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The well-travelled octopus: from Dunedin to Dublin in 1886

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Abstract

A large octopus *Macroctopus maorum* (Hutton 1880) (NMINH:2009.53.25) was bought in 1886 by A.C. Haddon for the Dublin Museum. It had been preserved using hot-glycerine an innovative method devised by T.J. Parker in Dunedin. This article traces its passage from one side of the world to the other through the auspices of Julius von Haast, New Zealand Commissioner for the Indian & Colonial Exhibition (1886), London. The preservation technique used by Parker, an evolutionist, zoologist and museum curator is described. Private correspondence between Parker, Haddon and Haast are complemented by contemporary newspaper reports in this account of late-nineteenth-century museum natural history.

Keywords: A.C. Haddon; Dublin Museum; T.J. Parker; Otago Museum; Indian & Colonial Exhibition (1886); Julius von Haast; glycerine preservation technique; octopus; nineteenth-century science

Introduction

It is uncommon for the details surrounding individual nineteenth-century museum specimens to survive. Most often legacy specimens are without any documentation and sometimes only the barest detail about acquisition survives. This scenario is all too familiar for anyone working in natural history museums. The corollary is also true, historians come across information about specimens but cannot match it with extant collections. The story presented here re-connects an octopus (NMINH:2009.53.25) with its past. In compiling information about the history of Otago Museum, I came across correspondence from T. J. Parker concerning an octopus that he had sold to Dublin. Paolo Viscardi (Keeper of Natural History, National Museum of Ireland) responded quickly to a request for information with pictures of the same beast which had been in place since the original sale (Figure 1). The rest as they say is history.

This article contributes to the recent interest in provenance research applied to natural history specimens. The octopus made the 19,000km journey from Dunedin to Dublin in the mid-nineteenth century, via the Indian & Colonial Exhibition held in London. The title of the exhibition conveys the essence of colonialism and the octopus was part of the deep interest in collecting and displaying specimens. This was integral to the process of exploitation, colonisation and economic development of the youngest British colony - New Zealand. It was a distinct curio and gazed at with equal wonder by naturalists and non-naturalists in Dunedin, London and Dublin.

*Figure 1. Preserved New Zealand octopus, (*Macroctopus maorum*, Hutton 1880) (NMINH:2009.53.25) on display at the Natural History Museum of Ireland, Dublin before being removed for conservation in 2020. (Photo: Paolo Viscardi)*

Historically, the men of science controlled, catalogued and measured the octopus as they did with other creatures. Such inventory science practices can be viewed as a step in the colonisation process, but the octopus was also the focus of a significant commercial transaction. Natural history trading of individual specimens conducted by the sober, educated men on both sides of the world engaged in museum-building was part of a large commercial enterprise (Ville 2020).

Background

Thomas Jeffery Parker FRS (1850-1897) came to Dunedin in New Zealand's South Island in 1880 to take up an appointment as Professor of Biology at the University of Otago. He was one of fourteen candidates for the dual position (Anonymous 1880c) of Curator at the University Museum: one of the others was Alfred Cort Haddon FRS (1855-1940), but Parker had more experience and better connections than the slightly younger man (Haddon, 1880). Parker had worked for Thomas Henry Huxley FRS (1825-1890) in South Kensington for the previous eight years as a demonstrator.

While there in the 'intervals between the courses of instruction he organized a teaching collection' of specimens and began a programme of research (Howes, 1898). The appointments board was based in London under the aegis of the New Zealand Government Agent and was chaired by Huxley. Parker's arrival was eagerly anticipated in the colony, which had only been formally settled by Europeans in 1848, 'Otago is fortunate in obtaining in the new Professor a pupil of the most eminent living English biologist,' a local reporter enthused (Anonymous 1880b, Anonymous 1880a).

Most New Zealand colonists took a utilitarian view of science, regarding the activities of scientific workers with approval insofar as such work had obvious practical benefits. The results of the year's activities of the Otago Institute 'to mankind are recognised as eminently beneficial, not merely in the actual accumulation of knowledge, but also in adding comforts and facilities to life,' proclaimed the president, Alexander Montgomery (1862-1933) (Anonymous 1883). This utilitarian view of science adds weight to the nineteenth-century

presumption that science viewed either as knowledge gained, or as an activity, was a mark of progressive cultural achievement. To nineteenth-century minds, the progress of science from 'primitive superstition to complete understanding' linked inextricably to the notion of societal progress and nationhood (Kohler, 1999). This belief expressed itself in zoology in the desire to list the nation's fauna.

Parker played his part in such cataloguing, or inventory science, and described a new species of sea cucumber giving it the name '*Chirodota dunedinensis* n.sp.' presumably in honour of his new home (Parker, 1880):it is now called *Taeniogyrus dunedinensis* Parker, 1881 (WoRMS, 2023). Parker puzzled over the oddity of New Zealand's creatures and wrote articles based on a stranded oarfish, kiwi, and extinct moa (Parker, 1886a , Parker, 1892b , Parker, 1891a). The kiwi, he wrote, 'is the most anomalous and aberrant of existing birds and … may be considered as one of the proudest possessions of our colony' (Parker, 1891b).

Beyond opportunistic and inventory science Parker sought to understand evolution. 'With the publication of the *Origin of Species*, in 1859, a better day dawned for biology,' Parker pronounced in a public lecture to inaugurate the new session of the University in May 1881 (Parker, 1881a). It was a 'better day' as far as Parker was concerned because Darwin had 'by the immense array of well-arranged facts and sound generalisations' brought the study of biology 'within the all-embracing law of evolution, thus making belief in the theory of special creation once [and] for all impossible to the student of nature' (Parker, 1881a). While the underlying doctrine of evolution formed the theoretical basis zoologists seldom debated the mechanism amongst themselves (Bowler, 1989). Parker's particular contribution to the science lay in an investigation of the phylogeny of the moa family (Dinorthidae), the developmental embryology of kiwi (*Apteryx spp.*) (Parker, 1891a; Parker, 1892a; Parker, 1895).

The Otago Museum opened its newly built neo-classical doors in 1877 with an array of material left over from the Dunedin Industrial Exhibition held in 1865 (Anonymous 1877; Crane, 2017). Parker set about imposing order on the collections and acquiring as much as possible, as quickly as possible. By 1882 a local reporter noted that Parker 'had a mania for skeletons' (Anonymous 1882) (Figure 2). This apparent mania was driven as much by Parker's teaching responsibilities as by his research preferences. He held classes in the museum for those studying zoology as well as those who were compelled to study a course of comparative anatomy for their medical degrees. He determined that his students should have access to 'a collection in which each of the main groups of animals is represented by one or more examples' (Parker, 1885b). As an ardent evolutionist, Parker set about re-creating teaching methodologies he had learnt in London and advocated a practical hands-on approach rather than book learning. Parker was absolutely wedded to the Huxleyan method of using typical examples from each major taxonomic group. So much so that he wrote a major textbook with his friend and counterpart based in Sydney, William Aitcheson Haswell FRS (1854-1925). Much altered through

Figure 2. Interior Otago University Museum, taken about 1885 showing Parker's 'mania for skeletons'. (Photographer: Burton Bros. Te Papa C.011760)

several editions, this unimaginatively titled *A Textbook of Zoology* is still in print over 120 years later (Parker and Haswell, 1897; Crane, 2015). They used typical animals as the basis for each chapter to explain the diversity of life and many of them, like the cuttlefish (*Sepia cultrata* Hoyle, 1885) were antipodean examples.

At monthly meetings of the Otago Institute held in the museum, Parker showed new acquisitions to members. This was the local branch of the New Zealand Institute which had been set up under a Parliamentary Act in 1867. This ensured it had some government funding and in this respect was crucially different from British learned societies. The government grant of £500 was swallowed up with the publication of the national and annual *Transactions and Proceedings* however, local branches were expected to be self-financing (Anonymous, 894 , [Various], 1883-1898; Reid, 2007). Whilst the Otago Institute was one of the strongest of the federation of institutes set up under the Act, it nonetheless struggled to attract new members or retain those for whom science was of passing interest. From membership lists, it is clear that members were drawn from educated and professional ranks and included, engineers, teachers, surveyors, clergy, medical men, as well as all the university professors.

The octopus

On 13 May 1884, Parker exhibited a large octopus together with a skeleton of a *Regalecus* sp. Ascanius, 1772 (a ribbon- or oar-fish stranded on a nearby coast) and a small collection of NZ fishes ([Various], 1883-1898). We are not told the species of octopus in the minutes of the Otago Institute but elsewhere Parker calls it *Octopus maorum* (Hutton 1880) (now called *Macroctopus maorum*) (Parker 1885a). The local newspaper reported the meeting, adding typically inaccurate details. 'The scientific and artistic exhibits attracted much attention from the large number of visitors who attended the affair Professor Parker had on view an immense octopus, which measured 9ft across. It would have been an ugly customer to come in contact with when alive' (Anonymous 1884b). It was reported on again a couple of months later 'the collections have been enlarged by the preparation of a considerable number of specimens by the Museum assistants one of the most interesting being a large stuffed octopus from the harbour' (Anonymous 1884a).

Parker capitalized on the large octopus giving several lectures throughout the city comparing it to the largest yet discovered in Newfoundland at 5ft across 'but as patriotic colonists,' he flattered his audience, '[they] would be pleased to hear that we had beaten that record, and that there was at the Museum the other day an octopus with arms 5ft 5in in length, and with, over 300 suckers on each arm' (Anonymous 1885b). A local reporter recorded this fact was greeted with much laughter and applause. As part of his column 'Notes from the Otago Museum' in *Nature,* Parker compared the stuffed (he called it mounted which was more accurate) female octopus with a larger male which he, and Edwin Jennings (the museum taxidermist), were able to measure but unable to preserve (Parker, 1885a). Parker described morphological differences in the number and size of the suckers between male and female (Parker, 1885a; MolluscaBase, 2023).

In 1886 a large international exhibition, the Indian and Colonial Exhibition, was mounted in London. 'The main purpose of the Exhibition is to draw attention to the economical and commercial aspects of the colonies and India; in doing so necessarily the introduction of a considerable amount of science is involved,' the weekly magazine *Nature* reported (Anonymous 1886a). Julius von Haast (1822-1887), the curator at Canterbury Museum in Christchurch was appointed the New Zealand Commissioner and began a process of collecting exhibits from all over the colony. He visited manufacturers and organised shipments from woollen mills, tanners, plumbers, jewellers, leather workers, meat refrigeration and preserving companies, fish-curing establishments, soap & candle makers, furniture makers, and from the governmental Public Works department a collection of building stones. He was pleased with his efforts as the promises of support 'had surpassed expectations' (Anonymous 1885a). In Dunedin Parker and Jennings collected several of their best examples of glycerine-preserved mounts which they had made over the preceding three years. Parker wrote to Haast with a long list of things: 'The collection now sent includes 43 stuffed fishes, 99 fishes in alcohol, four cartilaginous and four bony fish skeletons, mounted octopus & 7 or 8 crustacea, & a group of tuataras & mutton birds' (Parker, 1885c).

The bill of lading for Parker's shipment listed fourteen cases and included stands for mounting the larger specimens. Parker advised Haast 'it will be necessary to get in London a support about 4ft high for the Octopus (high enough for people to look underneath)'(Parker, 1885c). Parker suggested that Haast may need help in setting up the displays and informed him he had written to his friend and former colleague in London: 'Mr G.B. Howes,

lecturer on Zoology, at the Normal School of Science, S. Kensington & ask him to call on you at the Exhibition Building and arrange for his laboratory man Redsull to fit up the skeletons & mount the spirit specimens' he also sent a photograph 'to assist in putting up the skeleton' (Parker, 1885c) (Figure 3).

The New Zealand Court successes were widely reported in the New Zealand papers for instance:

> *'Professor Fowler[sic], the President of the Zoological Society, pronounces the skeleton of the grey shark (I think it is) preserved according to a new and highly effective process, by Professor Parker, of Dunedin, the most perfect thing of its kind he has ever seen. The British Museum authorities have already cast greedy eyes at this exhibit. The octopus, preserved, or rather carbolished, by Messrs Jennings and Bourne [Jennings' assistant], has also deeply interested zoologists'* (Anonymous 1886b).

The effort in setting up and sending so many large specimens was rewarded by sales to other museums. Haast organised a lucrative sale for Parker and sold a substantial part of his collection, including the stuffed shark, ribbon fish (*Regalecus*) and other fish specimens to William Henry Flower FRS, Director at the British Museum (Natural History) for a total of £203 0s 0d. (Haast, 1886a). Parker had expected higher prices. 'I think Flower has got a bargain with *Carcharodon* [great white shark] etc. but I would far rather let him have them at a smaller price than I expected than have them returned' (Parker, 1886b). Nevertheless, he was grateful to Haast. 'I am very glad to hear that so many of my exhibits have gone off' (Parker, 1886c). Parker put a different spin, however, on his thank-you letter to Flower: 'I am very glad to hear that you have decided to take some of my specimens, both my assistants & I feel quite proud at being represented in the National collection' (Parker, 1886d). Parker could not disguise his emotional investment in the sale.

Flower was impressed when he initially encountered the cartilaginous fish at the exhibition and Haast passed on the compliment. Haast wrote to Parker, from London during the exhibition: 'your work is very much admired & Prof. Flower told me the other day, that it was funny that they had to come to an Antipodean court to learn something' (Haast, 1886c). But by the time the exhibition closed in November, Flower had lost confidence in Parker's process. Haast wrote to Parker: 'considering that the skeletons were constantly losing the Glycerine, I think I did very well. I saw Prof Flower this very afternoon as he explained his doubts of the skeletons keeping for any length of time' (Haast, 1886b). Parker promptly reassured Flower. 'I don't think you need be under any apprehensions as to the permanency of the glycerine jelly process. The things ought to be kept in a dry atmosphere & looked after occasionally. … my skeletons … remain for months without any sign of "sweating". … If a really impervious coat of varnish could be

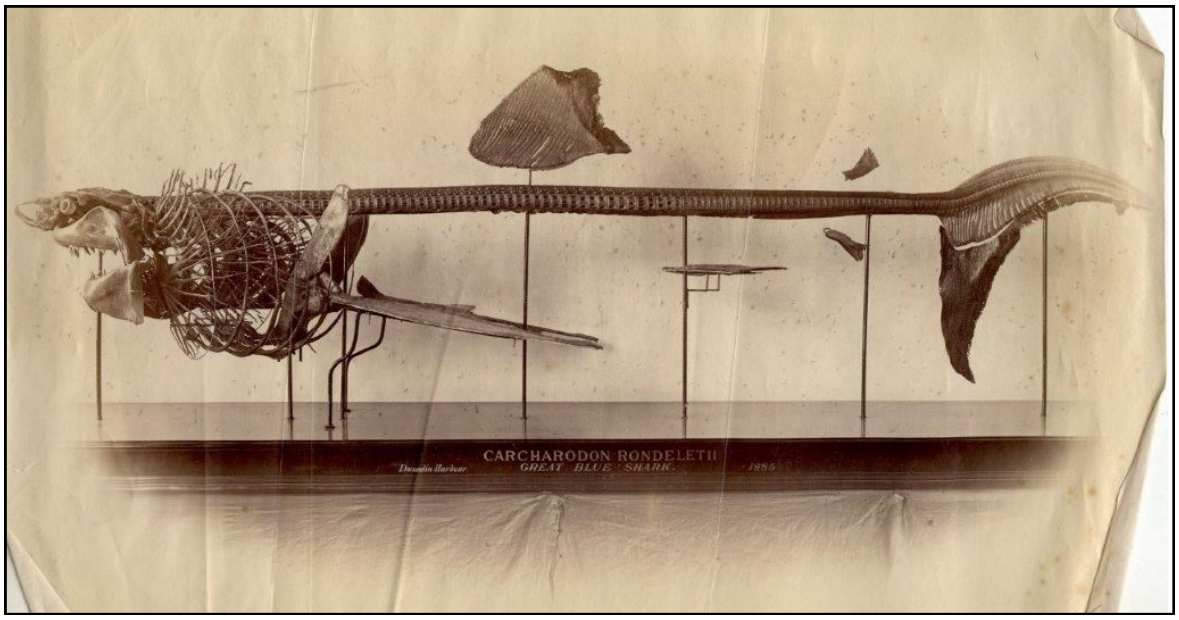

Figure 2. Great Blue Shark Carcharodon rondeletti *(now called* Carcharodon carcharias *L.) preserved using Parker's hot-glycerine method and mounted for display at the Indian and Colonial Exhibition, London, 1886. (Photographer: Unknown. Otago Museum Collections P465-25.)*

given to the whole specimen I [am] certain there would be no more trouble at all' (Parker, 1886d). Four months later, in March 1887, Flower, by now happy with his purchase, wrote to Parker: 'you will be glad to know that your shark is safely lodged in a case in the Great Hall of the Museum. When I removed it from the Exhibition it was in a sad state from the damp having got to it and it was all flabby and dripping. But after a month or two in the dry air of this place it quite recovered' (Flower, 1887).

Haddon had been appointed as professor of zoology at the Royal College of Science in Dublin in 1880 visited England regularly (Fleure, 1941). He visited the Indian & Colonial and confirmed his agreement to buy specimens in October: 'we shall be very pleased to have the Octopus for the Museum for £15. As some other purchases are being made for the Museum in the Exhibition the octopus might be sent along with them. We will, however, let you know in good time' (Haddon, 1886b). Meanwhile, on the other side of the world, Parker was anxiously waiting for news from Haast: 'You don't say anything about the stuffed fishes, spirit collection, octopus and tuataras. If you can get good prices for them all the better, if not I shan't be at all sorry to get them back especially the fishes' (Parker, 1886b). But of course, the sale had been made in the time it took for the letters to be exchanged around the world. Haast dutifully passed the sale information onto Parker: '…. I sold as I think I told you the Octopus to the Dublin Museum for £15 & a portion of the stuffed fishes & spirit of wine specimens to the British Museum & sent the money to your father [who lived in London] I tried very hard to sell the rest of the stuffed fishes but in vain, …' (Haast, 1886b). As there were other things that Haddon bought, he had to make it clear to Haast which Dublin institution was paying for what, so he clarified: 'The Octopus was for the Science & Art Museum the payment of which will be by the ordinary official routine. As the skeletons are for the institutions in the College & the Museum. I enclose a cheque for them presently and will arrange after their allocation on their arrival' (Haddon, 1886a). Parker acknowledged receipt of the payment for the octopus and the fish, 'the money comes very opportunely just now as the income of the Museum is much reduced … Jennings is very pleased that his birds have sold. I received the draft for £203 from my father [the anatomist William Kitchen Parker] who tells me that he has had from you the £15 for the Octopus & will forward it at once' (Parker, 1887). And so, a female octopus made the journey from Dunedin Harbour to Dublin's Dead Museum where it has remained on display ever since.

The process of preservation

The octopus was not stuffed like other taxidermy specimens with a skin moulded over an artificial body as was usual for mammals and birds. Rather, it was preserved using a method devised by Parker of impregnating the tissue with hot-glycerine and subsequently dried. Parker acknowledged a previous method of using glycerine, instead of alcohol, to preserve specimens but took it one step forward (Miall, 1878). Parker's innovation was a long, messy and tedious process. He, and his taxidermist Edwin Jennings, experimented on a range of vertebrate soft parts. The stomachs of a penguin, a cow, a porpoise and even a whale survive in the Otago Museum although they are fragile. Parker cut sections away from the wall of the shark stomach and intestine to demonstrate to students increased surface area that allowed better digestion of food. He was proud of his method and used it mostly on cartilaginous fish skeletons. Even if it was, by his own admission, a 'slow, troublesome and expensive' process it was nevertheless 'well worth the trouble' as it gave the museum specimens that could 'be handled like ordinary skeletons, and at the same time have their form almost unaltered, instead of being either in the form of spirit specimens or in that of the shapeless and brittle abominations which usually do duty for the skeletons of cartilaginous fishes' (Parker, 1881b). Preservation techniques are an aspect of collecting natural history material often overlooked, a point that historian Samuel Alberti makes in discussing what happens to specimens once they arrive at the museum and before they are displayed (Alberti, 2009). Consider the experimentation that went on, the space required for numerous animals in various stages of processing, the patience necessary for weeks of effort for what was an uncertain outcome, and the constant maintenance of the processes by the Parker and Jennings.

For cartilaginous fish the fresh carcass was first cleaned by dissection, then the skeleton and soft parts were placed in methylated spirits for two to three weeks, which hardened them. Sometimes, if the specimen was large, it was cut carefully into parts then transferred to vessels containing glycerine fluid. Parker gave detailed recipes for two versions of the glycerine fluid both used alum and he recommended using only a small amount. One recipe 'A', contained corrosive sublimate (mercuric chloride) and Parker advised using earthenware vessels of various sizes 'I find that a small pudding basin, a vegetable dish, a soup tureen, and an earthenware foot-bath, or "tongue pan," form a very useful series of vessels' (Parker, 1881b). The second 'B' recipe used phenol instead.

Specimens were then soaked in melted glycerine, kept at a steady temperature of about 40˚C for two to four days. Finally, the specimen was drained and stretched across a made-to-measure trellis to dry for several weeks and when the surface was no longer sticky two or three coats of varnish was applied. Parker wrote up the process and published it in the annual volume of the *Transactions of the New Zealand Institute*; he provided information on several of the fish and the selection of internal organs. But exact details of how the octopus was preserved were not included because it had its turn with the hot-glycerine process three years after Parker wrote the paper. He experimented with crustaceans including a crab *Halimus hectori* now called *Trichoplatus hectori* (Decanets, 2023) and acknowledged 'my friend Professor Haddon, when curator of the Cambridge Museum, employed glycerine for preserving Crustacea, but I know nothing of the way which it was used' (Parker, 1881b).

Forty years after Parker and Jennings collaborated to preserve the octopus, the hot-glycerine method was revived by W.B. Benham FRS (1860-1950) the museum's second taxidermist. Edwin Herbert Gibson worked hard to complete a small shark in time for the opening of the new museum being built in Auckland. Benham explained to Gilbert Archey (1890-1974), director of the Auckland War Memorial Museum 'the cartilaginous skeleton has to be supported & tied with silver wire – otherwise the cartilage gets discoloured whenever it touches metal: when I sent a similar preparation to the Biology Museum I charged £20. Gibson is doing the work in Museum time' (Benham, 1929b). It is unclear which institution Benham meant by 'the Biology Museum' but nontheless Archey was happy with the reduced price for a fellow New Zealand Museum and also thankful that it had arrived just in time: 'They are really splendid exhibits and we should like you please to thank Mr Gibson for his fine workmanship, and also for the careful packing which resulted in their arrival here without a flaw' (Benham, 1929a). It was not a method they used often and there are no Gibson preserved specimens in the Otago Museum.

Conclusion

Placing this study in a broader historical context it is clear New Zealand historians have overlooked invertebrates, like the octopus, as a site for the creation of primary scientific knowledge. This octopus is only the second article about the history of New Zealand's invertebrate fauna to emerge in recent years (Galbreath & Cameron, 2013). Reflecting on why this might be the case it is worth noting that colonialism in New Zealand has focussed on Māori or birds. The demise of New Zealand's native avifauna has been laid at the hands of hunter-naturalists like Walter Buller (1838-1906) and Andreas Reischek (1845-1902). The avian collections formed by both men were dispersed beyond New Zealand and their current whereabouts were the subject of a large study by ornithologists at Te Papa Tongarewa Museum of New Zealand (Bartle & Tennyson, 2009). Controversially, Reischek also collected Māori ancestral remains which are now the subject of repatriation claims under government mandate and organised by The Karanga Aotearoa Repatriation Programme operating from Te Papa. (O'Hara 2020; Corlett, 2021; McClure 2022; Te Papa 2024).

The octopus is currently stable and housed offsite pending conservation treatment as part of the Dublin Dead Museum's major rebuilding project. It is hoped that in due course further details about the specimen will be revealed when it is conserved. Doubtless there are further studies that could be undertaken on the specimen itself, but here, for the first time the specimen and its traces in the archives are joined. While it is possible to consider the octopus as an embodiment of colonisation after all it was shown at the Indian & Colonial Exhibition, that was only part of its importance. The commercial transaction forged a relationship between both the Dunedin and Dublin curators. This current research it has re-forged links between the two museums on opposite sides of the world.

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