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Book review: *James Hector. Explorer, Scientist, Leader*

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Nathan, Simon: James Hector. Explorer, Scientist, Leader. Wellington: Geoscience Society of New Zealand, 2015. p. 264, ills. ISBN 978-1-877480-46-1

This book is by a prominent New Zealand geologist and science historian about one of the leading 19th century scientists, James Hector (1834–1907). His influence on New Zealand's science in the second half of the century was so dominant that one science historian called this period "Hector hegemony". But contrary to his contemporary, the German-born scientist Julius Haast, the full story of Hector's achievements for New Zealand's science had never been told and his name survived mainly in connection with the Hector dolphin, an endangered endemic species that he was the first to describe. But as of now, Nathan's book will fill this gap.

This is a well written, aptly designed and richly illustrated chronological biography of Hector's life and work. It is remarkable how many details were unearthed from a large number of archives and libraries and especially from the letters Hector exchanged with friends and colleagues, mostly with Julius Haast, director of the Canterbury Museum at Christchurch, and Joseph Hooker, director of the Royal Botanic Gardens at Kew, UK; Nathan had previously edited the correspondence of Hector and Haast and a bibliography of Hector's publications prior to the book under review (Nathan et al., 2012, 2015).

James Hector was born in Edinburgh; he graduated from his home university in 1856 as a doctor of medicine and developed a strong interest in geology, biology and tramping. Consequently, his first involvement in a major scientific exploration led him to Western Canada, where he joined an expedition into the Canadian Rockies with the aim of finding a suitable pass for the railway to connect the western Prairies with the Pacific. The pass discovered by this expedition is still in use; its name "Kicking Horse Pass" recalls an incident which almost cost Hector his life.

His reputation as a keen and successful explorer reached the distant colony of New Zealand. In the 1860s, the Otago Provincial Council at Dunedin initiated a geological survey of the province with the aim of detecting new mineral and coal deposits and a suitable route linking the province of Otago to the remote west coast. Hector was appointed as government scientist and arrived in Dunedin in 1862. After an effective exploration on land and sea he served as one of the curators for the New Zealand Exhibition in Dunedin in 1865. In the same year, he arrived in Wellington as a government employee. Nathan's book marks the 150th anniversary of Hector's appointment as New Zealand's first government scientist, the year when the seat of government was moved from Auckland to Wellington. From this year on, Hector was the great organiser of New Zealand's science. At first he was involved in the foundation of a colonial museum, the forerunner of Te Papa, which is now New Zealand's National Museum; he organised the central New Zealand Institute, which included the publication of the annual and influential *Transactions and Proceedings*. He masterminded the first comprehensive New Zealand Geological Survey (now GNS Science), which resulted in the publication of the first Geological Map of New Zealand. Hector also became the conductor and supervisor of the Colonial Botanical Gardens, the Colonial Observatory and was director of the meteorological stations. He used the expanding telegraph network to establish a nationwide recording system for the location and intensity of earthquakes. Hector was a foundation member of the Council and Chancellor of the University of New Zealand, and he was knighted in 1887. All these and a number of various other achievements are the topic of separate chapters in Nathan's book, and they underline the outstanding importance of a scientist whom a newspaper once called "a man who knows everything" (p. 12).

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It goes without saying that a man who was assigned so many responsibilities was not without rivalries or adversaries, and Nathan did not exclude them in his narrative. We learn for instance that Hector's report about the Tarawera eruption of 1886 was criticised for being superficial and failing to recognise the presence of new magma that had caused the eruption, and the local residents believed that he was a coward and had departed from the region as quickly as he could (p. 180). When Hector was appointed to chair of the commission for the investigation of the Brunner mine explosion of 1896, which killed 65 miners in a coal mine, his report was regarded by the local press as a cover-up because it exonerated the owners of the mine of any blame (p. 215). The most interesting controversies are the ones that occurred on several occasions between Hector and Haast. As we mentioned earlier, Hector was in charge of the Otago Provincial Council to explore a route over the Southern Alps to the west coast, but it was Haast who discovered a suitable pass, which was named after him and is still in use. But it was the so-called Sumner Cave controversy, which not only ended the friendship of the two scientists but also split the scientific community in New Zealand. Haast was convinced that the extinction of the moa – a flightless giant bird – had been caused by the moa hunters in Palaeolithic times, whereas Hector believed that moa had been driven to extinction within the last hundred years by Maori hunting (132 pp.)[1].

Nathan is impartial in this and other controversies and always tends to render justice to the opponents. At the end of his book, he used his chance to present a fine and well-judged personal portrait of James Hector (as opposed to that of Haast):

> Hector thought carefully about his words and actions and was never confrontational, although not afraid to express his opinion. Where Haast was hasty and led by his immediate feelings, Hector was considered and diplomatic. It was these characteristics, as well as a willingness to apply scientific principles to solving apparently complex problems that led him to be appointed to many committees and commissions during the 1870s and 1880s. [...] Perhaps the main reason for Hector's supposed anonymity is the fact that he lacked obvious character defects. There is not a whiff of scandal associated with his name. He appears to have been a genuinely nice person, respected and liked by most. Being ambitious, he achieved his dominance in late nineteenth century science largely by hard work and obvious competence, aided by the lack of scientific rivals in Wellington, the seat of Government, who could challenge him. [...] The opportunities to distinguish himself were much greater than they would have been in Britain, and he clearly enjoyed being part of the colonial elite (p. 233).

With Nathan's book at hand, in New Zealand one will now find many more reminiscences of the scientist than the Hector dolphin: the coal mining township of Hector, north of Westport on New Zealand's west coast, bears his name, 35 volumes of the *Proceedings of the New Zealand Institute* were edited by him, the New Zealand Post dedicated a stamp in 1967 with his portrait to commemorate the centenary of the Royal Society of New Zealand, and Hector is commemorated in Wellington Botanic Garden by a plaque at the entrance as well at the James Hector Pinetum, recognising his interest in the evaluation and cultivation of introduced conifers.

[1] This controversy has long been resolved in favour of Hector's assumption; see the recent book by Quinn Berentson: *Moa: The life and death of New Zealand's legendary bird*, Nelson, 2012.

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