003, 2005) demonstrated that during 1870–1914 many reclaimed relatives' bodies from workhouses to avoid dissection and preserve mourning customs and decent burials. It was inability of families to meet costs rather than lack of willingness to pay that more often resulted in undignified pauper burials. At Victorian asylums, nevertheless, ability to maintain undisturbed funereal practices remained substantially greater among the monied 'respectable' classes than among the poorer sort. LCs were adamant that post-mortem rates were considerably higher at pauper county, district and borough asylums than at charity, private and mixed royal asylums, owing to the greater difficulty at the latter in gaining relatives' permission (JMS, 1895: 109).

Dead-house records and routines

Routinization of post-mortems from around the 1870s is strongly evidenced by asylum recordkeeping, though generally occurring even earlier at those asylums pioneering maintenance of pathological registers.⁹ Performance, non-performance and refusal of post-mortems were consistently entered into REA's death registers from 1873, following Clouston's arrival.¹⁰ Quantification of post-mortems as a proportion of 712 patient deaths at REA during 1879–88 (Table 2) reveals an average post-mortem rate of 83 per cent. Nonetheless, this table also shows significant variation in rates and substantial refusals from relations, fluctuating among private families from ca. 20 to 40 per cent.¹¹ An average 12 per cent refusal rate on deceased paupers compared with an average 30 per cent refusal rate on private patients emphasizes that objections were deeply affected by (while also transcending) social class. This data manifests no notable gender bias in terms of pauper

⁹Some English asylums kept pathological registers from a similar date (Brookwood Asylum, Surrey from opening in 1867; Surrey History Service, Surrey County Council, 30435/5/148). Such records appear later at most Scottish asylums. Glasgow Royal's post-mortem registers are not extant until 1889; Woodilee (Parochial) Asylum's post-mortem reports date from 1881 (NHS Greater Glasgow Archive, GB812 HB30).

¹⁰In 1873 these records show a post-mortem rate of only 50% of 62 deaths, with the examination being refused in 9 cases and there being 'no PM' in 22 cases. Rather than overt refusal, the latter phrase denotes occasional failure to ascertain consent.

¹¹A total of 22 cases of 'No PM' alongside 98 refusals have been included, for the sake of simplicity, in the same column as refusal of consent. 'No PM' may imply explicit refusal but more accurately denotes inability to ascertain consent.

refusals, though privately supported females were 9 per cent more represented than their male counterparts among the refusing cohort. Relating length of stay to post-mortem reveals a notably higher demurral rate in cases of recent admission, the dissected deceased experiencing over 12 months longer average stays than the refusing group. Less loyalty to the institution and less erosion of relatives' attachments may have been experienced when death occurred after shorter lengths of stay.

In comparison, Scottish LC reports document wide disparities in asylum post-mortem rates during the 1880s–90s, royal asylums like Montrose sometimes securing 100 per cent rates by contrast with rates under 45 per cent at Aberdeen and under 35 per cent at district asylums such as Ayr. Scottish parochial asylum rates also varied markedly though rarely exceeded 60 per cent. Post-mortems were often conspicuously absent at poorhouse lunatic wards which lacked facilities and incentives. English LC reports recorded similarly sharp variations even at asylums in the same county. Generally, however, the trend was for rapidly rising rates (e.g. Crammer, 1990: 66). On average, 49–65 per cent of patients deceased in English and Welsh county asylums during the 1870s and early 1880s received post-mortems, but during 1886–96 this proportion rose sharply to 72–80 per cent of annual deaths. In England and Wales alone, over 6500 asylum patients a year were being anatomized by 1901 (Adam, 1884: 360; JMS, 1873: 416; 1880: 560; 1888: 556; 1889b: 404; 1897a: 128–9; 1902: 80).

While alienists recognized the impropriety and dubious legality of performing autopsies without relatives' 'knowledge and sanction', calling for full consideration of 'survivors' feelings', emphasis was soundly on advocacy, justified by the higher goals of mental medicine, many sparing 'no pains' to overcome objections (JMS, 1889a: 260). Both LCs continued to censure asylums' overt abuse of consensual procedures, including 'oppressive' enforcement of 100 per cent post-mortem rates, by withholding death certificates and imposing coroners' autopsies if relatives refused (Campbell, 1896: 275; JMS, 1874: 303; 1875: 293–4; 1889a: 255). Asylums' failure to routinely register why relations objected emphasizes professional negligence of the ethics of post-mortem consent, but also the limited utility of asylum-based archives for historians seeking to comprehend this matter fully. Novel appeals for such record keeping emerged less out of regard to relatives' sensibilities than out of a desire to raise rates, and reduce objections and 'variation in practice' (e.g. JMS, 1905: 153).

Dead-house traffic

Maintaining dignity of burial proved particularly problematic regarding deceased patients returned from anatomy schools. REA regularly delivered a small proportion of patients to Edinburgh's schools, sending between 1 and 14 corpses annually during 1853–90. As Table 3 shows, this represented a minority, on average just 6.35 per cent, of all deceased patients.¹² However, given that it was exclusively paupers dispatched to the schools, as Table 4 indicates, REA's real average was nearer 10 per cent of all pauper deaths. For most patients,

¹²For background on the Anatomy Inspectors, see MacDonald, 2011. REA patients listed in NAS MH1/9- 16 before 1853 and REA deaths for 1891–1910 have not yet been researched. Far fewer REA corpses were being sent to the anatomy school by the turn of the century (Table 5).

this also amounted to a double dissection, only 2 of the 52 anatomized during 1879–88 not having previously undergone asylum-based postmortem. Tables 4 and 5 also document considerable sex differentials, with male patients significantly more liable to be anatomized than females.

Both MacDonald (2011) and Hurren (in this issue) stress the often anonymous, multiple burial of paupers after post-mortem. Although the Anatomy Act stipulated concern for decent internment, in practice anatomized paupers were often buried two and more to a plot, sometimes with disarticulated and missing parts, and concealment of such practices by inspectors and asylum authorities. Anatomy Inspectorate Registers (Table 5) reveal that the remains of anatomized REA paupers were returned to a range of city burial grounds similarly to ordinary deceased patients not sent to the schools. Nonetheless, as with Hurren's sample, it was the larger public cemeteries which predominated in interring the anatomized, primarily Newington during the 1850s–70s, Eastern and Morningside cemeteries from the 1880s, with Piershill becoming the almost exclusive burial site for the Edinburgh schools' from the 1890s.

Unlike ordinary burials conveyed direct from the asylum, most anatomized paupers were not buried until 4–6 weeks had elapsed after their deaths. In a few cases (presumably following more extensive dissection) it took upwards of 3 and even 11 months to lay the deceased's remains finally to rest. Many, furthermore, failed to be recorded in the ordinary burial books of Edinburgh cemeteries (though for Morningside Cemetery, each was assigned a separate burial entry). This confirms MacDonald's and Hurren's findings that surreptitious, unseemly internments were not infrequently occurring when whatever remained of patients was returned by the schools.

Dead-house laboratories

Victorian asylum dead-houses only partially and belatedly assumed the status and key facilities of their equivalents at leading metropolitan hospitals, where physicians had long acted as anatomy 'demonstrators'. By 1870, for example, 'radical improvements' in St Bartholomew's 'post mortem theatre' had included the expansion of operating space, improved ventilation and lighting, slate tables, and a range of technologies from gas-jets and a rose-douche, to a microscope, chemical cabinet and weighing machine (BMJ, 1870a). By 1875 the Edinburgh Royal Infirmary's similarly well-equipped 'Pathological Department' boasted a segregated 'theatre, demonstration room, mortuary, and mortuary chapel' (BMJ, 1875: 133). Inevitably, the anatomico-pathological model dominating medical science in hospital settings strongly influenced asylum-based developments, but changes in most asylums' post-mortem amenities lagged behind reforms in major city hospitals.

Clouston's term as REA Physician-Superintendent (1873–1911) certainly resulted in heightened appreciation of the exigencies of pathological research, alongside lab-based histological, chemical and physiological investigations. Within a year of his arrival, REA's dead-house accommodation was extended via a separate 'Post Mortem room ... urgently required in the out offices' (LHSA REA MMin, 29 Oct. 1873: 69). Discussing pathological provision in the ideal laboratory-style asylum, Clouston unsurprisingly accented not the

necessary lay rituals around the dying insane but the ‘convenience’ and research passions of his clinical staff (Clouston, 1879: 381, 386, plan). He was addressing an almost exclusively medical audience in such publications, nonetheless. His onus on dividing dead-house funereal functions from the dissection room’s pathological purposes was articulated with definite mind to the needs of patients’ relations.

Post-mortem routinization and mortuary facility modernization gained further momentum with the establishment of pathologists and laboratories at many leading British and colonial asylums from the 1890s.¹³ By this juncture, medical officers, were increasingly frustrated at ‘waste of much important pathological material’ due to their limited time to devote to it, and the lack of dedicated pathologists (Campbell, 1896: 275–6; JMS, 1890b: 418). At REA Clouston was the primary force behind the establishment of the (joint asylums) Research Laboratory (1896) under a resident pathologist, William Ford Robertson, and the subsequent initiation of SAPS or the Scottish Asylums’ Pathological Scheme (Beveridge, 1991; Davis, 2008). This Scottish initiative mirrored moves south of the border, most notably the introduction of a central laboratory at Claybury Asylum to service all the LCC asylums, supervised by a salaried, trained pathologist, William Mott, and constructed (as at Edinburgh) directly contiguous to the asylum’s remodelled mortuary (Mott, 1899; Newth, 1899). Nonetheless, the impetus behind such schemes had emanated significantly from recognizing the limitations of confining pathological research to ‘dead tissue’, as against exploiting a range of laboratory techniques for examining living specimens (e.g. Urquhart, 1910: 629).

REA’s mortuary provision received the renewed attention of the Directors and medical establishment during the early twentieth century. In 1909 the west house mortuary was substantially redesigned to better befit the demands and ambitions of modern laboratory-oriented mental science, following further critical chivvy by the LC (LHSA REA AR, 1910: 52). Changes in post-mortem practice and architecture were not, however, precipitated at the mere behest of the clinic or the central lunacy watchdog. They were also strongly informed by previous decades of public critique and a wider socio-moral imperative to permit respectful, decorous environments for grieving relatives. On his visit to REA, Commissioner John Macpherson drew particular attention to such considerations:

The Mortuary at the West House has been entirely remodelled ... It consists ... of a *post-mortem* room, a room for the reception of the dead, a room where the friends can view the bodies of their deceased relatives, and a room for holding services ... The interiors ... have been tastefully decorated ... The whole department ... surpasses any ... in the country ... the Managers have, by showing their respect for the dead, indirectly advanced the interests for the great number of patients. (LHSA REA AR, 1910: 55)

¹³For the wider context of laboratory medicine, see Cunningham and Williams, 1992.

Conclusion

Dead-houses and post-mortem dissection had remained somewhat marginal spatially and epistemologically to the development of British asylums and mental medicine until the mid-Victorian era. Subsequently, however, much was to change. At asylums like REA the graveyard humour of patient culture and a widened onus on the pathological material produced (initially) by phrenology and (latterly) by post-mortem examination manifested both the presence and defusing of anxieties around the metaphorical contiguities between dying insane and the manufacture of psychiatric knowledge. In the wake of phrenology's decline, the increasing primacy of anatomico-pathological research not only rendered the dead-house of more central importance to the project of mental medicine, but also rendered deceased patients more objectified institutional specimens. Meanwhile the absence of legislative and procedural clarity over issues of post-mortem consent and corpse disposal, alongside mounting professional pressure for achieving high post-mortem rates, was confronted by regular (if declining) objections from some families, lay reformers and a minority of practitioners.

Despite objections, by the 1870s the dead-house or mortuary had become a central, somewhat mundane site of clinical work at British asylums. Prevailing post-mortem provisions were rapidly, if unevenly, succumbing to pressure for change. Yet asylum mortuary procedures and spaces were only very partially modelled to accommodate their lay users' interests, clinical demands tending to take greater priority. Though moral-ethical concerns were vociferously raised, relatives' religious and emotional scruples were usually represented as irrational prejudices at variance with the altruistic interests of medical/mental science. By the 1900s, many leading asylums' post-mortem facilities and procedures had been significantly laboratorized, while relatives' refusals had declined to an extreme minority by comparison with previous decades. To a significant extent, death in Victorian asylums does seem to have meant consigning many lunatics (paupers especially) to unceremonious graves and to the increasing likelihood of routine postmortem. Considerable professional pressure was exerted to convert deceased asylum patients into mere pathological artefacts, serving mental science's higher goals of knowledge production.

On the other hand, this analysis also highlights the limitations of such an interpretation, documenting substantial resistance on the part of relatives, the wider public and even parts of the emergent psychiatric profession to necroscopy's diminution of the traditional social rites around death. Asylum dead-house practices varied markedly. At many asylums, relatives continued to raise significant objections to the post-mortem's apparent assault on their control over laying the deceased to rest. Separation of the clinico-pathological functions of asylum facilities from their burial service and ritual functions, and novel attention to the 'tasteful' enhancement of mortuary and service room decor, reflects a genuine commitment to balancing the needs of the clinic with those of patients' relations and a meaningful departure from earlier practices where such concerns were seen as unimportant (e.g. JMS, 1890a: 137). Rather than merely drawing a veil over asylum deaths, lunacy authorities were also making attempts to respect relatives' attachments and funereal needs.

Nevertheless, the majority in mental medicine appear to have exerted themselves more keenly to routinize necroscopies than limit their necessity, greatly modify their consensual practice, or ensure substantial accommodating of relations' wishes. Evidence speaks less tellingly of fundamental challenges to the universalizing of the post-mortem than of professional advocacy and relatives' complicity. Yet this may also be a by-product of imbalances in available and utilized sources, including paucity of relevant correspondence from the deceased's relations. More than the post-mortem, it is likely to have been compromised life-cycle, working and economic circumstances, negative relational interactions and prolonged confinement in asylums that worked most powerfully to erode familial attachment to the asylum departed.

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Figure 1.

Part of plan of REA principal floor, showing 'Dead House' at the back, marked 'n' (source: LHSA REA Plans, n.d.)

Table 1

Edinburgh cemeteries identified where REA patients buried 1851–1900*

Cemetery/graveyard	Date opened	Buried 1841–50	Buried 1851–60	Buried 1861–70	Buried 1871–80	Totals 1851–80	Buried 1881–90	Buried 1891–1900
Cannongate	1617	U	8	7	6	21 (1.06%)	U	U
(New) Calton	1817	U	U	3	0	3	U	U
Dalry	1846	3	11 (1.82%)	9 (1.30%)	12 (1.76%)	32 (1.62%)	12	12
E. Preston St	1820	0	9 (1.49%)	15 (2.17%)	10 (1.47%)	34 (1.72%)	2	1
Greyfriars	1500s	U	U	2	0	2 (0.10%)	0	1
Liberton	c.1862	0	0	4	0	4 (2.03%)	0	0
Morningside	1878	0	0	0	8	8 (4.06%)	113	133
Newington (Echo Bank)	1846 (ext. 1883)	1	126 (20.90)	100 (14.47%)	23 (3.38%)	149 (7.54%)	32	2
N. Merchiston (New Dalry)	c.1874	0	0	0	52 (7.64%)	52 (2.63%)	79	75
Southern (The Grange)	1847	14	68 (11.27%)	87 (12.59%)	101 (14.83%)	256 (12.96%)	54	25
St Cuthbert (West Church)	c.1770	61	38 (6.30%)	17 (2.46%)	10 (1.47%)	65 (3.29%)	6	8
Totals		79	260	234	222	716	298	257
Total REA deaths		U	603	691	681	1975	U	U
% of burials identified		U	43.12%	33.86%	36.60%	36.25%	U	U

* Derived from EBRs and LHSA REA DRs and ARs; figures in brackets are proportion of total deaths for the period. Data on numbers of patient deaths during 1840–49, 1881–1900 not yet compiled; U = Unknown; see also Boyle and Dickson, 1985.

Table 2

Class and sex as factors in post-mortems and post-mortem refusals of deceased REA patients, 1879–88*

Year died	Private patients died		Pauper patients died		Total died per year		Patients with PMs			Patients with no PM/PM refused			% of patients with PMs	
							Private		Pauper	Private		Pauper	Private	Pauper
	M	F	M	F	M	F	M	F		M	F			
1879	9	6	25	21	61	9	3	25	20	0	3	0	1	80
1880	5	8	21	39	73	3	5	20	36	2	3	1	3	62
1881	13	5	27	22	67	9	3	24	22	4	2	3	0	67
1882	16	8	31	28	83	11	6	28	22	5	2	3	6	71
1883	13	10	23	30	76	8	8	19	28	5	2	4	2	69
1884	9	7	24	26	66	6	4	17	24	3	3	7	2	63
1885	17	10	25	25	77	13	6	20	23	4	4	5	2	70
1886	12	10	24	16	62	10	7	21	13	2	3	3	3	77
1887	9	5	38	18	70	6	4	36	15	3	1	2	3	71
1888	9	6	27	35	77	7	2	23	26	2	4	4	9	60
Totals %	112	75	265	260	712	82 73%	48 64%	233 88%	229 88%	30 27%	27 36%	32 12%	31 12%	(mean =70%) (mean =88%)

* Derived from LHSA REA DRs and PRs.

Table 3

Patients sent to Edinburgh Anatomy Schools, 1853–90*

Period	Nos of patient corpses in AIREs**	Total REA deaths	REA patients recorded in AIREs (and as % of total REA deaths)
1853–60	1107	416	30 (7.21%)
1861–70	1187	691	50 (7.23%)
1871–80	1405	682	29 (4.25%)
1881–90	1556	762	53 (6.96%)
Totals	5255	2551	162 (6.35%)

* Derived from LHSA REA ARs and NAS MH1/9-16.

** Anatomy Inspectors' Registers for Edinburgh

Table 4

REA patients anatomized at Edinburgh Anatomy Schools, 1879–88*

Year died	Pauper REA patients in AIREs		Pri. + pau. patients died p.a.		Pauper patients died p.a.		% of dead patients anatomized		% of dead paupers anatomized	
	M	F	M	F	M	F	M	F	M	F
1879	0	3	25	21	34	27	0	11.11	0	14.29
1880	1	2	21	39	26	47	3.85	4.26	4.76	5.13
1881	0	2	27	22	40	27	0	7.41	0	9.09
1882	3	1	31	28	47	36	6.38	2.78	9.68	3.57
1883	1	1	23	30	36	40	2.78	2.50	4.35	3.33
1884	5	1	24	26	33	33	15.15	3.03	20.83	3.85
1885	3	4	25	25	42	35	7.14	11.43	12.00	16.00
1886	10	4	24	16	36	26	27.78	15.38	41.67	25.00
1887	7	1	38	18	47	23	14.89	4.35	18.42	5.56
1888	2	1	27	35	36	41	5.56	2.44	7.41	2.86
Totals	32	20	265	260	377	335	(8.49%) ^a	(5.97%) ^a	(12.08%) ^a	(7.31%) ^a
	52		712		525		(7.30%)		(9.90%)	

* Derived from LHSA REA DRs and NAS MHI/9-16.

^a Means

Table 5
Burial sites for REA patients after returning from Edinburgh Anatomy Schools, 1853–1909*

Cemetery/graveyard	Date opened	Buried 1853–60		Buried 1861–70		Buried 1871–80		Buried 1881–90		Buried 1891–1900		Buried 1901–1909		Totals		% of total buried 1853–1909
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Dalry	1846	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.53
Dean	1845	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0.53
Eastern (Easter Rd)	1883	0	0	0	0	0	0	18	5	0	0	0	0	18	5	12.30
Morningside	1878	0	0	0	0	1	2	13	9	0	0	0	0	14	11	13.37
Newington (Echo Bank)	1846	9	17	22	30	5	9	0	0	0	0	0	0	26	56	43.85
N. Merchiston (New Dalry)	c.1874	0	0	0	0	0	0	1	1	0	1	0	0	1	2	1.60
Piershill	1888	0	0	0	0	0	0	1	3	12	3	10	8	23	14	22.46
Southern (The Grange)	1847	0	0	0	0	4	6	0	0	0	0	0	0	4	6	5.35
St Cuthbert (West Church)	c.1770	1	0	2	0	1	0	0	0	0	0	0	0	4	0	2.14
Not recorded		0	0	1	0	0	0	0	0	0	0	0	0	1	0	0.53
Totals		10	17	25	30	12	17	33	19	12	4	10	8	92 ^a	95 ^b	
		27		55		29		52		16		18		197		

* Derived from LHSA REA DRs and NAS MH1/9-16. During 1875, 1893–1903 and 1908, no REA patients are recorded as anatomized at the schools.

^a 49.2%;

^b 50.8%