

## INTRODUCTION

During his third expedition to South America, in 1820, the Roman Catholic naturalist Charles Waterton found himself in a rather awkward situation. An avid collector and taxidermist, Waterton had travelled 540 km through the ‘wilds of Guiana’ with his entourage to obtain a perfect cayman specimen for the museum at his country house back in Yorkshire. Now, faced with the furious beast stuck fast to the end of a rope – it had swallowed a baited hook cast into the Essequibo river – Waterton was at a loss. His helpers were divided: some wanted to kill it with arrows, whilst others preferred to shoot it. Either would have been disastrous. Waterton wanted a perfect specimen, not a mutilated one, and so there was only one thing for it; it had to be taken alive. Grabbing a canoe mast for protection, Waterton crouched down by the bank of the river, holding the mast like a bayonet, and ordered the men to haul the unhappy reptile out of the water. As soon as it was landed, he leapt fearlessly onto its back, turning half round as he vaulted, and grabbed hold of its forelegs, twisting them behind its back to serve as a bridle as the men continued to drag the pair further inland to safety. ‘It was the first and last time I was ever on a cayman’s back’, Waterton later explained. ‘Should it be asked, how I managed to keep my seat, I would answer, – I hunted some years with Lord Darlington’s fox hounds.’<sup>1</sup> In 1825, Waterton published an account of this and many other adventures as *Wanderings in South America, the North-west of the United States and the Antilles, in the Years 1812, 1816, 1820 & 1824*. Before long, the cayman anecdote had been reprinted in virtually all the newspapers, and the caricature shown in Figure I.1 could be seen in print shop windows across Britain. People flocked from all around to the home of the celebrated naturalist to view his collection of specimens, the unfortunate cayman amongst them.

The history of nineteenth-century British science is replete with anecdotes. They are what lend the period much of its charm. We hear of the young Charles Darwin scavenging around on the banks of the river Cam for rare beetles, greedily stuffing one into his mouth to allow him to catch a third, only to have to spit it out again when it squirts a noxious fluid down his throat.<sup>2</sup> We see Richard Owen and his palaeontological and geological cronies squeezed around a



Figure I.1. *It Was the First and Last Time I Was Ever on a Cayman's Back* (1827), by the well known caricaturist Robert Cruikshank, first appeared in the second edition of *Wanderings in South America*. The print was also available from booksellers and print shops. It was republished in 1836 due to popular demand. Reproduced by kind permission of Jim Secord.

dinner table, toasting the Queen, inside Waterhouse Hawkins's life-size model iguanodon at the Crystal Palace in Sydenham.<sup>3</sup> And we read of Charles Babbage snacking leisurely on Irish whiskey and biscuits only moments after having been hauled out of the seething crater of Vesuvius, his boots destroyed by intense heat, his walking stick consumed by flames.<sup>4</sup> Being concerned with science and eccentricity, this book boasts more than the average share of extraordinary anecdotes. Typically, such anecdotes have been treated by historians of science as illustrative material: as hooks to engage potential readers, as biographical curiosities, or as entertaining decorations to more 'serious' arguments. This book, by contrast, considers them as phenomena worthy of attention in their own right.

One premise of this book is that eccentricity is an historically and culturally specific phenomenon, and it is perhaps worth pointing out that this is far from self-evident. Previous analyses of eccentricity, from prosopographical collections of 'eccentric biography', which date back to the turn of the nineteenth century, to more recent psychological studies such as David Weeks's and Jamie James's *Eccentrics* (1995), have treated eccentricity as something like a human universal, something which has endured 'in All Ages and Countries.'<sup>5</sup> This book, building on more recent scholarship, argues that a British discourse of eccentricity (which sometimes incorporated figures from history) became established only in the early nineteenth century, within a specific, formative social and cultural context.<sup>6</sup> The book asks: How and why did a discourse of eccentricity emerge and flourish at this time? Why was science a focus for eccentricity? And what

can the study of ‘eccentric’ naturalists, collectors and natural philosophers add to our understanding of the pursuit and communication of natural knowledge in a period generally understood by historians to have produced many of the defining features of modern science?

Important changes were taking place in the natural sciences in Britain in the first half of the nineteenth century. Very broadly speaking, this was the period in which many branches of science began to undergo a gradual process of specialization. As the discussion of new scientific research began to occur in dedicated journals rather than in the literary quarterly magazines, which catered to a high-brow but general audience, the foundation of specialist learned societies – the Linnaean Society in 1788, the Geological Society of London in 1807, the Zoological Society in of London in 1826, the Royal Astronomical Society in 1831 and the Chemical Society of London in 1841 – provided institutional cohesion for practitioners in what were coming to be seen as discrete scientific disciplines. This was also the period in which some (though by no means all) British men of science, lagging several decades behind their French and German counterparts, began to see themselves as professionals rather than as gentlemen enthusiasts. Following Charles Babbage’s and David Brewster’s bitter complaints about the ‘decline of science in England’ compared with the situation on the Continent, the British Association for the Advancement of Science, founded in 1831, began to represent the career interests of scientific practitioners, who would gradually start to be known as ‘scientists’ after 1833, when William Whewell coined the word. To a limited extent, new opportunities for paid employment in science were created: as lecturers in universities and in provincial literary and philosophical societies and mechanics’ institutes; as naturalists and astronomers on board the exploratory naval voyages which underpinned the expansion of the British Empire; and through government-sponsored projects such as the Geological Survey, which was founded in 1835. While France and Germany led the way in university-based research and the provision of formal scientific training, in Britain organized science would become a regular feature of the universities only in the second half of the century. Nevertheless, in Britain as well as on the Continent, science gradually became open to careerists as well as gentlemen.<sup>7</sup>

This familiar historiographical narrative, according to which the modern, professional scientist emerged and gained strength over the course of the nineteenth century, is a simplified one, and it has been challenged from various directions. Whilst it cannot be denied that significant changes, as outlined above, did indeed take place, they did so haphazardly and, more importantly for this study, as part of a bigger picture in which other developments were taking place at the same time. For example, in the early nineteenth century, for the first time, scientific knowledge became available for mass consumption by non-specialist audiences from across the social spectrum through an explosion of lectures,

exhibitions, books, libraries, magazines and clubs. Non-specialists engaged in scientific leisure pursuits, such as natural history and collecting, more than ever before. Science was made 'popular', with all the ambiguities that word entails.<sup>8</sup> Conversely, activities now considered 'unscientific' – mesmerism, phrenology, psychical research – continued to be practised with enthusiasm by established members of the scientific elite.<sup>9</sup> Like 'popular' and 'marginal' science, and like the contributions of 'invisible' workers, such as technicians, artisan collectors, educators and women, science as practised by supposedly 'eccentric' individuals has been prone to exclusion from the historiography of the sciences over the years.<sup>10</sup> The present study draws inspiration from the many histories of the popular, the marginal and the invisible which, over the last decade or so, have greatly enriched our understanding of the range and diversity of scientific culture in the period. My aim in this book, however, is not so much to recuperate 'eccentric' practitioners of the sciences into 'mainstream' historiographical narratives – I do not wish to argue that their activities were just as much a part of institutionally sanctioned science in their day as those activities now considered to be 'properly' scientific – rather, through focusing on individuals who *really were* considered to be marginal in their own time, my aim is precisely to explore the significance of marginality within (and without) early nineteenth-century scientific culture.

Through considering concrete historical cases in which boundaries were contested and equivocal sentiments were expressed, I hope also to reveal something more of the hidden structures underlying ordinary, uncontested scientific practice. In anthropology it is generally understood that marginal figures, far from being best ignored, are especially useful when it comes to understanding a culture. Barbara Babcock states the case particularly clearly in *The Reversible World* (1978), in a discussion of 'symbolic inversion'. She defines symbolic inversion as 'any act of expressive behaviour which inverts, contradicts, abrogates, or in some fashion presents an alternative to commonly held cultural codes, values and norms be they linguistic, literary or artistic, religious, social and political', to which we can add 'scientific'.<sup>11</sup> Other scholars, such as Peter Stallybrass and Allon White, have called this phenomenon 'transgression', a term which I will use.<sup>12</sup> Babcock argues that, 'far from being a residual category of experience', symbolic inversion 'is its very opposite. What is socially peripheral is often symbolically central, and if we ignore or minimize inversion and other forms of cultural negation, we often fail to understand the dynamics of symbolic processes generally'.<sup>13</sup> Individuals were labelled 'eccentric' in the nineteenth century, I will argue, when they were seen to transgress boundaries. In this period, we have seen, practitioners of the sciences were especially preoccupied with negotiating boundaries: between the various disciplines, between 'professional' and 'amateur', between science and non-science, between 'elite' and 'popular'. 'Eccentric', transgressive scientific practitioners tended to be marginalized socially; yet, often, they pro-

voked a disproportionate degree of response and reaction. At the symbolic level, 'eccentric', marginal figures represented concerns that were of central importance to scientific and local communities.

The book begins with a discussion of how a discourse of eccentricity was constructed in Britain around the turn of the nineteenth century, and how that discourse developed in a variety of cultural contexts over the following decades. The net is deliberately cast wide in the first instance: poetry, fiction, history, biography, philosophy and news are trawled for evidence of how people spoke, wrote and thought about eccentricity. The aim of the first chapter is to build up a multilayered, contemporary definition. Rather than ask, 'How should I define eccentricity?' I ask, 'How did people define it at the time?' Eccentricity is examined in connection with a wide variety of themes including astronomical symbolism, the 'Spirit of the Age', prophecy, classification, gender, genius, the popular press, madness and classification. Running through the chapter, and indeed those that follow, is a concern with boundaries: people, objects, events and natural phenomena were labelled 'eccentric' in this period, I argue, if they were perceived to transgress the boundaries which ordered social and cultural life.

Having established a broad cultural definition of eccentricity, as it was understood in the early nineteenth century, the relationship between eccentricity and science in the period is investigated in depth through a series of closely focused case studies. Each of the three remaining chapters concerns a single individual who was engaged in the pursuit of natural knowledge. However, the focus of each case study is thematic rather than biographical. The first criterion by which the three individuals – the natural philosopher William Martin, the fossilist Thomas Hawkins, and the naturalist Charles Waterton – were selected is that each was explicitly labelled 'eccentric' by contemporaries. None of them, however, publicly professed to be 'eccentric' themselves, which leads me to an important methodological point. 'Eccentric' was, by and large, a label which was applied to individuals by others. In order to understand eccentricity, therefore, it is necessary to understand the reasonings and behaviours of those others. These 'audiences' for eccentricity were, through their interactions with and responses to 'eccentric' individuals, crucially implicated in the construction of those individuals' eccentric identities.

Divergent varieties of audience-oriented criticism have in recent years begun increasingly to find applications in the history of science. A surge of interest in the wider public engagement with science has resulted in the near demolition of simplistic diffusion models of science communication, according to which scientific knowledge drifts passively outwards from experts and is absorbed by a monolithic lay audience.<sup>14</sup> A new emphasis on the material means of communication, driven by developments in book history, has shifted awareness away from

*texts*, towards the production, distribution and consumption of scientific *books*; this awareness has extended outwards to encompass scientific lectures, shows, demonstrations and collections.<sup>15</sup> But perhaps the most significant innovation has been the new attention paid to varieties of reading, in the broad sense. Media and literary studies have been influential in this connection. In the 1970s, Stuart Hall's seminal paper arguing for the asymmetry of codes by which televisual messages are 'encoded' and 'decoded' urged students of the mass media to look to audiences rather than programme content in their efforts to explain media effects.<sup>16</sup> Parallel movements in literary studies resulted in a new emphasis on readers, both as they are inscribed within literary texts, and as they exist outside of texts as interpreters.<sup>17</sup> In history of science, more recently, works such as Jim Secord's *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (2000) have demonstrated that, by reconstructing the contexts in which scientific books were circulated, read, reproduced, reviewed and talked about, and by examining the testimonies of individual readers, it is possible to recover the meanings particular scientific books had for different communities of readers.<sup>18</sup> The case studies in this book draw on these interconnected literatures in constructing a framework within which to situate the various meanings which nineteenth-century 'eccentric' persons, practices and things had for different reader/audience groups.

The case studies deal with audience responses to a wide range of authored productions, from taxidermic specimens and inventions, to illustrations, performances and printed texts. The responses themselves take a variety of forms. News reports, visiting accounts, personal reminiscences, book reviews, cartoons, polemical pamphlets, private correspondence, biography – these are just some of them. Each type of source has its advantages and its limitations. Reminiscences, for example, can provide personal insights into the characters of 'eccentric' individuals, but when they are written long after the event, they are prone to omissions and inaccuracies; more importantly, they inevitably frame past events from the point of view of another age. Book reviews give an indication of how books were perceived by contemporary readers, but they are necessarily shaped by generic constraints. Published visiting accounts are helpful in recovering something of the lived experiences of real people as they encountered supposedly eccentric individuals in the flesh, but they cannot be treated as direct portals into the minds of their authors: they too are shaped by the expectations of editors and readers. Throughout the case studies, therefore, I aim not to take such sources too much 'at face value'. Rather, by considering individuals' responses in relation to broader 'horizons of expectations' – based, for example, upon conventions of genre, custom and tradition – I aim to describe the patterns of reception within which eccentricity was defined.

Chapter 2 argues explicitly for the active roles of audiences in the creation of eccentric identities. It does this through analysing responses to the lectures and demonstrations of the self-taught, anti-Newtonian natural philosopher and prophet, William Martin (1772–1851). Martin published a pamphlet entitled *A New System of Natural Philosophy on the Principle of Perpetual Motion* in 1821.<sup>19</sup> In 1827, at God's command, he began to lecture on his philosophy in pubs and other venues in and around his hometown, Wallsend, near Newcastle upon Tyne in the north of England. These performances drew large, often rather raucous audiences, who actively engaged with the Martinian 'New System' by haranguing the philosopher and publishing ballads and broadsides in response to him. The chapter begins by recreating Martin's lectures, including the important contributions of his self-styled 'Disciples' and adversaries. It then examines Martin's new system of philosophy in more depth, locating his approach with respect to traditions of anti-Newtonianism and millenarian prophecy. Martin's beliefs were highly unorthodox but they had precedents; he was labelled 'eccentric' but his views would not have appeared utterly nonsensical to contemporaries (as they perhaps do today). Indeed, I argue that it was precisely because Martin existed at the margins of Newcastle's rich intellectual and scientific culture, and not entirely within or outside it, that he could be symbolically so powerful. Drawing on traditional forms of custom and carnivalesque expression, Martin's Disciples and opponents used Martinian performance as a means of addressing serious and highly politicized concerns: about religious tolerance, freedom of expression, political reform, and the 'improvement' of the masses through the provision of 'useful knowledge'.

Writing and publishing were central to Martin's eccentric identity. Chapter 3 turns to the writings of the fossil collector Thomas Hawkins (1810–89) in order to deconstruct the notion of literary eccentricity further. The study of geology was a highly fashionable activity in the early nineteenth century, popular with both men and women. From around the 1830s, however, an increasingly esoteric group of practitioners associated with the Geological Society of London began intellectually and institutionally to define themselves as the elite of 'scientific' geology: one strategy was to distance themselves from 'scriptural geologists', who, they claimed, placed too much emphasis on the word of God as a source for geological knowledge. Hawkins was keen to be associated with the scientific elite. He produced two giant volumes describing his exceptional collection of fossil reptiles – *Memoirs of Ichthyosauri and Plesiosauri* (1834) and *The Book of the Great Sea-Dragons* (1840), but critics complained both were incomprehensible due to the 'eccentric style in which [they were] written and put together'.<sup>20</sup> Through a combination of close reading and reception analysis, the chapter argues that Hawkins's books were deemed eccentric because they challenged important boundaries: they were seen to undermine the generic conventions which typically governed

the production and reception of scientific works. Particularly controversial were, first, the central place he gave to biblical accounts of Creation in his palaeontological writings and, second, his penchant for writing in an obscure, visionary style more commonly associated with certain kinds of epic poetry. By introducing the notion of genre, the chapter sheds further light on the role of audience responses, in this case reader responses, in the construction of eccentric scientific reputations. Genre binds authors and readers together through the generation of expectations, and it was when expectations were unmet that works were judged 'eccentric'.

The theme of expectation is also at the heart of Chapter 4, which explores the roles of generic frameworks and conventions of visiting in shaping people's experiences of 'eccentric' objects on display. It focuses on the responses of visitors to Walton Hall, home to Charles Waterton (1782–1865), suggesting that visitors considered the 'eccentric' naturalist himself to be one of the key exhibits there. Working from first-hand visiting accounts, drawn from memoirs, travel books and periodicals, the chapter explores how visitors interconnected objects, specimens, stories and images to make their experiences of Walton Hall meaningful. In particular, the influence of Waterton's *Wanderings in South America* on visitors' interpretations of his taxidermic specimens is explored.<sup>21</sup> Charles Waterton was famous, and the chapter locates Waterton and his visitors in the context of the rise of celebrity culture in the first half of the nineteenth century. Visitors recorded their experiences of Waterton and his home as anecdotes, to be told and retold to future generations of visitors and readers, and the chapter argues that these anecdotes were crucial to the construction of Waterton's status as a celebrity figure, and to the propagation of his historical reputation as one of England's great eccentrics. I conclude with some reflections on the historical legacies of Martin, Hawkins and Waterton to date.

The public image of the scientist is now a key research topic in science studies. The representation of present-day scientists in the media, for example, is a central concern within the rapidly growing field of science communication. The portrayal of real and fictional scientists in literature, drama and film is a major focus of interdisciplinary research conducted under the banner of 'science and literature'.<sup>22</sup> In history of science more narrowly defined, the processes by which scientific identities and reputations are constructed and transformed have increasingly attracted the attention of scholars in recent years. While certain recurrent tropes – the scientist as genius, for example – have been subjected to incisive historical and critical deconstruction, the scientist as eccentric has not. Indeed, such research has until now tended to focus on individuals who enjoyed exceptionally 'successful' careers and who today hold coveted places in the historic halls of scientific fame.<sup>23</sup> By dealing with the public identities and historical reputations of marginal, contested, 'eccentric' figures in the early nineteenth

century, this study aims to redress the balance, providing a new perspective on cultures of natural knowledge in a period which not only prepared the ground for the emergence of the modern, specialist, professional scientist but also, simultaneously, supported a thriving population of highly visible, 'eccentric' scientific practitioners. These developments were inextricably linked and each can, I suggest, be better understood in light of the other.

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