provocatively but considerately executed in equal measure.

That said, it has to be noted that The Atmosphere of Heaven is overall more a biography of Beddoes' working life, and contains only one, albeit explicitly descriptive chapter (Chapter 6, 'Wild Gas'), focusing predominantly on the very experiments that the book pertains to be at its core. This is a wonderfully engaging and fast-paced chapter, where, behind the scenes at Dowry Square (Beddoes Pneumatic Institute, Hotwells), Humphrey Davy was regularly self-experimenting with nitrous oxide, to the point where he and Beddoes decided to extend the effects of the gas from treatment of the sick, to encompass recreational use among friends. Full of accounts and quotes from those who experienced the social aspect of these 'human experiments', this chapter is the gold nugget within this work, and cleverly brings together feelings of friendship, unity and success that, as a reader, one hopes the previous chapters had been building up to.

In all, a very readable and well compiled book, which acts as both a great introduction to the characters and events that capture the essence of late eighteenth-century medicine, and a detailed insight into the work of Thomas Beddoes, and his endeavours to throw off the constraints of convention so that medicine and issues in health were accessible and understandable to all. Whether his achievements can be measured directly or through his encouragement and support of those around him is both discussed and left to the reader to muse. Ultimately though I can say I was able to close the book feeling I had all the obtainable facts.

> Rebecca Parrott, Wellcome Library, London

**John Chalmers** (ed.), Andrew Duncan Senior: Physician of the Enlightenment (Edinburgh: National Museums Scotland, 2010), pp. xvi + 253, £14.99, paperback, ISBN: 978-1-905267-30-9.

In 1750, Mr John Amyat, the King's Chemist, visited Edinburgh. He is said to have remarked to Robert Burns' publisher, William Creech, 'Here I stand at what is called the Cross of Edinburgh, and can, in a few minutes, take fifty men of genius by the hand'. The purpose of John Chalmers' new book might be summed up as the wish to ensure the inclusion of Andrew Duncan Senior in any such roll call of the Scottish Enlightenment. He has been successful in that task.

Professor of the Institutes of Medicine at the University of Edinburgh for thirty years, Andrew Duncan was certainly a prolific author on medical matters (a full list of his writings comprises a valuable appendix to the book). However, Chalmers argues that Duncan should be remembered as much for the manner in which he expressed the values of the Enlightenment in practical initiatives for the benefit of society as for more narrowly intellectual endeavours. There were certainly plenty of the former - Duncan played a major role in the founding of Edinburgh's first Public Dispensary, its Lunatic Asylum (now the Royal Edinburgh Hospital), and the University's chair of Medical Police and Jurisprudence. He was the founding editor of what was arguably the first successful English language medical periodical, Medical and Philosophical Commentaries, and the principal editor of the Edinburgh New Dispensatory (a major pharmacopoeia) from 1789 to 1801. Duncan also conspicuously displayed the distinctive sociability of the eighteenth-century Scottish intellectual: he personally founded the Aesculapian Club and the Harveian Society - remaining the society's secretary for forty-six years - was a founding member of the Royal Society of Edinburgh and the Medico-Chirurgical Society, as well as serving as President of the Royal College of Physicians of Edinburgh (twice) and the Royal Medical Society (six times). Nor were his activities confined to medicine - he began what became the Royal Caledonian

Horticultural Society, as well as bathing and gymnastic clubs. An enthusiastic advocate of the health-giving properties of golf, good wine and good fellowship, he also boasted of his long membership of Beggar's Benison readers not familiar with this remarkable association are referred to David Stevenson's revealing study, The Beggar's Benison: Sex Clubs of Enlightenment Scotland (East Lothian: Tuckwell, 2001). Duncan fancied himself as a poet and a wit. To mark the visit of George IV to Edinburgh in 1822, he composed a cleverly sanitised version of the Beggar's Benison bawdy motto: 'Long may you live in harmony and ease / And never want, or purse, or power to please.' A most appropriate toast to a spendthrift and licentious monarch.

All of these various activities, and many more, are ably documented in Chalmers' book. Incidentally, although Chalmers is modestly described as the book's editor, of fifteen chapters, he is sole author of eleven and the joint author of two. Notable among the other contributions are Martin Kaufman's essay on the work of the Public Dispensary, and James Gray's chapter on Duncan's medical societies. But Chalmers is to be congratulated on clearly having been as much the driving force behind the production of this volume as Duncan was in any of the initiatives he was involved in. The result has been a readable and informative volume, which sorts out many of the details of Duncan's biography (warts and all, Duncan was vain and could be grasping and disputatious). It will be an indispensable aid to further research, not only on Andrew Duncan Senior, but also on his equally significant and almost equally industrious son, Andrew Duncan Junior.

> Malcolm Nicolson, University of Glasgow

**Catherine Mills**, *Regulation Health and Safety in the British Mining Industries*, *1800–1914* (Farnham: Ashgate, 2010), pp. xxv + 284, £60.00, hardback, ISBN: 978-0-7546-6087-3.

Scholars seeking a pathway through the complexities of safety legislation in the British mining industries in the nineteenth and early twentieth centuries have long been in debt to extraordinarily conscientious contemporary and near-contemporary chroniclers of that labyrinthine body of law, no less tortuously convoluted than that governing the railways. There has long been a need for a modern synthesis and interpretation and those have now been provided by Catherine Mills in a study that casts its net wide. Mills engages with the much-overlooked growth of government debate, inspectorates, the actions and inaction of the Home Office, the demographic specifics of occupational health and, by implication, the deep origins of a midand later twentieth-century risk society.

She deftly simplifies the impenetrably complex or, where she needs to, creatively complicates a bewilderingly complex cache of parliamentary and administrative evidence. Mills locates her study in a now thriving interdisciplinary literature which has its deep origins in Oliver MacDonagh's work on the growth of government and the early Victorian state, but which has been extended and deepened by political and socio-medical scholars concerned with the history of occupational health and the roles played by the philanthropists, parliamentarians, civil servants and civil scientists, employees and trade unions in the quest for reform. However, this is a clear-eyed, determinedly non-Whiggish, and at times downbeat account.

The author touches on the ways in which nineteenth-century print media sensationalised major mining disasters in an effort to hasten reform. Some of these catastrophes are much less well known than others. Thus, in Northumberland and Durham between 1805 and 1819, no fewer than seven major flooding episodes led to the deaths of approximately two hundred and sixty colliers (p. xv). Only one of these accidents killed fewer than thirty men.