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Spain and gardens go together. We think of Manuel de Falla's atmospheric 'Nights in the Gardens of Spain' (1916) or the great gardens, some of them Moorish, of Andalusia and other parts of the country. Then, of course, there is the Royal Botanic Garden in Madrid, a venerable institution much favoured by the Spanish climate, which can support some tropical as well as temperate plants. It is not surprising therefore, that botany was regarded as a particular Spanish speciality, at least from the eighteenth century, and Spaniards felt impelled to trumpet their capacities in this field. Having been relatively (and allegedly) behind-hand in natural historical studies compared with many other parts of Europe, Spanish efforts were propelled forward by royal patronage. At a time when science was receiving more official encouragement in many European countries, the Crown encouraged its savants to collect and study, to demonstrate the ways in which Spain could contribute to the international efforts, sometimes competitive, often co-operative, of the age of Enlightenment.

It is of course a truism that scientific study is deeply embedded in the social, political and economic contexts of its age. In the late eighteenth century, natural historical studies were seen as both a vital attribute and a key sponsor of power. Knowledge of the natural world not only honoured and vindicated the state, it also offered opportunities for the accretion of more wealth. For that reason, early natural historical studies tended to emphasise the practical, the plants that would produce economic crops, the minerals that could be exploited for profit, the animals which might offer products useful in commerce, the geographical understanding which could lead to increased settlement and commercial growth. In all these respects, Spain seemed to be especially privileged. It still commanded a vast empire in Central and South America, as well as in the Caribbean and the Far East. Sated with territory (as it seemed), Spanish objectives were to exploit those lands all the more effectively. Meanwhile Britain and France, later other European countries, were using knowledge of the wider natural world as a means of expanding the potentialities of power in new lands. Yet in all these cases, the 'scientists' (not yet described as such) soon pursued their own individual passions. The severely practical might offer good propaganda for their labours, but often they were beginning to move into areas of study which were much more about knowledge for its own sake.

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Yet science was also used as a marker of civilisation. It was something that Europeans did, that only they seemingly had the capacity to co-ordinate in global terms, creating taxonomies, publishing works seeking to establish common principles, and constructing institutions and networks through which scientific knowledge could be organised and disseminated. The hundred years covered in Helen Cowie's book, from the mid-eighteenth to the mid-nineteenth centuries, produced a ferment of such activities, aided by the increasing sophistication of scientific instrumentation, growing opportunities for and ease of travel, improved printing and publishing arrangements, and the development of a larger bourgeois sphere willing and able to support such ventures as well as the institutions which they spawned. Although scientific endeavours throughout the world were often dependent on the auxiliary support, as well as local knowledge, of indigenous peoples, it was only Europeans (by their own estimation) who possessed the 'machinery' and the powers of constructing natural laws, thus marking out their alleged superiority and rights to power.

The Spanish Empire's experience of these phenomena had many similarities with those of other countries, but it was also distinctive. The acceleration of scientific endeavour in the late eighteenth century took place largely under royal command, vital in the establishment of the key institutions and the ordering and financing of expeditions in the Americas. Natural historical study glorified the imperial Crown and took place within the natural theological framework of Catholicism. It was, however, a sort of Indian summer for imperial endeavour. As the British and French empires expanded, constructing new imperial dimensions through growing commerce and the relationships of industrialisation, the bases of Spanish power were being undermined. Nationalism, revolt, the pursuit of forms of decolonisation (often aided by Spain's rivals) became the prime characteristic of Central and South American politics. The impact of this ferment upon scientific endeavour was mixed and confused. On the one hand, the pursuit of natural history seemed to offer routes to the formation of distinctive national identities, as well as to new economic opportunities. On the other, the unstable state of political relations and the upheavals in the post-independence territories produced real dangers for scientists and their studies. Spanish science seemed on the edge of a precipice, an abyss formed of imperial decline, peripheral balkanisation, and the overwhelming revolution later to emerge from Darwinism.

Helen Cowie's book is the first to chart these developments in detail, based upon research derived from a wide range of sources and covering an extensive geographical reach. She covers a number of fields which would later emerge as separate disciplines. She discusses the

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interaction between metropolis and periphery, including the alleged advantages of the former against the relative intellectual poverty of the latter, and analyses not only the national, racial and gender aspects of these studies, but also many of the difficulties faced by students of natural history. Such scholars also saw themselves as being involved in an educational and even religious enterprise, one to be forwarded by popularisation in publications and teaching. In addition, Cowie reflects upon the self-presentation and self-evaluation of students of natural history, who portrayed themselves as being in pursuit of a moral quest, one that marked them out for particular social standing and for specific heroic status. She also offers insights into the shift from the royal and aristocratic cabinet of curiosities towards the fully fledged museum, often tentative in its early formations, but also representing a greater professional and scientific thrust. As these developments took place, former Spanish colonies began to emphasise their own distinctive attributes, whether in palaeontology in Argentina, in archaeological and historical ethnography in the lands of the Aztecs and the Incas, or in the particular natural historical characteristics of localities. Indeed, the local came to be stressed over the universal as the contribution best made by peripheral institutions.

This work should be read by all those interested in the history of natural history, in the development of the scientific endeavours of the Enlightenment, in the emergence of museums, and in the exploitation of such studies and institutions for the purpose of creating national identities. The Spanish example offers many fruitful comparisons, as well as contrasts, with those of other European countries. Such studies deserve to be put into comparative frameworks and this book goes a long way to achieving this.

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