

Journal of Natural Science Collections

Title: Dodo remains in the National Museum of Ireland - Natural History, Dublin

Author(s): Monaghan, N. T.

Source: Monaghan, N. T. (2022). Dodo remains in the National Museum of Ireland - Natural History, Dublin. *Journal of Natural Science Collections, Volume 10*, 45 - 59.

URL: http://www.natsca.org/article/2725

NatSCA supports open access publication as part of its mission is to promote and support natural science collections. NatSCA uses the Creative Commons Attribution License (CCAL) <u>http://creativecommons.org/licenses/by/2.5/</u> for all works we publish. Under CCAL authors retain ownership of the copyright for their article, but authors allow anyone to download, reuse, reprint, modify, distribute, and/or copy articles in NatSCA publications, so long as the original authors and

Dodo remains in the National Museum of Ireland - Natural History, Dublin

Nigel T. Monaghan

National Museum of Ireland - Natural History, Merrion Street, Dublin D02 F627

*Correspondence: nmonaghan@museum.ie

Citation: Monaghan, N. T. 2022. Dodo remains in the National Museum of Ireland - Natural History, Dublin. *Journal of Natural Science Collections*. **10.** pp. 45-59.

Abstract

Dodo remains in some museums are not well known or publicised. The fossil bones in the National Museum of Ireland are described and their provenance discussed. Dodo remains in Trinity College Dublin and those exhibited at a scientific meeting in Dublin in 1866 are also reviewed. The Dublin skeleton is a composite, mostly acquired by the Royal Dublin Society at auction in London in 1866, and mounted by Edward Gerrard junior in 1871.

Keywords: Dodo, *Raphus cucullatus*, Royal Dublin Society, Science and Art Museum Dublin

Introduction

The National Museum of Ireland - Natural History (NMINH) inherited the collections of the Royal Dublin Society (RDS) in 1877, including a mounted composite partial skeleton of a dodo (Figure 1), and a number of other dodo bones, all from Mauritius. The original documentation for these specimens is sparse and what follows is an attempt to bring together information from a number of sources to shed light on this important collection.

Dodo remains in museums

Dodos (*Raphus cucullatus* (Linnaeus, 1758)) have a long history of being discussed and illustrated in popular publications, mostly focused on evidence from old contemporary accounts of then living birds (Fuller, 2002; Parish, 2013). The surviving hard evidence in museums and private collections relies on a very small number of fragments taken from living birds brought to Europe, and a modest number of fossil bones, most of which are not associated and result in composite skeletons or isolated skeletal elements. Of the popular published accounts of this species there are very significant numbers of pages dedicated to dodo history, illustrations, cultural significance, and extinction (Fuller, 2000, 2002, Parish, 2005, van Wissen, 1995). There are often far fewer pages that refer to the existence of bones in museum collections which preserve tangible remains available for study. There are notable exceptions, such as the significant monograph by Claessens et al. (2015), and recent work by Angst et al. on museum specimens (2017) that demonstrated what is possible by actually picking up dodo bones and studying them. There are a few publications from curators that highlight their own museum collections, and this article aims to add to notifications of available museum material by Brown (2020) and Fulton (2013).

The dodo skeleton in the NMINH has appeared in simple lists of museum specimens included in a small number of publications (Lydekker, 1891, Fuller 2002) but I am not aware of any



© by the author, 2022, except where otherwise attributed. Published by the Natural Sciences Collections Association. This work is licenced under the Creative Commons Attribution 4.0 International Licence. To view a copy of this licence, visit: http://creativecommons.org/licences/by/4.0/

Received: 11th Nov 2021

Accepted: 27th Jan 2022



Figure 1. Composite skeleton of a dodo, from 1865 excavations, Mauritius. NMING:F21700. © National Museum of Ireland.

examination by research visitors of that skeleton, nor any publication since the 19th century of the existence of the rest of the collection in our museum. The details provided here may encourage experts to carry out research on material that seems to have been overlooked.

Dodo remains in Irish collections

The first mention of dodo bones in any Irish collection is by Ball (1853, p.164) who states that Professor Melville (presumably Alexander Gordon Melville, 1819-1901) donated "Casts of the bones of the foot of the dodo" to the Dublin University Museum. Although that remains its official title, the university is better known as Trinity College Dublin (Wyse Jackson, 1992). Its museum in 1853 was based in a building at the front of the College known as Regent House (Figure 2). This specimen cannot be traced, and the phrase 'bones of the foot' may refer to the fully fleshed but dried out foot of the London specimen or could represent the Oxford specimen reduced to foot bones (Joe Parish pers. comm. 2012). It is possible that by 1853 both the London foot and the Oxford foot had been skeletonised and cast. The last mention of the London foot with soft tissue was c.1848 and the next mention in 1896 states that it lacked integuments according to Hume et al. (2006).

There was a relatively small population of people from Britain and Ireland in Mauritius in the mid nineteenth century (Rivière, 2006) but of this group of less than 200 'ex patriates' a number of connections with Dublin led to some direct acquisitions by the Museum of the Royal Dublin Society. The RDS Museum register for 1865 (volume NH-02, Figure 3) details one acquisition as:

> "Nov. 27th Revd. Dr. Comerford VG Mauritius per P. O'Meara, Mauritius Esq. Three tibiae of Solitaire (*Pezohaps solitaria* Strickland), and a portion of lower mandible of Dodo? *Didus ineptus* and another bone undetermined."

This entry is annotated with some words stricken out "of Solitaire (Pezohaps solitaria Strickland)". It would appear that there was some confusion over the species names to be applied. This is typical of the period, as the status of the dodo as a species and potential confusion with other birds were far from clear and the endemic nature of these species, restricted to single islands was also uncertain (Fuller, 2002). Until a reasonably complete series of bones was illustrated in publication, it was difficult to know which bones were dodo, and what other species might be present in the fossil assemblages.



Figure 2. Print entitled "Museum of T.C.D." a view of the Museum of Trinity College Dublin, in Regent House (over the Front Gate of the college). Drawn and etched by William Benjamin Sarsfield Taylor (1781-1850); Engraved and coloured by R. Havell & Son. Undated (but produced in 1819). (National Museum of Ireland NMINA:16).

The Dr Comerford referred to in the RDS register is Pierce Michael Comerford (1818-1905), born in Coolgreany, Co. Kilkenny and ordained as a Roman Catholic priest in Mauritius in 1845. He rose to hold the position of Vicar General (VG) of Mauritius until his return to Ireland in 1876 (Patrick Comerford pers comm. 2012, who certified the first name as Pierce, not Peter as it appears in the Mauritius Almanac). Dr Comerford is listed under the entry for the Roman Catholic Church in the Mauritius Almanac (Anon., 1864, p.27) as "Vicar -General: Comerford, Dr Peter Michael, £460 per ann." and again few years later (Kyshe 1870, p.312) as "Vicar General - Very Revd. P. M. Comerford, D.D., 300/ per annum, and 50/ horse allowance. Appointed March 1845. Is in charge of Diocese. Present salary is 5101."

On I March 1866 some dodo bones were displayed at a meeting of the Natural History Society of Dublin (Wright, 1866). The dodo bones belonged to Dr Charles Henry Leet (1836-1907) of the 13th Light Infantry regiment, also known as First Somersetshire or Prince Albert's Regiment (Carter, 1867). Leet was not present at the meeting due to ill health (suggesting he was stationed in Dublin, or at least in Ireland, at the time and simply unavailable). Wright mentions that Leet had local knowledge of Mauritius, which indicates that he had at least visited the island and was not just a collector acquiring specimens from a distance. The second battalion of Leet's regiment was based in Mauritius from 1863 and was still stationed there in 1866 (Carter, 1867, pp.171, 179). Their regimental depot in Ireland was

1865 27th Reves Dr. Comerford V. & Mauritiers per P. O'manitain Persphere setting to the set of the set of the set of the one late of the prophere of fortune of tower mandelle of Docle. and another bone undetermined -Nov

Figure 3. Entry in the Royal Dublin Society museum register for 27 November 1865. © National Museum of Ireland.

initially headquartered at Fermoy, Co. Cork, then in 1865 it moved to Templemore Co. Tipperary, and later that year to Newry, Co. Down. Officers presumably would have had the freedom to attend scientific meetings in Dublin as is indicated by Leet's absence being due to illness, not being overseas or other causes. If he had been present, more detail might have emerged as to the source of his collection. Leet is noted as a graduate of the University of Glasgow, qualified as a Doctor of Medicine and Master of Surgery in 1834. His entry in a college directory (Addison, 1898) details Leet as "Dublin Professor of (1) Medical Jurisprudence, (2) Materia Medica, in Apothecaries' Hall Medical School; Rathmines, County Dublin; died 2nd May, 1890, aged 89."

The significance of part of Leet's regiment being stationed in Mauritius from 1863 to at least 1866 is that the year 1865 marks the date of the discovery of dodo bones on the island. As a surgeon, Leet would have had an understandable interest in such scientific matters and would not have been alone in acquiring objects of natural history and bringing them to the attention of full time scientists when back home in Ireland. The scientist displaying the bones on the night in 1866 was Edward Perceval Wright (1834-1910), a surgeon, naturalist and Director of the Museum in Trinity College from 1857, later Lecturer in Zoology in the college and then of Botany in Dr Steeven's Hospital Medical School (Dixon, 1910). The bones acquired by Leet and displayed at the Dublin meeting in 1866 comprised "...the larger half of the pelvis, which was very light, weighing only $1 \frac{1}{2}$ oz., [42.5 g] through the whole of the air cells were filled with dry mud; of a right femur, of two right tibiae, and a left metatarsus..." (Wright, 1866). These were described by Wright as having come from the Mare aux Songes. The pelvis was noted to be slightly asymmetrical, the left side being slightly larger than the right, something Wright considered was due to compression in the mud after burial. The bones in the RDS Museum acquired from Comerford were also displayed at the meeting as a loan from the RDS Curator Dr Alexander Carte, and described as "...more or less perfect specimens of three left tibiae and a small fragment of the left lower jaw" (Wright, 1866).

The dodo skeleton in the National Museum of Ireland

Less than a fortnight after the display of dodo bones by Wright in Dublin there was an auction in London of considerable significance. In the auction rooms of Mr J. C. Stevens on Tuesday 13 March 1866 several sets of dodo bones were available in a total of eight lots. In the copy of the sale catalogue in the University of Cambridge there are annotations showing the fate of these lots (Figure 4). Lot number two is marked as: "£13 E.P. Wright (Dublin)". The entry in Stevens' catalogue for the sale describes this lot as:

LOT II. Sternum – R. coracoid – R. & L. condyle of lower jaw – gonys & L. ramus of ditto – pelvis – R. & L. tarso-metatarsus – R. & L. femur – R. & L. tibia – R. scapula – L. fibula – 5 cervical vertebræ.

This amounted to a sternum (breastbone), right coracoid, right and left condyle of lower jaw, gonys (the ridge on the lower mandible from the tip to where the two sides of the jaw or 'rami' branch) and left ramus of ditto (*i.e.* left side of lower jaw), pelvis, right and left tarso-metatarsus, right and left femur, right and left tibia, right scapula, left fibula and five cervical vertebrae. This compares well with the composite skeleton in Dublin today but that skeleton also has an almost complete set of vertebrae, ribs, with plaster toes and skull.

One of the lots at auction is noted as purchased by the British Museum and two others going to the Royal College of Surgeons at £10 per lot. According to the annotated catalogue in Cambridge there were no bidders for the remaining four lots at the auction, at £10, £10, £8 and £4-10-0 respectively. All lots were similar in completeness to the lot purchased by Wright, apart from the final lot which comprised only 8 leg bones.

Wright's interests in natural history were many and varied. In 1865 he had become particularly involved in vertebrate palaeontology. A chance discovery of important amphibian fossils in an Irish coal mine led to collaboration with Thomas Henry Huxley (1825-1895) and a flurry of correspondence between Wright in Dublin and Huxley in London (DeArce, et al. 2011). The timing of the display of Leet's dodo bones in Dublin may have been stimulated by the advance notice of the Steven's sale and the opportunity that could provide to acquire enough bones to reconstruct a dodo skeleton. It may also have been necessary to enthuse the RDS to support a significant purchase. Wright sat on the Natural History Committee of the RDS, which looked after the construction of the museum building, major purchases, and invoices (Monaghan, 2021a). He would have been a logical choice to represent the RDS in acquiring a dodo skeleton.



Figure 4. Catalogue of dodo lots available at auction by Mr J. C. Stevens on Tuesday 13 March 1866, note marginal annotation on extreme left for Lot II "£10 E.P. Wright, Dublin" (University of Cambridge, courtesy of J. Parish).

The Stevens auction catalogue entries indicate collections of bones, rather than mounted skeletons. While Richard Owen had the opportunity to intercept the whole collection and examine it before the sale (Hume et al., 2009), there had not yet been a full skeletal reconstruction illustrated for taxidermists to work from. Owen produced such a reconstruction in October 1866 (Owen, 1866) and revised it in 1872 (Owen, 1872). The posture of the mounted skeleton in the NMINH is much closer to the second illustration. There is no record or label however to indicate where the supplementary bones not purchased at the Stevens auction were sourced, or even if this is definitely the collection purchased by Wright. It is however the most likely, and probably the only possible source of such a complete skeleton.

The lack of a clear trail of provenance includes being unable to trace the ownership of the specimen from Wright's purchase to the dodo skeleton being in the RDS Museum. The RDS catalogue system did not employ register numbers and relied on a handwritten accession register series commenced in 1834, and labels accompanying individual specimens. There is no entry for any dodo material apart from the small number of bones detailed above that were received from Dr Comerford. There are no old labels with the skeleton, and more recent labels show no acquisition details. The quality of recording of acquisitions in the RDS Museum was often far from detailed and frequently very unsatisfactory, with separate registers for donations and for purchases. It is still very surprising that there is no mention of such a significant specimen in the purchases registers for 1866-1867. Labels accompanying specimens normally stressed the donors, who were usually RDS members or notable personages. It was normal practice however, never to refer to vendors, so the names of commercial supply companies, taxidermists or others engaged in trade were never included.

Wright was an important member of the RDS Natural History Committee (NHC). Their manuscript minute books are preserved for the years 1831-1877 and report sanctions for expenditure. Sums of the order of £10 would normally appear, although sometimes larger amounts were simply recorded as owing to the curator for various items, without specifics. Wright made at least one trip on behalf of the RDS to London in 1852, where he was purchasing specimens for the RDS collections (RDS Minute book 302977, entry for 9 February 1858). It is most likely that the bones were acquired by Wright at the Stevens auction on behalf of the RDS. It is not impossible that the collection of dodo bones may have been purchased by Wright for his personal collection or for the Trinity College museum but the development of the RDS Museum at the time and its high levels of spending on acquisitions for its new building make it much more likely to be a direct RDS acquisition.

The answer to the missing payment lies in an entry in the minute book of the Natural History Committee of the RDS for 15 February 1867. It simply records a payment of £15 to "Mr Banks, for dodo's bones" without any further detail. This transaction is not recorded in the RDS Museum volume of purchases for 1866-1872 (volume NH-03). The amount noted as paid by Wright at auction is £13, so it is possible that this is the payment, plus £2 for packing and carriage. However, later transactions with Stevens for other museum acquisitions have invoices and payments direct to Stevens. The surname could link to Mr W.T. Banks, a collaborator with George Clark in Mauritius, indicating payment direct to the source, rather than the auctioneer. W. T. Banks had a posthumous connection to Dublin in that his widow Helena Rebecca Banks married Christopher J. Guy Carleton in Kingstown (now Dun Laoghaire) on 3 May 1877.

If by a slim chance, the dodo bones from Stevens were bought by Wright for Trinity College, they could have been transferred subsequently to the RDS Museum. Significant collections from the TCD museum were transferred to the RDS once the latter constructed a dedicated museum building in 1856 (Monaghan, 2007). When the ground floor of the RDS Museum was fitted out in 1864, a collection 150 plaster casts of record specimen Irish fish was given by the Board of Trinity College, indicating that some significant specimens were transferred at that time. Further significant vertebrate palaeontology collections (Lydekker, 1884), and ethnographic collections (Hand, 2012) were also transferred from TCD. These occurred after the state took over the running of the RDS Museum in 1877 and worked towards construction of another major museum in an adjacent building that opened in 1890 (O'Riordan, 1983).

The link between the auction and the bones in the RDS Museum is strong but circumstantial, however the source of the bones auctioned at the sale by Stevens is much clearer and is detailed by Hume et al. (2009). While there were many Mauritian residents on the hunt for dodo remains, and small numbers of bones made it out from as early as 1860 through a variety of connections to people such as Dr Comerford and Dr Leet, the majority of bones in museums today came through efforts of a local schoolmaster George Clark. Bones sufficient to comprise two fairly complete composite skeletons were sent by Clarke to England, one consignment direct to Richard Owen, and a second set despatched separately via Edward Newton in Mauritius to his brother Alfred Newton in the University of Cambridge. These latter bones were intercepted by Owen and not released to Newton until after Owen had the opportunity to study and publish the full collection. Further collections went to Stevens for auction, but all of these appear to have passed first through the hands of Owen. Newton didn't have access to the British Museum bones, but did see all of Stevens' lots before the auction. These two comparative anatomists competed to be the first to publish the finds, with enduring acrimonious results (Hume et al., 2009).

The bones listed in the Stevens auction catalogue were all from the fieldwork of George Clark in 1865. The detailed story is given by Hume *et al.* (2009) and outlines the reality of the 'excavations' at the Mare aux Songes. This was a swamp where local labourers waded with safety ropes tucked under their armpits, picking up bones by feel, scooped from the waterlogged sediment using their hands and feet (Clark, 1866). With such recovery techniques, it would have been well-nigh impossible to maintain any associations between related skeletons. The sorting of bones into Stevens' discrete auction lots with groups of comparable size must have been the work of Owen or possibly Alfred Newton.

In 1870 the collection of dodo bones in the Museum of the RDS had not yet been mounted but the makings of a decent skeleton were in the collections. In the archives of the National Museum of Ireland three letters survive that give some insight into the arrangements for the mounting of the dodo composite skeleton. This is only one side of the correspondence however, as no copies were made of the outgoing letters from the curator. The letters are all from Edward Gerrard junior (1832-1927) writing from 31 College Place, Camden Town (London NW1). Gerrard was a respected and capable taxidermist from a family business with several 'Edward Gerrards' (Morris, 2004), who supplied the Museum of the RDS with specimens on a regular basis. In 1870-1871 the Museum of the RDS paid Gerrard a total of £355-18-6 for various specimens (Table 1). These are not all detailed in the records that have been traced, but presumably one of these payments includes the costs of mounting of the dodo skeleton.

The letters from Gerrard are all addressed to Dr Alexander Carte MD TCD, FRCSI, FRS (6/8/1805-25/9/1881), then Director of the Museum of the RDS (Figure 5). Carte worked at the Museum of the Royal College of Surgeons in Dublin from 1846. In 1851 he was elected 'Curator' of the Museum of RDS, a title later changed to 'Director' (Praeger, 1949). When the state took over the running of the RDS Museum on 14 August 1877, Carte was confirmed as 'Director of the Natural History Museum' on a personal basis, as there was also a 'Director of the State Institutions of Science and Art' who was his superior in charge of the Museum of Science & Art, Dublin. Carte served in the Museum of Science & Art until his death, after which the post was entitled 'Keeper'. He published research in various areas of zoology and was at the centre of an extended scientific network (Murphy, 2015; 2021).The museum was later renamed the National Museum of Ireland (O'Riordan, 1983).

On 24 November 1870 Gerrard replies to Carte, referring to his earlier letter. Amongst paragraphs on other specimens, he gives a brief summary of the dodo bones that are by now in London:

"In answer to your letter about the Dodo I think I have all the required bones except the ribs, but they are not of much consequence. I could model them up. The Museum specimen has only a few and they are fixed to the vertebra. Prof. Owen has left today for Egypt where I believe he intends to stay for 2 months. So I suppose nothing can be done until his return."

Table 1. RDS Museum payments to E. Gerrard in 1870-1871 recorded in National Museum of Ireland – Natural History register volume number NH-03 labelled "1866-1872 Purchases". Dates are not always given and where they are detailed, it appears to be a mid-month date, suggesting that reporting requirements were based around monthly accounts. Information inferred by the author is in [square brackets]. The currency is Pounds-Shillings-Pence Sterling.

Date	Details	Payment
18 February 1870	Fish from Indian Ocean	£9-0-0
18 March 1870	Skins of Mammals	£25-0-0
1870 [between March- October]	Birds and Mammalia and other specimens	£16-4-6
1870 [between March- October]	skins	£36-15-0
1870 [between March- October]	[No details]	£29-4-0
1870 [between March- October]	Mammalia	£25-0-0
17 February 1871	Collection of fish from Mysol [an island in the Ceram Sea, between Indonesia and Papua New Guinea]	£10-10-0
19 May 1871	Skins of Mammalia including Lemur rubra male and fe- male, Eupleres goudotii and others from Madagascar, Ailurus fulgens etc. and 203 specimens of South Ameri- can birds authenticated by Mr O. Salvin. A number of other Bird's skins etc.	£73-11-6
1871	[No details]	£32-0-0
September 1871 [or later that year]	Skins of mammals and birds	£66-4-6
September 1871 [or later that year]	Skins of mammals and birds	£14-9-0



Figure 5. Dr Alexander Carte (1805-1881), Director of the Museum of the RDS.

Professor Richard Owen (1804-1892) was appointed in 1856 as Superintendent at the British Museum to manage the natural history departments. Access to any dodo specimens under his control would not have been the simplest thing to achieve based on what is documented about his relationships with any scientist who could be considered a competitor (Hume *et al.* 2009). In this case however, it should have been possible for another respected museum curator such as Carte to arrange mere copies of bones to complete a skeleton, but presumably not something that Gerrard would consider being able to do himself.

A letter to Carte from George Robert Gray (1808 - 1872), head of the ornithological section of the British Museum, includes a polite refusal of casts of dodo bones.

"British Museum 15 Dec 1870

Dear Sir

I have, in answer to your letter of 12th, to inform you that it is, I regret much to say, out of my power to assist in supplying you with those parts you require to complete the skeleton of the Dodo that you are so anxious to set up for exhibition. All the parts, you ask for, are fixed to our skeleton and it is impossible [to] separate them without injury to the specimen.

I think that Mr Moore of the Free Library and Museum Liverpool could assist you as I understand that he has many bones of the Dodo, which are not set up and therefore might be more easily modelled in plaster. With Compliments of the coming season I remain Truly Yours

G. R. Gray"

Thomas John Moore (1824-1892) was curator of the Liverpool Museum for 40 years, with particular interests in zoology and comparative anatomy (Anon., 1892). The collection in what is now known as World Museum Liverpool (LIVCM numbers 1984.1440 and 1984.1441) was a gift from Harry Pasley Higginson, that arrived in February 1866 (Wilson ,2020). Higginson was an important figure in collection of dodo bones in Mauritius (Brown, 2020), and the Liverpool gift was part of a wider distribution of bones to the museums of York and Leeds. The museum in Liverpool also received a smaller set of bones (numbered LIVCM 26.9.67.1-14) from engineer Walmsley Stanley in 1867 (Wilson, 2020). By the time of receipt of Gray's letter there would appear to have been no need to contact Moore as only ribs remained to be sourced.

On 12 April 1871, Gerrard contacts Carte again, in a letter annotated by Carte as having been answered on 18 April 1871. Between notes of collections of skins sent to Dublin on approval is this encouragement to get the absent bones supplied as casts from the British Museum collection:

"I think if you was to write to Profr. Owen for the Dodo's vertebra he might be likely to have the casts made. Have you succeeded in getting a cast of the skull, if not shall I try?"

Gerrard's letter of 10 June 1871 indicates that he had resolved his need to obtain casts of absent vertebrae, and had modelled the other missing parts. He doesn't detail whether Gray's suggestion to approach Moore in Liverpool was part of resolving the issue and no records have been found in Liverpool relating to this (John Wilson pers. comm. 10 May 2021). Carte had obtained a cast of a skull from the specimen in Copenhagen allowing the skeleton to be completed. The RDS Museum register entry (NMINH volume NH-02 for 1871) reads: "April 25 Professor lapetus Steenstrup, Kőbenjavn. A cast in plaster of the Dodo's skull from the University Museum of Copenhagen." With sufficient material now assembled, Gerrard was able to write to Carte:

"I have sent off a box containing the Dodo skeleton, which I hope will arrive safely.

I have put it up so that every bone can be taken apart for examination.

I think you will be able to put it up easily.

The femur has a piece of wire sticking out which goes into the hole at the top of the tibia and the same from the tibia into the tarsus. The piece of twisted wire at the side of the tibia goes into the cross piece and the upright.

I think it can be quickly put up from the rough sketch on the other side."

The sketch included in the letter is shown here (Figure 6) and matches the posture of the specimen now in Dublin. Owen published a posture very similar to this in 1872 and it is possible that Gerrard had advice from Owen, or sight of drawings showing these intentions. It is worth noting that Gerrard's father (Edward Gerrard senior) worked as a taxidermist and mounter of skeletons for Owen (Morris, 2004).

The specimen impressed Dr Ferdinand Roemer, Professor of Mineralogy in the University of Breslau on his visit in 1876 (Roemer, 1878):

"The specimen of Didus ineptus, complete all but the skull, which has been artificially supplied, is likewise exceedingly interesting. Numerous remains of this extinct bird were found a few years ago in draining a swamp in the island of Mauritius; an event which makes the conjecture probable that, in the course of time, several more specimens of this singular bird may be brought to Europe."

Dodo specimens in the National Museum of Ireland today

The vertebrate palaeontology collections of NMINH were published in a catalogue (Lydekker, 1891) that was part of a series, based on employment of experts in various collections, who had produced catalogues for the British Museum and were brought to Dublin at state expense. It is important to understand that at that time, Ireland was a constituent part of the UK and the museum in Dublin reported into the Department of Science & Art, based in South Kensington, London.

Richard Lydekker's catalogue entry for dodo specimens in Dublin (1891, p. 41) reads as follows:

Suborder Columbae Family Dididae Didus ineptus *Linn., Syst. Nat.*, ed. 12, vol. I, p. 267 (1766).

- From Marshes in the Island of Mauritius.
- a. The skeleton, partly restored, and made up from the bones of more than one individual.
- b. Cast of the skull.
- c. The cranial rostrum.
- d. A series of limb-bones and vertebrae; from Mahbourd, Mauritius. Presented by Rev. Dr. Comerford, 1865



Figure 6. Sketch of the Dublin dodo skeleton by Edward Gerrard junior, in letter of 10 June 1871. With text "The top of the piece of brass wire is to turn towards the head" Monaghan, N. T. 2022. JoNSC. 10. pp.45-59.

Unfortunately although register numbers were introduced from 1877 in what is now the National Museum of Ireland, they were only applied to new acquisitions, with no systematic retrospective numbering of RDS collections until 1981. Neither Lydekker as author of the catalogue, nor the curator who succeeded Carte, labelled specimens with letters matching the published catalogue entries and any connections below are inferred. Numbers below are all from retrospective catalogue exercises, with those applied to original dodo bones coming from the series applied to fossils in the geological collections from 1981 onward (series NMING:F).

Table 2. Catalogue of dodo specimens in the National Museum of Ireland - Natural History.



Table 2 (Cont.) Catalogue of dodo specimens in	the National Museum of Ireland - Natural History.
NMING:F23415 Left tibia Original bone, labelled Rev Dr Comerford V.G., Mahbourd, Mauritius	
NMING:F21735 Rostrum of skull Presumably the 'cranial rostrum' of Lydekker 1891	
NMING:F23416-F23418 Three ribs	
NMING:F21739 Fragment of mandible Original bone, labelled Rev Dr Comerford V.G., Mahbourd, Mauritius The "small fragment of the left lower jaw" referred to by Wright 1866.	





NMINH:2008.73.457

Unpainted and chipped plaster replica of the foot of the dodo based on that preserved in the Natural History Museum, London (NHMUK). The original is now lost, or possibly dissected and the skin discarded (Hume *et al.*, 2006).



Conclusions

The composite skeleton and small number of individual dodo bones and casts that are now in the National Museum of Ireland in Dublin are an important resource. While the skeleton has been on display for well over a century, it does not appear to have been studied in detail. It is off display as part of the decant of collections in advance of major roof works (Monaghan, 2021b). Now that the research has been done on the provenance of the specimens, it would be a good opportunity for experts to examine the collection so that a future exhibition would benefit from a greater understanding of one of Dublin's most important fossils.

Acknowledgements

I am indebted to Dr loe Parish for the information on the annotated copy of the Stevens auction catalogue, and Dr Rachel Hand for drawing my attention to relevant records in our own museum archives. Mark Carnall of the Oxford University Museum provided information on the plaster casts made from their dodo head. Dr Jan Bolding Kristensen of the Natural History Museum of Denmark provided details of the Copenhagen skull. Dr Patrick Comerford supplied biographical information on his ancestor Dr Pierce Comerford. Bruce Carte supplied family and career details for his ancestor Alexander Carte. Curators Dr Patrick Wyse Jackson (geology) and Dr Martyn Linnie (zoology) in Trinity College Dublin searched for dodo information in their collections and archives, sadly without success. Dr John Wilson of National Museums Liverpool checked for correspondence from Dublin. Paolo Viscardi, National Museum of Ireland gave useful advice on the manuscript prior to submission. Two anonymous reviewers provided valuable feedback and additional information.

References

- Addison, W.I., 1898. A Roll of the Graduates of the University of Glasgow. University of Glasgow.
- Angst, D., Chinsamy, A., Steel, L. and Hume, J.P., 2017. Bone histology sheds new light on the ecology of the dodo (*Raphus cucullatus*, Aves, Columbiformes). *Scientific Reports*, 7, pp.7993 DOI:10.1038/s41598-017-08536-3
- Anonymous, 1824. Index to Admission Records, 1814 -1829, Manuscripts & Archives Research Library, Trinity College Dublin. Item No: IE TCD MUN V 24/2 (digital Item No: MUN-V-24-2_004) Online at: https://www.tcd.ie/library/ digitalcollections/ home#folder_id=40&pidtopage =MUN-V-24-2_000&entry_point=35 (Accessed 8 September 2020).
- Anonymous, 1864. The Mauritius Almanac and Civil Service Register for 1864. Harrison & Sons, London.
- Ball, R., 1853. Evidence. In: Dublin University Commission. Report of Her Majesty's Commissioners appointed to inquire into the state, discipline, studies and revenues of the University of Dublin and Trinity College. Dublin. pp.153-169.
- Brown, C.M., 2020. Harry Pasley Higginson and his role in the re-discovery of the dodo (*Raphus cucullatus*). Archives of Natural History, 47 (2), pp.381-391.
- Carter, T., ed. 1867. Historical record of the Thirteenth, First Somersetshire or Prince Albert's Regiment of Light Infantry. W.O. Mitchell, Charing Cross, London.
- DeArce, M., Monaghan, N.T. and Wyse Jackson, P.N., 2011. The uneasy correspondence between Thomas Henry Huxley and Edward Perceval Wright on fossil vertebrates found in Jarrow Colliery, Clogh, Co. Kilkenny (1865-1867). Notes and Records of the Royal Society, 65, pp.253-271.

Dixon, H.H., 1910. Edward Perceval Wright. Irish Naturalist, 19, pp.61-63.

Fuller, E., 2000. Extinct birds. Oxford University Press.

Fuller, E., 2002. Dodo: From Extinction to Icon. Harper Collins, London.

Fulton, G., 2013. Dodo, Raphus cucullatus, in the Macleay Museum, The University of Sydney, Australia. Archives of Natural History, 40 (1), pp.171-174.

Hand, R., 2012. From Empire to Independence: The Ethnographic Collections of the National Museum of Ireland. In: Ó Síocháin, S., Garvey, P. and Drazin, A., eds. Exhibit Ireland: ethnographic collections in Irish museums: Wordwell, Dublin. pp.23-56.

Hume, J.P., 2012. The dodo: from extinction to the fossil record. *Geology Today*, 28, pp.147-151.

Hume, J.P., Cheke, A.S. and McOran-Campbell, A., 2009. How Owen 'stole' the Dodo: academic rivalry and disputed rights to a newly-discovered subfossil deposit in nineteenth century Mauritius. *Historical Biology*, 21, pp.33-49. http://www.tandfonline.com/doi/ abs/10.1080/08912960903101868

Hume, J.P., Datta, A. and Martill, D.M., 2006. Unpublished drawings of the Dodo *Raphus cucullatus* and notes on Dodo skin relics. *Bulletin* of the British Ornithologists' Club, 126, pp.49-54

Kyshe, J.B., ed. 1870. The Mauritius Almanac and Colonial Register for 1870. Colonial Office, Mauritius.

Lydekker, R., 1884. Catalogue of vertebrate fossils from the Siwaliks of India, in the Science and Art Museum, Dublin. *Scientific Transactions Royal Dublin Society*, 3, pp.69-86.

Lydekker, R., 1891. Catalogue of the fossil mammals, birds, reptiles and amphibians in the Science and Art Museum. Science and Art Museum, Dublin.

Monaghan, N.T., 2021a. The two suspended whale skeletons in the National Museum of Ireland. *Irish Naturalists' Journal*, 37, pp.142-150.

Monaghan, N.T. 2021b. Breathing life into the Dead Zoo. *Museum Ireland*, 27, pp.57-61.

Morris, P.A., 2004. Edward Gerrard & Sons: a taxidermy memoir. MPM Publishing, Ascot, Berkshire.

Murphy, S., 2015. The Natural History Museum, Dublin, 1840-1870; networks, culture and natural knowledge in mid-nineteenth century Ireland. Unpublished PhD Thesis, University College Dublin.

Murphy, S., 2021. 'The First National Museum': Dublin's Natural History Museum in the mid-nineteenth-century. Cork: Cork University Press. Nowak-Kemp, M. and Hume, J.P., 2016. The Oxford Dodo. Part 1: the museum history of the Tradescant Dodo: ownership, displays and audience. *Historical Biology*, DOI:10.1080/08912963.2016.1152471

Owen, R., 1866. Memoir on the Dodo (Didus ineptus Linn.) with an historical introduction by the late William John Broderip, F.R.S. Taylor & Francis, London.

Owen, R., 1872. On the Dodo (Part II) – notes on the articulated specimen of the Dodo (*Didus ineptus* Linn.) in the British Museum. *Transactions* of the Zoological Society of London, 6, pp.49-86.

Parish, J.C., 2013. The Dodo and the Solitaire: A Natural History. Indiana University Press.

Praeger, R.L., 1949. Some Irish naturalists: a biographical notebook. Dundalgan Press, Dundalk.

Rivière, M.S., 2006. From Belfast to Mauritius: Charles Telfair (1778-1833), Naturalist and a Product of the Irish Enlightenment. *Eighteenth-Century Ireland / Iris an dá chultúr*, 21, pp.125-144.

Roemer, F., 1878. Geological sketch of a visit to Ireland in August, 1876. Geological Magazine, 5 (2), pp.54-62. https://doi.org/10.1017/ S0016756800146321 [Translated from the German by Richard J.O. Mulrenin. German original published as: Bericht über seine Reise nach Grosssbritannien; über die in Irland auftretenden Sedimentärbildungen. Neues Jahrbuch für Mineralogie, Geologie und Palaeontologie, 1877, pp.64-63.]

Van Wissen, R.B., 1995. Dodo Raphus cucullatus [Didus ineptus]. Zoölgisch Museum, University of Copenhagen.

Wilson, J.J., 2020. Breathing new life into the Dodo. National Museums Liverpool Online at: https:// www.liverpoolmuseums.org.uk/stories/breathing -new-life-dodo

Wright, E.P., 1866. On dodo bones from Mauritius. [in note of a meeting on 1 March 1866, title based on index entry]. Proceedings of the Natural History Society of Dublin, 5, pp.32-33.

Wyse Jackson, P.N., 1992. The geological collections of Trinity College Dublin. *Geological Curator*, 5(7), pp.263-274.