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Promoting medical change in Restoration Ireland: the chemical revolution and the patronage of James Butler, duke of Ormond (1610–88)

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We know precious little of the place of medicine in Early Modern Ireland. By and large, understanding of medicine and its practitioners has been largely neglected by historians of the period, often through a mistaken sense of the unknowable quality of the subject. While our understanding of medicine and medical developments elsewhere in Europe at this time has grown exponentially in recent years, Ireland remains a backwater for Early Modern medical historians. In recent years, however, there is growing evidence that such attitudes are undergoing a radical sea-change. Despite the severe and very real obstacles posed to researchers in the field by a depleted archival base, new research, allied to older developments, suggests that radical new insights are possible and achievable. In this chapter, I wish to focus on medical developments in the period after 1660, one which has received little scholarly attention hitherto. In the process, I aim to show that Ireland in this period, like other parts of the British Isles as well as continental Europe, did participate in, and welcome, medical innovation as part of a wider process of cultural and intellectual regeneration. At the same time, I aim to demonstrate that such developments owed much to the support of leading figures within the Irish political establishment, most notably that provided by its most senior and powerful spokesman, James Butler, duke of Ormond (1610–88).

Butler's long career in British politics has been studied from many angles, though none, as far as I am aware, have commented upon his particular predilection for, and encouragement of, chemical medicine.[1]

Most closely associated with the pioneering work of the Swiss alchemist and physician Paracelsus (1493–1541) and his seventeenth-century admirer John Baptist van Helmont (1580–1644), the proponents of chemical medicine threatened to overthrow the classical system of Galen, and to destroy in the process the institutional authority claimed by those who practised the learned art of humoral medicine. During the course of the sixteenth and seventeenth centuries, the chemists came close to achieving such outcomes, often through the support of powerful and sympathetic figures within the courts of Early Modern Europe, including kings and emperors. In such instances, the manipulation of patronage networks, linking client physicians with powerful patrons, provided an opportunity for the chemists to promote new cures and theories and thus inaugurate a new, golden age of medical reform. One such instance is provided by the example of the restored court of Charles II, where large numbers of courtiers shared the new monarch's taste for chemical experimentation and medical novelty. And among those courtiers, none was a greater fan of the new medicine than James Butler, duke of Ormond, whose own control of an intricate web of Anglo-Irish patronage networks meant that he was singularly well placed to promote medical change in his native Ireland. Ormond's support for the purveyors of chemical medicines was undoubtedly underscored by a critical appreciation of the role that he believed such men might play in the wider regeneration of the social, cultural and commercial life of Ireland after 1660. It was such thinking that underpinned Ormond's patronage of the chemical physician Peter Belon or Bellon in the 1670s, and their joint enterprise in seeking to create a new spa at Chapelizod, which, if successful, promised to integrate Ireland more fully into the cultural and medical life of Europe.

Background to medical reform: the Cromwellian advances of the 1650s

The central developments which I discuss in the bulk of this chapter clearly owed something to the important developments that had taken place in Ireland in the years immediately prior to the Restoration of Charles II in 1660. Following the Cromwellian conquest, English medical men, most of whom were distinctively 'modern' in their approach to medicine, were to play a prominent role in the government and administration of Ireland. William Petty (1620–87), Benjamin Worsley (1618–77), Robert Child (1613–54) and Robert Wood

(*c.* 1622–85) were all active agents of Cromwellian rule. As members or correspondents of the Hartlib circle, a diverse group of intellectuals and reformers committed to the Baconian principles of scientific improvement and progress, they were also eager to promote Ireland as a laboratory for social, economic, religious, political and intellectual regeneration.[2] The use of the term 'laboratory' is particularly apt in this respect as many of those medical men who opted to serve in Ireland in the 1650s were often committed exponents of the chemical ideas and practices of Paracelsus and van Helmont. Worsley and Child, for example, were both evangelical in their support for chemical medicine. It has recently been suggested, moreover, that Petty's desire to effect a 'transmutation' in Irish political life was a natural outgrowth of his interest in iatrochemistry, albeit within a mechanistic framework.[3] Others supportive of medical chemistry included prominent figures like Cromwell's close colleague and advisor Jonathan Goddard (d.1675), who accompanied Cromwell to Ireland in 1649, as well as Humphrey Brooke (1619–93), the son-in-law of the Leveller and Helmontian physician William Walwyn, who served as a doctor in the north of Ireland in the early 1650s.[4]

Contemporary discussion of Ireland's medical needs frequently depicted it as a land devoid of trained physicians and surgeons. Joseph Waterhouse (d. *c.* 1668), for example, who came over with Cromwell in 1649, made the outlandish claim that he was the only qualified physician to make the journey.[5] The situation was probably made worse by the disaffection of native Catholic physicians, and the subsequent attempt by the Cromwellian authorities to deport many to Connaught in the mid-1650s. Anthony Mulshenogue escaped this fate in 1656, for example, when he successfully petitioned the Cromwellian authorities in Co. Cork on the grounds that the area would otherwise be 'destitute of physicians of his ability'.[6] Nonetheless, Ireland did become an increasingly attractive option for English medical men seeking employment in the 1650s, while many others, often with no or little previous medical experience, would appear to have cut their teeth here at this time. Interestingly, many were themselves former émigrés and refugees who had fled a Europe convulsed by wars of religion in the 1620s and 1630s. Among their number was the Bohemian exile Adam Strialio or Stryall, who had served in the New Model Army under Sir Thomas Fairfax, as well as the well-travelled German Paracelsian Johann Unmussig or Brun (d. *c.* 1676), who settled in Cork and acted as physician to the English garrison in and about the city.[7] To their number,

we should also add the Dutch-born brothers Arnold (1606–53) and Gerard Boate (1604–50), who both possessed medical doctorates from Leiden University and shared a passionate interest in medical and intellectual reform. In 1652, Gerard published a Baconian natural history of Ireland that was destined to act as a major stimulus to the Cromwellian settlement and exploitation of the country by English newcomers in the later part of the decade.[8]

One of the more interesting and unexpected aspects of the approach of some of these men to Irish medicine was their belief that native Irish practitioners may have something to teach the newcomers. Robert Child, for example, who had spent many years in America, claimed on the hearsay of van Helmont that Irish physicians were privy to many valuable medical secrets or arcana that were 'preserved and imparted from one family to another'.[9] Likewise, a number of members of the family of Richard Boyle, first earl of Cork, including his celebrated natural philosopher son Robert Boyle and daughter Catherine, Lady Ranelagh (both members of the Hartlib circle), enthusiastically reported the strange and wonderful cures of native Irish healers. In 1649, for example, they informed Hartlib of the cures performed in London by an Irish gentleman named Kertcher, who was said to possess a mysterious sympathetic powder for the toothache as well as the ability to heal agues and even the plague by stroking parts of the body with his hands in a manner highly reminiscent of the later Irish miracle healer Valentine Greatrakes.[10]

The overriding message imparted by English settlers in the 1650s, however, was to suggest, in the words of Gerard Boate, that the English were 'the introducers of all good things in Ireland'.[11] Ireland thus became in the English imagination a land of opportunity – a fresh canvas where physicians, like other adventurers, might flourish in a land that lagged far behind its continental and British neighbours. Historians have thus tended to downplay the significance of medical developments in Ireland prior to 1660. For Barnard, 'it was a measure of how far behind London Ireland lagged' that progress in the 1650s should consist solely in the establishment in Dublin of a College of Physicians in 1654 (not granted formal recognition until 1667), a belated attempt to create a regulatory body for medical practice that, like its London counterpart, aimed to preserve the monopolistic authority of graduate physicians. He adds, citing Charles Webster, that the disputes between the Galenists and chemical physicians, such a distinctive feature of English medicine in the 1650s, were 'a luxury which Dublin could not afford'.[12]

Restoration Ireland, chemistry and the duke of Ormond

If one accepts at face value the idea that medical reform in Ireland, as in England, was primarily a by-product of the puritan zeal for change unleashed by the victory of parliamentarian armies in the 1640s – a view largely unchallenged since the ground-breaking work of Charles Webster in 1975 – then it is natural to assume that the impetus to medical innovation in Ireland, as in England, must have faltered after the Restoration of Charles II in 1660.[13] However, there is a great deal of evidence to suggest that such an assumption is erroneous and is open to challenge on numerous fronts. Here, I wish to focus on the Irish context of this issue, and to suggest that far from withering on the vine, support for medical innovation, including iatrochemistry, continued to flourish in Ireland, as in England, after 1660, particularly as a result of the support it received from powerful patrons such as James Butler, duke of Ormond.

In England, the most obvious manifestation of the continuing interest in the ideas and practices of the chemical physicians is provided by the attempt in 1665 of a group of like-minded men calling themselves the Society of Chemical Physicians to overthrow the elitist and monopolistic authority wielded by the College of Physicians in London. Medical historians have proposed numerous explanations for the emergence of this new, reformist group. All of these explanations focus to some extent on the roots of the movement, like that of the Royal Society, in the so-called 'puritan revolution' of the previous two decades.[14] Detailed study of the membership of this group, however, reveals that support for chemical medicine far surpassed the narrow boundaries of civil war puritanism. One of the more interesting features of the Society of Chemical Physicians was the ability of its members, many of them based at court, to recruit the support and patronage of many of the leading figures within the restored royalist and Anglican establishment.[15] Elsewhere, I have foregrounded the particular role played in this process by Gilbert Sheldon, archbishop of Canterbury. Here, however, I wish to explore the similar role played by another signatory of the Society's petition in 1665 – James Butler, first duke of Ormond – within the context of Ireland and Irish engagement with medical reform after 1660.

Ormond, through the many offices and posts he held after the Restoration, both in England and Ireland, found himself at the centre of a complex system of patron–client networks that allowed him free rein

to support and encourage a range of personal initiatives and aspirations. Among these was a strong faith in the virtues of a reformed medicine based on iatrochemical lines. As chancellor of Oxford University, for example, he supported the grant of an MD to William Aglionby (d.1705), an early fellow of the Royal Society, who was responsible in 1668 for publishing a translation of *The Art of Chemistry* by the French royal chemist Pierre Thibaut.[16] He did much the same in his capacity as lord lieutenant of Ireland in January 1664, when he recommended John Archer for an MD from Trinity College Dublin. In his original petition to Ormond, Archer, an enthusiastic exponent of chemical physic, claimed to have studied and practised medicine in Dublin for seven years and to have been impeded in obtaining a medical degree at Trinity through the obstructive behaviour of unsympathetic colleagues. He may also have harboured royalist sympathies, as he claimed to have lost assets to the value of £1,000 through sequestration in his native England.[17] Following the award of his degree, Archer returned to England where, in 1670, he was appointed as 'chemical physician' to the court of Charles II. Typically, like so many other chemists, he suffered at the hands of the College of Physicians in London, which frequently sought to prosecute Archer for his perceived medical ignorance. At the same time, he demonstrated himself a true heir to the Cromwellian Hartlibians through his passionate advocacy of numerous schemes and inventions that included a vapour bath, oven and a one-horse chariot.[18]

Ormond, moreover, was not merely a passive supporter of the new medicine. He also played a prominent role in promoting its wider benefits by employing a number of high-profile chemical physicians. Among those who served the duke was the Catholic physician William Fogarty (d.1678), who may have encouraged Ormond's early interest in matters hermetical and alchemical. In 1652, Hartlib's son-in-law Samuel Clodius (1629–1702) reported that Fogarty had discovered the manuscripts of one Hugens, former servant to the adept Dr Butler, whose secrets were widely sought after among the Helmontians. They included several volumes of medical and alchemical papers which Fogarty offered to show Clodius 'upon condition that he should explain the doubtful and enigmaticall passages unto him'.[19] The most eminent physician to serve the duke was undoubtedly the Yorkshireman William Currer (d.1668), a medical graduate of Leiden with strong Irish connections. He had served there as a royalist officer in the 1640s and was later appointed physician general to the army in Ireland following the Restoration. Five years later, Currer signed the petition

of the Society of Chemical Physicians in London, no doubt with the approval of his patron the duke. Currer, it would appear, also served as physician to Ormond and his household. In 1667, the year in which he was appointed one of the founder members of the new College of Physicians in Dublin, Currer was accused by three colleagues of killing a servant of the duke's with one of his chemically prepared pills.[20] Currer, it should be noted, was not alone among the medical signatories of the Chemists' petition in possessing Irish links. The principal organiser of the petition, Thomas O'Dowde (d.1665), who held a minor post at the court of Charles II, was an Irishman who had suffered for his loyalty in the 1650s and was keen to recover some of his father's forfeited estates in Ireland.[21] Likewise, Robert Bathurst was born at Bandon in Co. Cork, and his brother-in-law Edward Bolnest (d.1703), another co-signatory, served as a soldier in Ireland in the 1650s.[22] The armed forces, of course, frequently provided a breeding ground for medical innovation, and it is noticeable how many of the signatories to the chemists' petition possessed military and naval connections. One of the most prominent, John Troutbeck (1612–84), a protégé of George Monck who played a minor role in the restoration of the king, had himself served as an army surgeon in Ireland in 1652. Others such as Everard Maynwaring (d.1713) had studied medicine at Dublin in the 1650s, though in Maynwaring's case there is no evidence that he was as yet converted to the virtues of chemical medicines.[23]

The duke of Ormond's patronage of men like John Archer and William Currer clearly stemmed from a personal preference for the new cures and methods of the iatrochemists. But, as is evident in the cases of other aristocrats who signed the chemists' petition, such support also stemmed from a more general faith in the wider economic, social and political benefits that powerful figures like Ormond associated with chemistry. Many of those who supported the London chemists in 1665 were actively engaged in schemes designed to exploit the mineral wealth of Britain. Ormond's brother-in-law and co-signatory Sir George Hamilton (*c.* 1608–79), for example, was granted a royal warrant to dig mines north of the River Trent and in Wales in 1661.[24] Likewise, Ormond's friend and fellow royalist Sir Geoffrey Shakerley (1619–96), part of a network of Cheshire gentry who supported the chemists in 1665, was involved in a scheme to extract silver from lead ore in north Wales in 1670.[25] Chemical expertise was clearly highly valued in the mining industry, in which many chemical physicians, not surprisingly, found valuable employ. Currer, for example, had undertaken

a special study of Irish mines as part of a general investigation into the natural history of the country. At the same time, he invested heavily in coal mining in his native Yorkshire with the Irish aristocrat, Richard Boyle, second earl of Cork, as well as acting as a consultant to Lord Mohun in relation to his mining interests in Cornwall in 1653.[26]

Ormond, Peter Belon and the Irish spa

It seems highly likely therefore that Ormond was fully conscious of the wider potential advantages of investment in, and support for, those who claimed an expertise in 'chymistry' and chemical medicines. This is strikingly evident in the aged duke's support for an English chemist of French heritage named Peter or Pierre Belon, who in 1684 proposed, with Ormond's backing, to create a new spa at Chapelizod, located on the outskirts of Dublin. Belon's career was strikingly similar to that of a number of his chemical colleagues. He first came to public attention in 1664, when, describing himself as a 'student in chymistry', he published a translation of the work of the celebrated French chemist Nicholas Lefevre, who, as operator to Charles II, was to sign the chemists' petition in 1665.[27] In the same year, he sought to secure an ecclesiastical licence to practice medicine and surgery in England, testimonials certifying that Belon was a Londoner by birth, was well skilled in medicine and surgery, including optical ailments, and was well versed in all aspects of pharmacy and chemistry. No licence, however, was granted in 1664, nor in 1667, when it would appear Belon was once more turned down by the licensing authorities.[28] A year later, in 1668, he would appear to have been taken under the wing of the court, where he held minor office as 'one of his Majesties Servants in Ordinary'.[29] In all likelihood, Belon had attached himself to the circle of George Villiers, second duke of Buckingham, whose passion for chemistry was second only to the restored monarch. This much is evident from Belon's dedication to Buckingham of his translation of a work of religious propaganda entitled *The King-Killing Doctrine of the Jesuits* (1679), in which he explicitly states that 'I could not render your Grace a more acceptable service, during the present respite of my duty in your Grace's famous Laboratory'.[30]

Belon, meanwhile, was developing his own medicines from a laboratory at lodgings in Covent Garden, which he advertised in a work published in 1675. In a dedication to the president of the College of Physicians, Sir George Ent (1604–89), Belon claimed to have travelled

the Christian world for many years, labouring all of this time in the theory and practice of chymistry. Among those he praised, and with whom he may have worked, was the Huguenot and royal physician Dr Theodore Mayerne (1573–1655) and the Frenchman Lazare Riverière or Riverius (1589–1655), both prominent advocates of the benefits of chemically prepared medicines. Unlike many fellow chemists, however, Belon was keen to build bridges with sympathetic colleagues within the London College. He thus went out of his way to defend his decision to publish the composition of his medicines as an act that was done 'without the least design of entrenching upon the Prerogative of the most Learned and Eminent College of Physicians whom … I humbly intreat, as well as all other Ingenious Artists, and Lovers of the Scientifick Art, to favour me with their Opinion and Approbation of this Remedy, and honour me with their Company at my Laboratory during the time of the Operations'.[31]

Belon's cosmopolitan outlook, a product of his French roots and subsequent travels, is also evident in his other career as an author and translator of novels, plays and miscellaneous publications emanating from various parts of continental Europe. Indeed, his appointment at court may well have owed as much to his talents in this field as it did to his interest in chymistry. In 1675, for example, Belon's comedy *The Mock Duellist* was performed at the Theatre Royal by the king's players.[32] Belon's staunch Huguenot sympathies, literary talent and medical interests, honed in London after the Restoration, were clearly in tune with the religious and cultural imperatives of many aristocrats at the court of Charles II, including, as we have seen, the duke of Buckingham. Not surprisingly, they also excited the interest of James Butler, duke of Ormond, whose support for the Huguenot cause was both profound and long-standing. Following many years in exile in France, Ormond had established firm connections with many leading French Protestants in Paris and Normandy and was eager to encourage Huguenot refugees to settle in Ireland, where he hoped they would stimulate the local economy by introducing new skills and much-needed industrial expertise.[33] There is little doubt then that Ormond's invitation to Belon to move to Dublin and help establish a medical spa at Chapelizod, close to the viceregal retreat, formed part of the duke's wider strategy of economic and cultural regeneration for Ireland's capital city.[34]

Encouraged by the duke's passion and commitment, Belon left for Dublin in 1684, where he hoped to spend the 'remainder of my days, in the Service of my most Gracious King, in this his Kingdom, under your Grace's Favour and Protection'.[35] He would appear to have immediately

set about the task of subjecting the waters of Chapelizod to chemical examination, publishing the results in a small book that was intended to advertise not only the virtues of the waters but also the wider economic and cultural benefits that were likely to accrue from the establishment of an Irish spa modelled on British and European counterparts.[36] Medically speaking, *The Irish Spaw* is primarily Paracelsian in tone, with frequent references to the *spiritus mundi* and *tria prima* or three principles of salt, sulphur and mercury, which Paracelsus upheld as the principal elements of the material world.[37] Optimistic as to the likely benefits of Chapelizod's waters, Belon compared them favourably to those of the duke's bagnio at Long Acre in London, which, he claimed, unlike those in Dublin, were not conducive to artificial improvement.[38] The citation of the example of the duke's bagnio is interesting given the fact that the London establishment operated as an important social and cultural space in the city, attempting to replicate to some extent the kind of facilities one might expect to find at typical country spas such as Bath, Epsom and Tunbridge. There is little doubt that a similar role was envisaged for Chapelizod. In a post-script to *The Irish Spaw*, Belon foresaw the spa as promoting a wide range of cultural pursuits, including music, sport, shooting, lotteries and other pastimes that were intended to 'disengage the mind from too serious or melancholick thoughts'.[39]

Conclusion

Little is known of the success or failure of the venture at Chapelizod. The village itself had hosted a small settlement of Huguenots since 1671, which under Ormond's guidance and that of his deputy Richard Lawrence (d.1684) was intended to form the basis of a revitalised linen industry. In all likelihood, the grand scheme to create a spa was mothballed following the death of the duke in 1688 and the disruptions caused by the Williamite wars. Nonetheless, many Huguenots, including many surgeons and physicians, did continue to settle in Ireland, attracted no doubt by the opportunities of service in the armies of the Protestant settlement. Ormond himself clearly played an important role in this process. In 1682, for example, he tried but failed to encourage the eminent Parisian physician Philip Guide (d.1716), a medical graduate of Montpellier, to serve as his personal physician in Dublin.[40] Over a decade earlier, Guide's co-religionist Daniel de Mazieres des Fontaines-Voutron was chosen as William Currer's successor as physician-general to the army in Ireland.[41]

Ireland, as in the period of Cromwellian rule, continued to act as a magnet then for both British and Huguenot medical men after 1660. In the process, the country and its institutions became increasingly open to new developments in medicine, including a greater receptivity to chemical medicine. Among those, for example, elected to the re-established College of Physicians in Dublin after 1660 were two prominent advocates of iatrochemistry, John Unmussig alias Brun and Timothy Byfield (1651–1723). The former, whose career in Ireland pre-dated the civil wars, was admitted a fellow in 1667.[42] Byfield, on the other hand, would appear to have settled in Dublin sometime around 1670, after a brief period of study at Cambridge.[43] He was elected a fellow of the Dublin College of Physicians on 12 February 1676, practising in the city for about five years before returning to England and a prolific career as a publisher of medical works. In a number of these, Byfield makes clear that it was while practising in Dublin that he first encountered the medical ideas of Paracelsus and van Helmont.[44] Back in London, Byfield, like John Archer (above), proved to be a thorn in the side of the College of Physicians, who consistently sought to outlaw his practice. Intriguingly, in the light of Belon's career, he also wrote approvingly of the benefits of several local London spas and bagnios, including the celebrated duke's bagnio in Long Acre, which Belon had commented upon in his own work on the spa at Chapelizod.[45] As the careers of physicians like Archer, Unmussig and Byfield suggest, Dublin was becoming an increasingly congenial location for those open to medical and scientific change. And moreover, this was a process that gathered pace towards the end of the seventeenth century as evidenced by the emergence of new institutions such as the Dublin Philosophical Society, founded by William Molyneux (1656–98), brother of the physician Sir Thomas Molyneux (1661–1733). Ormond's role in promoting schemes such as the spa at Chapelizod should thus be seen as part of a long-term development in Irish medical and intellectual life, linking the Cromwellian age of the Hartlibians with that of the early Irish Enlightenment. Undoubtedly, there is still a great more to learn about the nature of medicine and medical practice in post-Restoration Ireland, and many questions remain unanswered. However, as I hope to have shown here, there is strong evidence to confirm the view of Toby Barnard that the period after 1660 did not mark the end of intellectual revival in Ireland but rather witnessed a continuing engagement with, and interest in, those wider medical developments taking place in England and Europe at this time.[46]

Notes

1 The best recent study of Ormond can be found in the collection of essays edited by Toby Barnard and Jane Fenlon; see their *The Dukes of Ormonde 1610–1745* (Woodbridge, 2000).

2 The Hartlibian engagement with Ireland is fully discussed in T. Barnard, *Cromwellian Ireland* (Oxford, 1975), pp. 213–48; T. Barnard, 'The Hartlib Circle and the cult and culture of improvement in Ireland', in M. Greengrass, M. Leslie and T. Raylor (eds), *Samuel Hartlib and Universal Reformation: Studies in Intellectual Communication* (Cambridge, 1994), pp. 281–97. For Worsley's service in Ireland, see especially T. Leng, *Benjamin Worsley (1618–1677)* (Woodbridge, 2008), pp. 80–94.

3 T. McCormick, '"A proportionable mixture": William Petty, political arithmetic, and the transmutation of the Irish', in C. A. Dennehy (ed.), *Restoration Ireland: Always Settling and Never Settled* (Farnham, 2008), p. 134.

4 Goddard, a Cambridge MP and fellow of the College of Physicians, was subsequently rewarded for his service on campaign in Ireland and Scotland with the wardenship of Merton College, Oxford. He also sat in the Barebones Parliament as MP for Oxford University. Interestingly, the author of a scurrilous royalist account of Goddard's departure for Ireland in the summer of 1649 seems to have confused Dr Goddard, 'the Holborne mountebank … who out of a handfull of dead-mens-bones can extract an Universall medicine', with his namesake William Goddard (d.1670); *Mercurius Elencticus*, no. 10 (25 June–2 July 1649). Goddard later signed the petition in favour of a Society of Chemical Physicians (see below) in 1665. Humphrey Brooke served the army in the north of Ireland in 1651. A few months prior to leaving, he enquired of Elias Ashmole as to whether he might get 'any of Dr Currer's skill in transmutation of metal or not'; *Calendar of State Papers Domestic* (hereafter *CSPD*)*: Interregnum, 1651*, p. 541; C. H. Josten (ed.), *Elias Ashmole (1617–1692): His Autobiographical and Historical Notes, His Correspondence, and other Contemporary Sources Relating to His Life and Work* (5 vols, Oxford, 1966), ii, p. 551. For Currer, see below.

5 British Library (hereafter BL), Lansdowne MS 823, fos 58, 282, 284, 285. Waterhouse was rewarded for his services to Cromwell's armies in Ireland with an Oxford MD. He subsequently settled into practice in Dublin and represented Newry in the Irish Convention in March 1660. Earlier claims of medical deficiencies in the parliamentary armies can be found, for example, in a single sheet petition published on behalf of the soldiery in 1648 in which it was claimed that there was 'not a Surgeon to dresse us, or if a Surgeon, no chest, nor salve, nor oyntments'; *The Humble Petition of Us the Parliaments Poore Souldiers in the Army of Ireland* (Dublin, 1648).

6 King's Inn Library, Dublin, Prendergast Papers, vol. 2, pp. 401–2.

7 Stryall, of Kingsbridge, Devon, was licensed to practise medicine in the diocese of Exeter in 1632. He was discharged from the army's service as physician general by Fairfax at Tiverton in December 1645 in order to attend to 'urgent business which calls him away'. The earl of Essex described him as Adam Stryall Dr of Physic 'a Bohemian having been divers times employed by me in the great and weighty affairs of the King and Parliament & Kingdom'. Expenses for Stryall and his family to settle in Ireland were paid in June 1652; Devon Record Office, Chanter MS 43, p. 249; The National Archives, Kew (hereafter TNA), SP 28/36/V, fos 596, 597, 598, 599, 601, 602, 603; *CSPD: Interregnum, 1651–1652*, p. 605. Unmussig was a native of Nassau Dillenburg in Germany, who enjoyed the patronage of the Boyle family. In August 1655, Colonel Robert Phaire presented a petition to the Irish Council on his behalf, giving details of his 'great care and paynes in the Administration of Phisick' in the precinct of Cork, especially with regard to the poor whom he treated gratis; National Library of Ireland, Dublin (hereafter NLI), MS 11,961, pp. 127–8 [dated in error as 7 Aug. 1656].

8 G. Boate, *Irelands Naturall History* (London, 1652). For discussion of the significance of this work, see Barnard, 'Hartlib Circle', pp. 282–96.

9 Sheffield University Library, Hartlib Papers, 28/1/63A.

10 *Ibid.*, 28/1/2A, 2A-B. I discuss the Boyle family's predilection for unorthodox medical treatments, including chemical medicines, in *The Miraculous Conformist: Valentine Greatrakes, the Body Politic, and the Politics of Healing in Restoration Britain* (Oxford, 2013), pp. 85–6. For their engagement with, and support for, Unmussig (above), see *The Correspondence of Robert Boyle*, ed. M. Hunter, A. Clericuzio and L. Principe (6 vols, London, 2001), i, pp. 158, 163–5, 187–8, 230, 232; iv, p. 394; Royal Society Library and Archives, London (hereafter RSLA), Boyle Papers, 8, fo. 140; NLI, MS 32, fo. 91.

11 Boate, *Irelands Naturall History*, p. 114.

12 Barnard, *Cromwellian Ireland*, pp. 241–2.

13 For Webster, see *The Great Instauration: Science, Medicine and Reform, 1626–1660* (London, 1975). The central thrust of this work remains unchallenged, despite concerns raised by some, including the present author, as to the extent to which mainstream puritans might be perceived as intellectual and scientific iconoclasts. I aim to deal more fully with the subject in my *Medicine and the Politics of Healing in Seventeenth-Century England* (forthcoming).

14 See especially P. Rattansi, 'The Helmontian-Galenist controversy in Restoration England', *Ambix*, 12 (1964), pp. 1–23; C. Webster, 'English medical reformers of the Puritan revolution: a background to the "Society of Chemical Physitians"', *Ambix*, 14 (1967), pp. 16–41.

15 For an attempt to shift the focus of the debate towards the role of the court and patronage in understanding the emergence and ultimate demise of

the chemists' goals, see H. Cook, 'The Society of Chemical Physicians, the new philosophy, and the Restoration court', *Bulletin of the History of Medicine* (hereafter *BHoM*), 61 (1987), pp. 61–77. For a growing awareness of the important role played by courtly patronage in medicine and medical reform, see V. Nutton (ed.), *Medicine at the Courts of Europe, 1500–1837* (London and New York, 1990); B. T. Moran, *The Alchemical World of the German Court: Occult Philosophy and Chemical Medicine in the Circle of Moritz of Hessen (1572–1632)* (Stuttgart, 1991); F. Dawbarn, 'Patronage and power: the College of Physicians and the Jacobean court', *British Journal for the History of Science*, 31 (1998), pp. 1–19.

16 Historical Manuscripts Commission (hereafter HMC), *Calendar of the Manuscripts of the Marquess of Ormonde*, ed. F. E. Ball and C. L. Littleton, new series (8 vols, 1902–20), iv, p. 618. There is no evidence that the degree was granted. For Aglionby, see G. N. Clark, 'Dr William Aglionby', *Notes and Queries*, 12th series, 9 (1921), pp. 141–3, and more recently C. A. Hanson, *The English Virtuoso: Art, Medicine, and Antiquarianism in the Age of Empiricism* (Chicago, IL and London, 2009), pp. 93–107. Hanson provides important evidence affirming Aglionby's continued engagement with medicine and medical practice despite his career as a diplomat.

17 Bodleian Library (hereafter Bodl. Lib.), Carte MS 144, fo. 44r-v. He may have been the same as the John Archer who was imprisoned in the Tower of London in 1654 on suspicion of treason; *CSPD: Interregnum, 1654*, pp. 12, 93, 273, 353. His conspiratorial activities on behalf of the king in exile are refered to in T. Birch (ed.), *A Collection of the State Papers of John Thurloe* (7 vols, London, 1742), ii, pp. 189–205.

18 TNA, LC3/26, fo. 142. Archer's trials and tribulations at the hands of the College of Physicians, as well as his various publications, are briefly discussed in the article on Archer in the *ODNB*. Archer's advertisement for various inventions, which he claimed formed part of a royal project to promote scientific and technological innovation, appear alongside an advert for an 'elixir proprietatis' based on Helmontian procedures in John Archer, *A Compendious Herbal Discovering the Physical Vertue of all Herbs in this Kingdome and what Planet Rules each Herb* (London, 1671).

19 Sheffield University Library, Hartlib Papers, 28/2/27B-28A. Nothing more is known of the whereabouts of the manuscripts, though it is interesting to note that after the death of Fogarty in Newgate in the aftermath of the Popish Plot revelations, in which he was deeply implicated, the family sought to have his papers delivered into the hands of a legal councillor, Sir James Butler, a distant kinsman and protégé of the duke of Ormond. The duke's interest in the occult is further suggested by John Heydon's dedication of his Rosicrucian manifesto *The Harmony of the World* (London, 1662) to Ormond. A year later, one Samuel Horsington alias 'Paracelsus' of Dublin petitioned the duke requesting a licence to

distil and sell strong waters in Ireland. He may well have been related to Thomas Horsington (d.1666), who pledged his support to the chemists' cause in London in 1665.

20 Bodl. Lib., Carte MS 49, fo. 263. Currer's clientele also included other members of the Irish aristocracy. In 1657, Lady Broghill described the violent and rapid death of her sister-in-law Lady Kildare (1611–57) at the hands of Currer after taking some of his 'fisik'; HMC, *Seventh Report, Appendix, Part 2* (London, 1879), p. 249. For Currer, see *ODNB*; I provide fuller details on his career, as well as those of all the signatories to the chemists' petition, in an appendix to my forthcoming *Medicine and the Politics of Healing in Seventeenth-Century England* (forthcoming).

21 For O'Dowde's Irish roots and subsequent trials and tribulations, see especially the account of his daughter Mary Trye in *Medicatrix* (London, 1675), pp. 26–31. For his attempt to gain compensation for the loss of his father's Irish estates in the Court of Claims, see Bodl. Lib., Carte MS 67, fos. 36v, 46r, 46v.

22 For Bathurst, chemist, kinsman and 'servant' to the duke of Buckingham, see Ralph Thoresby, *Ducatus Leodiensis: or, the Topography of the Ancient and Populous Town and Parish of Leedes* (London, 1715), p. 13. He was related to Henry Bathurst, attorney general of Munster and recorder of Cork and Kinsale. For Bolnest's service in Ireland, see TNA, C7/354/45.

23 Troutbeck refers to his imminent departure for Ireland with the lord deputy in May 1652 in the course of deliberations with the county committee in Yorkshire over his purchase of sequestrated lands; M. A. E. Green (ed.), *Calendar of the Proceedings of the Committee for Compounding, &c, 1643–1660* (5 vols, London, 1889–92), iii, pp. 2229–30. Maynwaring received his MD from Trinity College Dublin, in 1655. For a reappraisal of Maynwaring's life and career, see especially J. Barry, 'The "compleat physician" and experimentation in medicines: Everard Maynwaring (*c.*1629–1713) and the Restoration debate on medical reform in London', *Medical History*, 62 (2018), pp. 155–76.

24 *CSPD: Charles II, 1660–1661*, p. 504. For Hamilton, see *ODNB.* In addition to Hamilton, Ormond's kinsman Edmund Butler, fourth viscount Mountgarett (d.1679), was another courtier to add his signature to the chemists' petition.

25 *CSPD: Charles II, 1670, with Addenda, 1660–1670*, p. 148. For an overview of Shakerley's political career, see especially B. Henning (ed.), *The History of Parliament: The House of Commons, 1660–1690* (3 vols, London, 1983), iii, pp. 426–7.

26 Chatsworth House, Lismore MS 29, Diary of 2nd earl of Cork, *sub* 27, 29 December, 28 January 1650/1 and *passim*; Lismore MS 30, Currer to earl of Cork, 1 December 1658, no. 46; Sheffield University Library, Hartlib Papers 28/2/12A; Josten (ed.), *Elias Ashmole*, ii, p. 654.

27 Nicolas Lefevre, *A Discourse Upon Sr Walter Rawleigh's Great Cordial* (London, 1664).

28 Lambeth Palace Library, London, VX 1A/10/3/1–2. It was highly unusual for the ecclesiastical licensing bodies in London to reject applications from chemical physicians. The fact that Belon's testimonials were countersigned by the old puritan Sir Edward Alston, then president of the College of Physicians, may have been a factor. For Sheldon's antipathy towards the puritan-dominated College in this period, see my *Medicine and the Politics of Healing in Seventeenth-Century England* (forthcoming).

29 Belon was seeking protection from wrongful arrest and distraint of goods as a servant of the crown at Whitehall. The case was heard by the House of Lords in February 1668. Two Westminster under-bailiffs were subsequently reprimanded and Belon's goods returned; *Journal of the House of Lords* (39 vols, London, 1767–1830), xii, pp. 185, 201.

30 Antoine Arnauld, *The King-Killing Doctrine of the Jesuits* (London, 1679), sig. A2v.

31 P. Bellon, *Physiomathetes, The Potable Balsom of Life. Being a Collection of the Choicest Preservatives that are Extant within the Three Natural Families of Minerals, Vegetables, and Animals, Reduced into such Essences and Tinctures by the Scientifick Art of Chymie* (London, 1675), p. 1.

32 P. B., gent, *The Mock Duellist, or, The French Vallet. A Comedy. Acted at the Theatre Royal, by His Majesties Servants* (London, 1675). The attribution of this and numerous further novels and plays to Belon is made in S. Halkett and J. Laing (eds), *A Dictionary of the Anonymous and Pseudonymous Literature of Great Britain* (4 vols, Edinburgh, 1882–88), ii, col. 1636. Ten further translations and novels followed between 1680 and 1692, many decidedly anti-Catholic in tone. Belon, moreover, was almost certainly the same as the P.B., gent, who was responsible in 1690 for the publication of *Several Letters Written by Some French Protestants Now Refug'd in Germany, from the Tyrannical Persecution of France. Concerning the Unity of the Church* (London, 1690).

33 R. Hylton, 'Dublin's Huguenot Refuge, 1662–1817', *Dublin Historical Record*, 40 (1986), p. 15. For a broad overview of the Huguenot impact upon Ireland, see especially C. E. J. Caldicott, H. Gough and J. P. Pittion (eds), *The Huguenots and Ireland: Anatomy of an Emigration* (Dublin, 1987) and more recently R. Hylton, *Ireland's Huguenots and Their Refuge, 1662–1745: An Unlikely Haven* (Brighton and Portland, OR, 2005).

34 For the growth of Dublin as a social, economic and cultural centre in the late seventeenth and eighteenth centuries, see especially T. Barnard, *Making the Grand Figure: Lives and Possessions in Ireland, 1641–1770* (New Haven, CT and London, 2004), pp. 282–309.

35 P. Bellon, *The Irish Spaw: Being a Short Discourse on Mineral Waters in General. With a Way of Improving by Art Weakly Impregnated Mineral*

Waters. And a Brief Account of the Mineral Waters at Chappel-Izod near Dublin (Dublin, 1684), sigs A2r-v.

36 For a general account of the development of the spa in Ireland, see J. Kelly, '"Drinking the waters": balneotherapeutic medicine in Ireland, 1660–1850', *Studia Hibernica*, 35 (2008–9), pp. 99–146.

37 Bellon, *Irish Spaw*, pp. 13, 59.

38 *Ibid.*, pp. 64–5. The virtues of the waters of the duke's bagnio had recently been lauded by the London 'empiric' Samuel Haworth, who also served as physician to James, duke of York. See his *A Description of the Duke's Bagnio and of the Mineral Bath and New Spaw Thereunto Belonging* (London, 1683).

39 Bellon, *Irish Spaw*, pp. 74–6. The postscript to *The Irish Spaw* (pp. 68–9) also advertised an earlier work by Belon, no copies of which seem to have survived, entitled *A New Mystery in Physick, Discovered by Curing of Feavers and Agues with the Jesuits Powder*, published at London by William Crook at the Green Dragon without Temple Bar in 1681.

40 HMC, *Seventh Report, Appendix, Part 1* (London, 1879), p. 372. Guide opted instead to settle in London, where he was made a licentiate of the College of Physicians and became a founding member of the dispensary movement, which aimed to establish a profit-sharing group practice in the capital dedicated to the medical needs of the poor; W. Munk, *The Roll of the Royal College of Physicians of London* (3 vols, London, 1878), i, p. 429; *Oracle for the Sick* (London, 1687), 'To the reader'.

41 His tenure was not a happy one. He repeatedly complained about delays in receiving his salary as well as being targeted and undermined by fellow physicians, mostly Catholics, who sought his removal. In desperation, he wrote, among others, to the natural philosopher Robert Boyle, whom he hoped might intercede with his brother, the earl of Orrery, on his behalf; *CSPI, 1669–1670, Addenda 1625–1670*, p. 67; *CSPD: Charles II, 1671*, pp. 116, 290; *ibid., 1671–1672*, pp. 61–2; *ibid., 1672*, pp. 616, 617; *ibid., 1672–1673*, pp. 334, 352–3; *ibid., 1673*, p. 80; *ibid., 1673–1675*, pp. 142–3, 212; *Correspondence of Robert Boyle*, iv, pp. 211–14.

42 T. W. Belcher (ed.), *Records of the King and Queen's College of Physicians in Ireland* (Dublin, 1866), p. 106. For Unmussig, see above.

43 J. Venn and J. A. Venn (eds), *Alumni Cantabrigienses* (4 vols, Cambridge, 1922), i, 149. Byfield was the son of the ejected puritan minister Richard Byfield (d.1664), who would appear to have shared his father's nonconformist sympathies. In 1675, he married Dorothy Harrison, the daughter of another ejected minister, Dr Thomas Harrison (d.1682), at St Michael's, Dublin. In later life, Byfield became an active supporter of the millenarian French Prophets in England; A. G. Matthews (ed.), *Calamy Revised* (Oxford, 1934), pp. 96–7, 250–1; B. Cantwell, *Memorials of the Dead, volume XI* (1990), p. 142; L. Laborie, *Enlightening Enthusiasm: Prophecy*

and Religious Experience in Early Eighteenth-Century England (Manchester, 2015), pp. 128, 223–4.

44 Belcher, *Records of the King and Queen's College*, p. 106. For works dating Byfield's medical epiphany to about 1675, see Timothy Byfield, *Two Discourses. One of Consumptions … the Other Contains Some Rules of Health* (London, 1685), unpaginated preface; Timothy Byfield, *A Short Discourse of the Rise, Nature, and Management of the Small-Pox and All Putrid Fevers* (London, 1695), p. 21. He was still in Dublin in 1680, when he signed the College's accounts; Royal College of Physicians of Ireland (hereafter RCPI), Dublin, Dolin's Book, fo. 6v.

45 Royal College of Physicians, London, Annals, v, fos 34a, 67a, 72a, 72a-b, 103a, 103b; vi, pp. 78, 86, 87. Byfield's brother in law Richard Browne, for whom see *ODNB*, was an equally outspoken adversary of the College. For Byfield's promotion of the virtues of spas and spa waters, see *The Artificial Spaw or Mineral-Waters to Drink: Imitating the German Spaw Water* (London, 1684); *A Short and Plain Account of the Late-Found Balsamick Wells at Hoxdon* (London, 1687).

46 Barnard, *Cromwellian Ireland*, pp. 246–8. One further example of the contribution of Restoration Irish physicians to medical progress is suggested by the publication in 1670 of one of the first illustrated guides in English to obstetrics; see James Wolveridge, *Speculum Matricis Hybernicum: or The Irish Midwives Handmaid* (London, 1670). Wolveridge (d.1682) practised in Cork, and his work contains laudatory verses by another English-born physician working in the city, Aquila Smith (d.1690).