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The Oxford Dodo. Part 1: the museum history of the Tradescant Dodo: ownership, displays and audience

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ABSTRACT

The Dodo *Raphus cucullatus*, a giant flightless pigeon endemic to Mauritius, became extinct in the late seventeenth century, and so rapid was the birds' disappearance, that by the beginning of the nineteenth century even its very existence was questioned. Only four specimens were then recorded in European museums, of which the most famous was the Tradescant or Oxford Dodo, now in the Oxford University Museum of Natural History. It comprised the head and one foot, and unique soft tissue in the form of skin and traces of feathers. The history of this specimen is reviewed, including the still unresolved question of how it came to Britain, and we provide evidence to show that it was stuffed but probably never mounted. The changes of ownership, and its cataloguing and curation in the different museums are also described, along with its varying roles in entertainment, education and research from the earliest years until the nineteenth century. This is part one of a two-part article; the second deals with the Tradescant Dodo from its dissection in the 1840s until the present day.

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Duncan; Philip Bury Duncan;
Ashmolean Museum

Introduction

The Dodo *Raphus cucullatus* (Linnaeus, 1758), a giant flightless pigeon endemic to Mauritius, disappeared rapidly once humans and their commensal animals arrived on its island home, becoming extinct less than a century after its discovery. Until the unearthing of subfossil remains at the Mare aux Songes marsh in 1865, only a desiccated head and foot at Oxford, a desiccated foot in London, a skull in Copenhagen and an upper mandible in Prague survived (Parish 2013). The collecting history of these pre-seventeenth century specimens is uncertain; especially the Dodo specimens held in Oxford.

The Tradescant Dodo, or as it is now widely known, the Oxford Dodo (Figure 1), was part of the famous collection of natural history and ethnography specimens, portraits, coins and medals that were gathered by the seventeenth century father and son, the John Tradescants.

The older Tradescant (?1570–1638) was a gardener not only to Robert Cecil, Lord Salisbury, to Sir Edward Wootton, and to the Royal favourite, George de Villiers, the Duke of Buckingham, but also to both kings, James I and Charles I (Allan 1964; MacGregor 1983; Leith-Ross 2006; Potter 2006). Tradescant's only son, also John (1608–1662), was educated at Canterbury grammar school and became a member of the Worshipful Company of Gardeners in London (Allan 1964). Father and son travelled widely, with father visiting the Low Countries and France, participating in a diplomatic mission to Muscovy (Archangel) in 1618, in military expeditions to North Africa in 1621 and the La Rochelle/Isle of

Rhe in 1627, while his son travelled twice to Virginia (Potter 2006). Both brought from their travels not only bulbs, trees, plants and seeds, but also specimens of natural history, clothes, shoes, weapons, utensils, coins and medals. This wondrous cabinet of curiosity (kuntskammer) acknowledged to be the oldest in this country (Duncan 1836; Gunther 1925; MacGregor 1983) was to become known as the Tradescant Ark. Sometime in the late 1620s, the senior John Tradescant acquired a house in South Lambeth that afforded space for the family's living accommodation in addition to housing the Tradescants' treasures (Potter 2006).

The collections were placed in a large, long room upstairs, where tall windows let in the light to allow the treasures to be displayed to their full advantage (Leith-Ross 2006). The set-up of the room most probably followed the arrangement of Ole Worm in Copenhagen (Worm 1655) and other contemporary Wunderkammern in which the collections were either arranged on wooden shelves, or, in case of the larger specimens, placed on the floor or suspended from nails and hooks on the walls or ceiling (Leith-Ross 2006; MacGregor 2007).

The Tradescant collection was divided into *Naturalia* and *Artificialia* (as the catalogue's fore-word and listing indicate) mirroring the arrangement and classification of Worm's collection *Museum Wormianum* (Worm 1655). The museum was open to everyone, not just the privileged sections of seventeenth century society, and became a highly recommended visit (MacGregor 2001a). Considered liberal for that time, but most probably driven by more down to earth and straightforward economic

needs, anyone who could afford the fee of sixpence was allowed entry; the price secured entrance to both Ark and the garden and orchard (MacGregor 1983). Surprisingly, the Tradescants did not demonstrate the rarities themselves, but a post of a curator or custos was created specifically to show the visitors the Ark's treasures (Leigh 1673).

The Tradescants' Ark soon became one of the wonders of London, and anyone who considered themselves educated and sophisticated, made the pilgrimage to the South Lambeth place.

The origin of the Tradescant Dodo

One of the earlier visitors was Peter Mundy (Mundy in Temple 1919) of the East India Company, himself an experienced traveller and trustworthy observer, who visiting the Ark in 1634, and noted:

I was invited by Mr. Thomas Barlow (whoe went into India with my Lord Denbigh and returned with us on the Mary) to view some rarities att John Tradescans, soe we went with him and one freind more, there wee spent the whole day in peruseings, and that superficially, such as hee had gathered, as beasts, fowle, fishes, serpents, wormes (reall although dead and dried), pretious stones and other Armes, Coines, shells, fethers, etts. ... whereof some that I had not seene elsewhere but in India, being supplied by Noblemen, Gentlemen, Sea Commaunders, etts. With such Toyes as they could bringe or procure from other parts.

Mundy was so impressed by the collection that he declared that 'I am almost perswaded a Man might in one daye behold and collecte into one place more Curiosities than hee should see if hee spent all his life in Travell'. Mundy was the only visitor to the Ark who had actually seen live Dodos (in Surat, India in c. 1628 (in Temple 1919)) and surely would have commented on a Dodo if one had been in the collection at the time of his visit in 1634. This makes it more likely that the Dodo was absent from the collection in that year, and that Tradescant senior or junior acquired the bird seen by Hamon L'Estrange in 1638 (see below).

Another visitor, George Stirn, a young traveller from Germany, visited the Tradescants in 1638 and very diligently listed the contents of the Ark (Allan 1964):

... In the museum itself we saw a salamander, a chameleon, a pelican, a remora, a lanhado fom Africa, a white partridge, a goose which has grown in Scotland on a tree, a flying squirrel, another squirrel like a fish, *all kinds of bright coloured birds from India* (our italics).

Again, there is no specific mention of the Dodo, but anything originating from east of Africa, or from anywhere in the vicinity of the Indian Ocean was then called 'Indian' (Parish 2013 and references therein). Stirn listed 'Indian birds' in his diary but he clearly described them as being 'bright coloured', so it seems unlikely that a dull-coloured Dodo would have been included. Decades later, the catalogue *Museum Tradescantianum* (Tradescant 1656) clearly listed the 'many rare and beautiful Indian birds', quite separately from the Dodo specimen. In 1647 another visitor, Rasmus Bartholin from Amsterdam, in his letter to Ole Worm in Copenhagen, confirms seeing natural history specimens during his visit at Lambeth (MacGregor 1983):

Mr. Tredoscu's collection of rarities, which I looked at with special interest and admiration ... I cannot deny that he possesses wonderful objects in the form of natural curiosities brought home from India and he has promised to have a list of them printed.

He does not mention the Dodo, nor any other bird for that matter.

In 1649 Pierre Borel, himself a collector (George 1985; MacGregor 2007), published a list of over 200 main collections in Europe, indicating cities or towns where they could be encountered (Borel 1649). In his entry for London, Borel, although not an ornithologist himself, stated 'Londres Capitale d'Angletere. Monsieur le Duc de Bouckingan, Jean Tredesquin, á la Maison des oiseaux'. It is interesting to note that Borel assigned the Tradescant collection solely as 'a House of Birds'. But again, the Dodo is not mentioned.

John Tradescant senior died in 1638 but visitors continued to come in numbers. On 15 June 1650, Elias Ashmole (1617–1692), who would play such a major role in the future fortunes of the Ark, visited the collection accompanied by his wife and a friend, Dr. Thomas Wharton (1614–1673) (Leith-Ross 2006). Ashmole, a lawyer, alchemist, astrologer, astronomer, administrator, antiquary and collector himself, soon persuaded the younger Tradescant to list the Ark's holdings and to print a catalogue. With Ashmole's cataloguing experience, Dr. Wharton's anatomical expertise and Tradescant's intimate knowledge of the collection and its benefactors, the work was completed in the summer of 1652 (Potter 2006). The catalogue, printed in 1656, was titled: *Museum Tradescantianum: or a collection of rarities preserved at South Lambeth neer London by John Tradescant*. The collection, as it was mentioned before, was divided into two main groups *Naturalia* and *Artificialia*, and each of these was further subdivided into seven smaller classes. In *Naturalia*, the first class mentioned was 'Birds with their eggs, beaks, feathers, claws', and under the sub-heading of 'Whole Birds', there is the following entry (Tradescant 1656):

Dodar, from the Island Mauritius; it is not able to flie being so big.

This is the first evidence that not only was a Dodo found in the Tradescant collection, but that it was also a whole bird, and not a part of one. There is no mention of the date or source of the Dodo, and over the years various authors suggested different dates of its arrival (see Parish 2013). These range from the reign of Elizabeth I (1558–1603) to 1650 (Owen 1879; Wood 1927; Hachisuka 1953; Den Hengst 2003). There are just three written documents in existence that provide information either about a Dodo being seen alive in England, or supposedly sent alive to England. Unfortunately, not one of these documents gives or even suggests either the date or the name of the donor of the Tradescant specimen, so we cannot presume that any of them was the source.

The first, a unique record of live Dodo in London, England, was written by the historian, Sir Hamon L'Estrange, who in about 1638 (Sloane 1839) described seeing a bird kept in a chamber by a showman and called by the keeper 'Dodo', and reads:

About 1638, as I walked London streets, I saw the picture of a strange looking fowle hung out upon a clothe and myselfe with one or two more in company went in to see it. It was kept in a chamber, and was a great fowle somewhat bigger than the largest Turkey cock, and so legged and footed, but stouter and thicker and of more erect shape, coloured before like the breast of a young cock fesan, and on the back of a dunn or dearc colour. The keeper called it a Dodo, and in the ende of a chymney in the chamber there lay a heape of large pebble stones, whereof hee gave it many in our sight, some as big as nutmegs, and the keeper told us that she eats them (conducting to digestion), and though I remember not how far the keeper was questioned therein, yet I am confident that afterwards she cast them all again.

Hamel (1848), Strickland and Melville (1848), (Blackwood's Edinburgh magazine 1849), Rothchild (1907) and Fuller (2002) suggest that as the Tradescants were the most famous collectors of natural history specimens at that time, and given the geographical proximity to the Ark, with no competing establishments, the L'Estrange Dodo would have been offered to them and nobody else. However, there is much speculation about L'Estrange's description and whether or not he was actually referring to a true Dodo or another kind of bird (e.g. Hamel 1848; Pinkerton 1852; Hachisuka 1953; Parish 2013). Nonetheless, L'Estrange's bird is by far the best candidate for the origin of the Tradescant Dodo (see Hume 2006).

The second possibility of the origin of the Tradescant Dodo was provided by Emanuel Altham (c. 1600–1635). Altham was a member of a prosperous London family and landed gentry in Essex (Newton 1874; Parish 2013) and in his journeys to North America and the Far East, he looked for any natural resources or goods that could bring financial rewards to his family and the London Adventurers Company. Visiting Mauritius on 18 June 1628, Altham sent two letters to his brother, Edward (see Newton 1874 for a full transcription) stating that he was sending a live Dodo as a gift; cautioning it with additional emphasis 'if it live'.

Altham's second letter, repeats the message:

You shall receive ... and with all a strange fowle which I had at the island Mauritius, called by y^e portingalls a Dodo, which for rareness thereof I hope will be welcome to you. Mauritius y^e 18th June 1628

Unfortunately, there is no evidence confirming the Dodo's arrival in England, live or dead. Third, but the least likely possibility that a Dodo could have been brought by Thomas Herbert (1606–1682) was suggested by Duncan (1836) and Gunther (1925). Herbert, educated in Cambridge and Oxford, received a place in Sir Dodmore Cotton's ambassadorial suite to the Persian Court, and visited many countries during his outward and homebound journeys (Herbert 1634). On his return voyage, he stopped at Mauritius in 1629, noted that it was still uninhabited, and presumably observed Dodos, but he did not mention collecting one. In his letter to Ashmole, dated 1 September 1680, Herbert wrote 'a place I well know [South Lambert] having bin sundry times at Mr. Tradescants (to whom I gave several things I collected on my travails)' (Davies 1870). John Tradescant confirmed some sort of donation, by including Herbert's name in the list of Principal Benefactors to the Ark (Tradescant 1656).

The origin of the Tradescant Dodo still remains in doubt and we highlight only the most likely sources of the specimen, but the list is far from conclusive. Its origins may well lie elsewhere.

Lack of published observations on the Tradescant Dodo

If all the available documents concerning the Tradescant collection are analysed, it is surprising how few references are made about the Dodo in the collection. There is a scarcity of documents, pamphlets or news sheets, which is somewhat surprising considering that the Ark was one of the bigger attractions at that time in London. As there is nothing in Mundy's or Stirn's recollections, there is a presumption that the Dodo had not arrived in the Ark by the time of their visits in 1630s. Yet how can we explain the lack of recall of the visitors to the Ark after the publication in 1656 of the *Museum Tradescantianum*, where the Dodo

was clearly listed? People like Walton, Evelyn and members of the Royal Society certainly visited the museum in the 1670s long after the Dodo became a part of the Ark and never commented on seeing it. The Dodo was also not mentioned by those who years later visited the Ashmolean Museum in Oxford, most notably Zacharias Conrad von Uffenbach in 1710 (Uffenbach 1928), the celebrated German scholar. Are we to presume that the Dodo was not such a big attraction, nor worthy of record, after all?

It is apparent that in England and other European countries, only sailors and natural historians would have had any knowledge or interest in the Dodo (Turvey and Cheke 2008). Herbert (1638) was the only person to publish on it directly, although translated Dutch voyages were also available; hence, it is likely that the Dodo was unknown to most visitors to the Ark. The Dodo only appears to have got its fame in the nineteenth century and until then did not merit much attention, except by specialists like the natural historians Ray and Willughby. Therefore, caution should be applied when using the rather sparse evidence available now to determine the Dodo's origins, as there are other possible sources. The list of benefactors to the Ark provides 109 names, most of which point to a period contemporary not with the younger Tradescant but with his father and the times of writing of Mundy and Stirn, i.e. around the 1630s. It seems that by then the collection was well established, as proved by their visits, long before the times of younger Tradescant and the compilation of the catalogue. Tradescant the Elder enjoyed the good fortune of working for the great royal favourite, George de Villiers, Duke of Buckingham (Allan 1964; MacGregor 1983; Leith-Ross 2006; Potter 2006) and even received gifts and support from his other employer, Charles I (Potter 2006). In times of patronage, a powerful employer could have opened a lot of doors and been the passport to a lucrative contract, position or, as in the case of Tradescants, access to rare and unique objects (Swan 2001). London (1983) suggests an extensive network of people aligned to Tradescants' employers, with King Charles I, his wife Queen Henrietta Maria and Archbishop Laud heading the list, and Kusakawa (2011) draws attention to a 'gift-giving culture of natural objects across noble families in Europe'. A considerable number of the benefactors were connected with the East India Company, either as captains of the seagoing vessels, or as merchants dealing with the company or the Company's directors (Leith-Ross 2006). All of them were well positioned to procure a Dodo, and then offer it to the Tradescants. There was also a request in 1633 from Secretary of State, Francis Widenbank, to the court of the East India Company, on behalf of Charles I (Leith-Ross 2006):

That the Company should write for such varieties as are expressed in a paper thereinclosed, and being returned to deliver them to John Tradescant to be reserved by him for His Majesties Service.

and a few years earlier, in 1625, a direct appeal from Tradescant, this time on behalf of his then employer, Duke of Buckingham (MacGregor 1983):

I have bin Comanded By my Lord ... that ye should In His Name Deal withe All Merchants from All Places ... that when they [men go] ... that they will take care to Furnishe His Grace Withe All Maner of Beasts & fowles & Birds Alyve. Or If Not With Heads Horns Beaks Clawes Skins fethers.

and:

of All other strang sorts of fowelles & Birds Skines and Beakes Leggs & phetheres that be Rare or Not known to us ... Any thing that Is strang



Figure 1. Three views of the head of the Tradescant Dodo.

Another possibility is that the donor of the Dodo was not important enough and thus did not warrant an inclusion in the list of benefactors. Egmond (2008) and Kusukawa (2011) emphasise that the early collections were assembled through the facilities of various ‘apothecaries, merchants, ... fishermen, peddlers and various middle-men’ or menagerie – or bird-keepers, while George (1985) suggests that sailors played a significant role in bringing unknown or rare specimens back to Europe. Whether a merchant, peddler, sailor or menagerie-keeper, none of these people was ‘qualified’ for inclusion. The List of ‘Principall Benefactors’ in itself was a ‘collection’ of the most important names in the country, to be displayed just like the specimens themselves, and to show the Tradescants’ connections with the most important families in the land. The List’s role was to ultimately elevate the status of its owner and certainly not to be downgraded by the addition of anybody from a lower social stratum (Swan 2001).

It is interesting to note that sailors or ‘lower social stratum’ were the usual source for importing exotic animals, and this might be the reason why the L’Estrange Dodo was owned by a showmen and not by royalty or kept in an aristocratic menagerie. A number of ships under the flag of the English East India Company visited Mauritius to refurbish ships, to give respite to

the sick and to take on board fresh meat and water (Barnwell 1948; Cheke and Hume 2008). Any sailors on board these vessels would have had the opportunity to collect Dodos and other interesting specimens.

The nature of the Tradescant Dodo – mounted, stuffed or not?

The art of taxidermy was already making it possible for animals to be stuffed, moulded and in some ways prepared not only to slow down the decaying process, but also to display them as if they were alive (MacGregor 2007; Morris 2010). However, although most authors (Duncan 1836; Strickland and Melville 1848; Gunther 1925; Fuller 2002; Parish 2013) state that the Dodo was ‘stuffed’; there is no indication in any of the original sources confirming it to be so. One of the visitors to the Ark mentions that he saw it dried and only as an afterthought he added, ‘or stuffd’ (Willughby 1676; Ray 1678), which appears to be a synonym of ‘dried’ in any case. In taxidermy terms, there are two types of stuffed skins: a flat, cabinet skin that is dry and can be partly padded with some stuffing, or a fully stuffed, mounted specimen arranged in a life-like pose. A typical mounted bird ‘as in life’ would have had a wire put through its leg bones to enable the specimen to stand up and to support the weight of a stuffed body (Morris pers. comm. 2015). In the case of a bird the size of a Dodo, it would have been particularly important and the supporting wire would need to have been of a rather thick diameter. The Tradescant Dodo shows no sign of any armature or holes drilled in bones to indicate that it was mounted. Furthermore, the digits of the feet would have had to be arranged in a spread, flat plane to provide a steady base, with the fourth digit directed backwards as in life to counterbalance the first three (Hume et al. 2006; Pat Morris pers. comm. 2015). It is now impossible to ascertain the original position of the foot of the Tradescant Dodo, but fortunately there are three documentary sources showing that the specimen was an unmounted one. The drawing of the intact Tradescant (Oxford) foot alongside the London foot, executed by John Edward Gray (1800–1875) sometime between 1824 and 1828 (Mr. Gray exhibited ... 1828), clearly shows the ‘bunched’ and not ‘spread’ digits (Hume et al. 2006) (Figure 2(a)). Another drawing shows the foot in the same pose but exhibiting skin loss due to decay (Blainville 1835) (Figure 2(b)), and a third made after the removal of skin from the foot shows the exposed tendons and ligaments with the digits in the same position (Owen 1846) (Figure 2(c)). Additionally, a wax cast with clearly visible tendons and ligaments, made at around that time, and still preserved in the OUMNH, shows just like the previous drawing, a foot in a non-mounted position (Figure 3).

What is unclear is how the Dodo was displayed. There is of course the possibility that it was mounted in an upright position; however, the size of the Dodo and necessary supporting structures indicate that it was a cabinet skin rather than a mount. Thomas Molyneux (in MacGregor 1983) stated that in the new Ashmolean Museum ‘the walls ... are all hung round with John Tradescant’s rarities’, as did specimens in Worm’s museum (see Impey and MacGregor 1985, 169), so it is likely that the Tradescant Dodo was either hanging from the ceiling or walls, or laid out on a suitable flat surface.

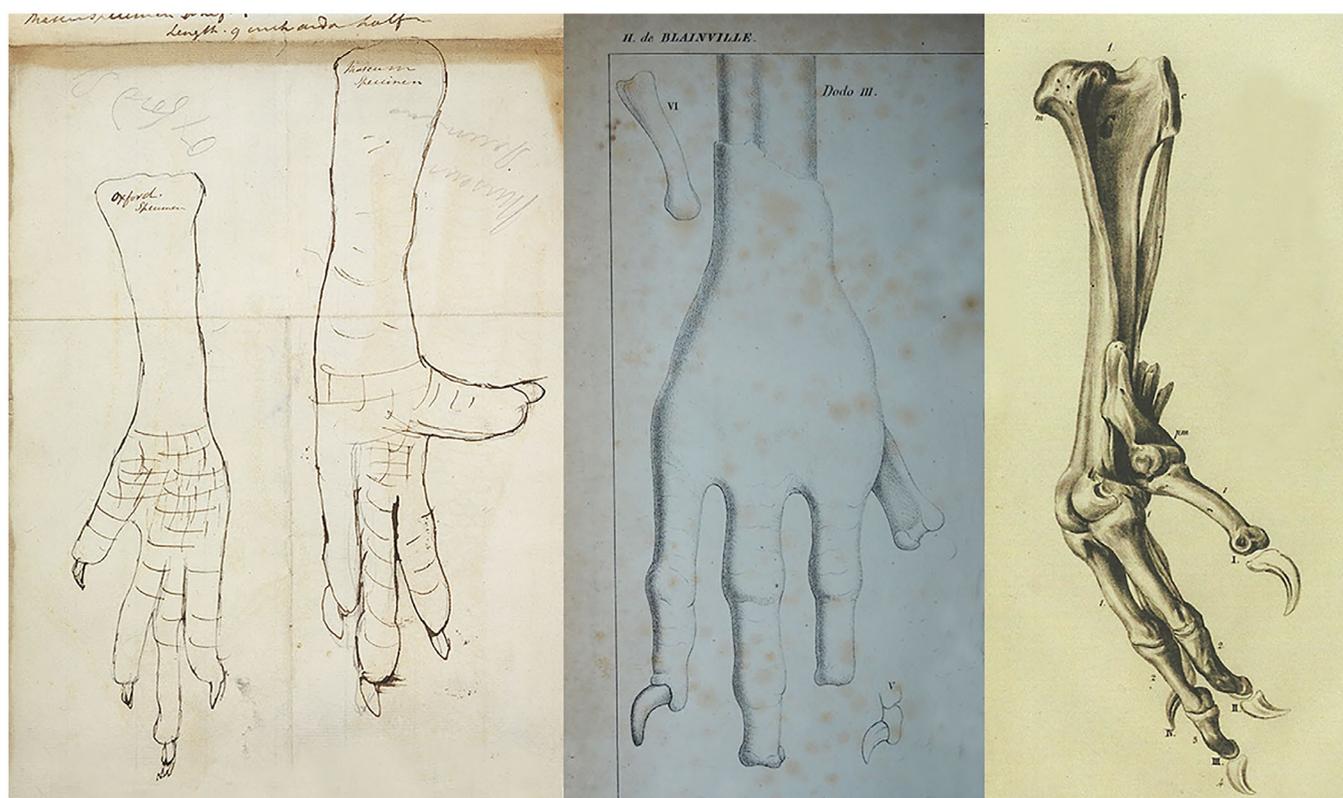


Figure 2. Illustrations of the Tradescant Dodo foot showing the unmounted pose. (a) John Edward Gray c.1824 (Tradescant Dodo left, London foot right) (from Hume et al. 2006). (b) Blainville's (1835) illustration of the Tradescant foot showing decay damage to the skin. (c) The Tradescant foot after partial dissection (Owen 1846).



Figure 3. Wax cast (right) of the Tradescant Dodo foot, alongside the bones as they are preserved today.

The end of the Tradescant era

Although the main work of listing and cataloguing the contents of the Tradescants' Ark was finished by September 1652, the printing of the catalogue was postponed until 1656 (Tradescant 1656). There were several reasons for the delay, but the most tragic one was the death, at the young age of 19, of the only son of Tradescant. With no heir to take over the Ark, Tradescant offered it to Ashmole, his co-compiler and financier of the catalogue of the collection, and a deed of gift was presented on 16 December 1659 (Ashmole and Josten 1967; Leith-Ross 2006; Potter 2006). Tradescant did

not realise that the deed was not revocable and in his will of 1661, he made his wife Hester the sole beneficiary (Leith-Ross 2006). Just a year later, on 22 April, 1662, John Tradescant the younger died and the relations between Ashmole and Hester soon became strained through ownership disputes, which Ashmole pursued through the courts, winning in the end (ibid). In October 1674, Ashmole moved next door to Hester, and the following month he began moving the Ark's treasures to his new premises. The removal took place on two dates, on 26 November 1674, when Mrs. Tradescant was '... willing to deliver up the Rarities to me, I carried several of them to my house' and just a few days later, on December 1, 'I began to remove the rest of the Rarities to my house at South-Lambeth' (Ashmole and Josten 1967).

The collection was placed in a large, fine attic room where, from now on, only a selected few, chosen by Ashmole himself, were allowed to come and view the rarities (Leith-Ross 2006; Potter 2006). Amongst the visitors were Isaak Walton, the famous author of *The Compleat Angler*, who came in 1675; a group of Royal Society Fellows, which included Robert Hooke, the Society's first curator of experiments, visited in April 1677; John Evelyn, the diarist and President of the Royal Society, in July 1679; and many others including foreign diplomats (Ashmole and Josten 1967).

On 4 April 1678, Hester Tradescant was found drowned in her pond (Ashmole and Josten 1967), her last years having been made increasingly unhappy by Ashmole's legal actions against her. Less than a month after her death, Ashmole removed the last remaining objects of the Ark from her house (Ibid).

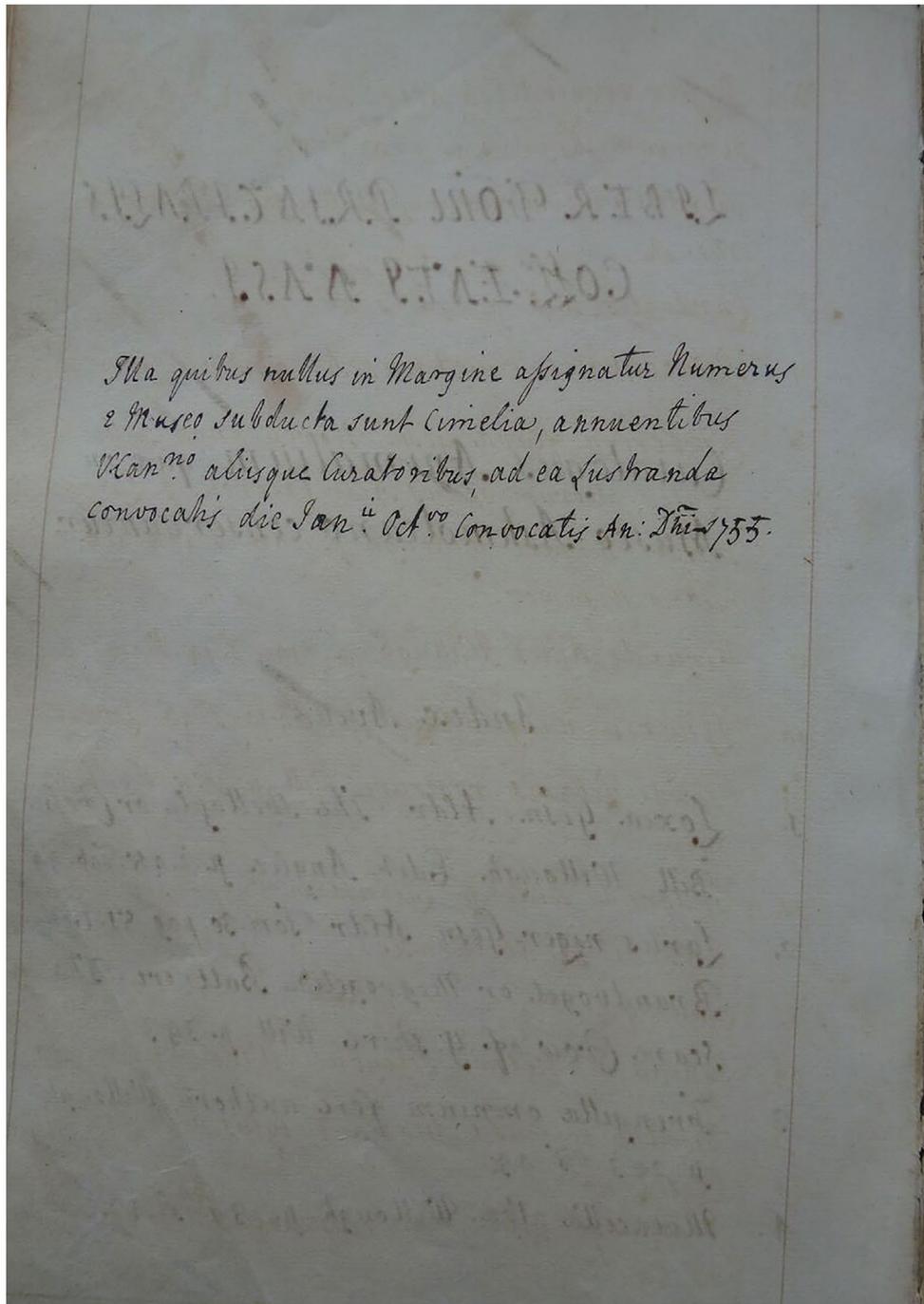


Figure 4. The original note that was inserted into the 1695 catalogue explaining what happened to the specimens post 1755 Luctrandum. It reads: 'Those items to which no number is assigned in the margin are withdrawn with the approval of the Vice-Chancellor and the other Visitors, who met on 8 January 1755 to examine them.'

The Dodo moves to Oxford: the Ashmolean Museum

As early as 1675, Ashmole approached the University of Oxford, his *alma mater*, with a proposal of gifting not only his collections of coins, medals and books, but also the entire collection of the *Museum Tradescantianum* (Ashmole and Josten 1967; Ovenell 1986; Leith-Ross 2006). The offer was on condition that the University erected a suitable repository for the treasures, named after the donor. Oxford, still on the wave of scientific discoveries and experiments by the Oxford branch of the Philosophical Society, and aware of the success of the Royal Society in London, enthusiastically took up the offer. It was going to be a temple

of science that had a place not only for the Ashmolean and Tradescant collections, but also for a Natural History School on the first floor, and even a chemistry laboratory in the basement. Remarkably however, the architect of the new museum remains unknown. In August 1682, Ashmole went to Oxford to see the Museum 'prepared to receive my rarities' (Ashmole and Josten 1967, 247). He started to pack up the specimens on 15 February 1683, and a month later, on 14 March, the last consignment was sent off. The treasures filled up 12 cartloads and it took one week to have them transported by barge, arriving in Oxford on 20 March (Ovenell 1986). Dr. Robert Plot, the Keeper of the

*Numerus ille alter in Margine
denotat quo signantur in novo
Catalogo fact. 1756.*

Figure 5. A second note added to the 1695 catalogue states: 'The other number entered in the margin indicates those assigned in the new catalogue drawn up in 1756'.

Museum, helped with the packing in London, and was now fully occupied with unpacking and arranging the specimens in their new home.

The grand opening of the Museum took place on 21 May, and was given a royal seal of approval by the attendance of the King's younger brother, the Duke (future James II) and Duchess of York and their daughter who was to become later Queen Anne (Ashmole and Josten 1967, 252; Ovenell 1986). Three days later all the dons from the colleges were invited to inspect for themselves the museum and the contents. Opinions were divided between some who thought that it was the way the University should encourage investigation into nature, and some who desultorily called it the 'Knick-knackatory' or 'Knackatory' (Ashmole and Josten 1967).

In the new Museum, just like in the Tradescant's and Ashmole's homes, the collections were displayed in the top room of the building, to provide enough light to see the details of the specimens and artefacts, and no doubt to extend the hours of viewing and thus the income coming with it. After the official opening, the Tradescant specimens once again were open to the general public, not just to the privileged few, but great care was exercised on the part of the keeper for the safety of the specimens. Only one group of people was allowed to enter at any one time, with the door locked to prevent any unsupervised visits (MacGregor 2001b).

To guarantee the well-being of the Museum, Ashmole designed a set of comprehensive rules and statutes (see MacGregor 2001a). The most important principle was the establishment of a board of

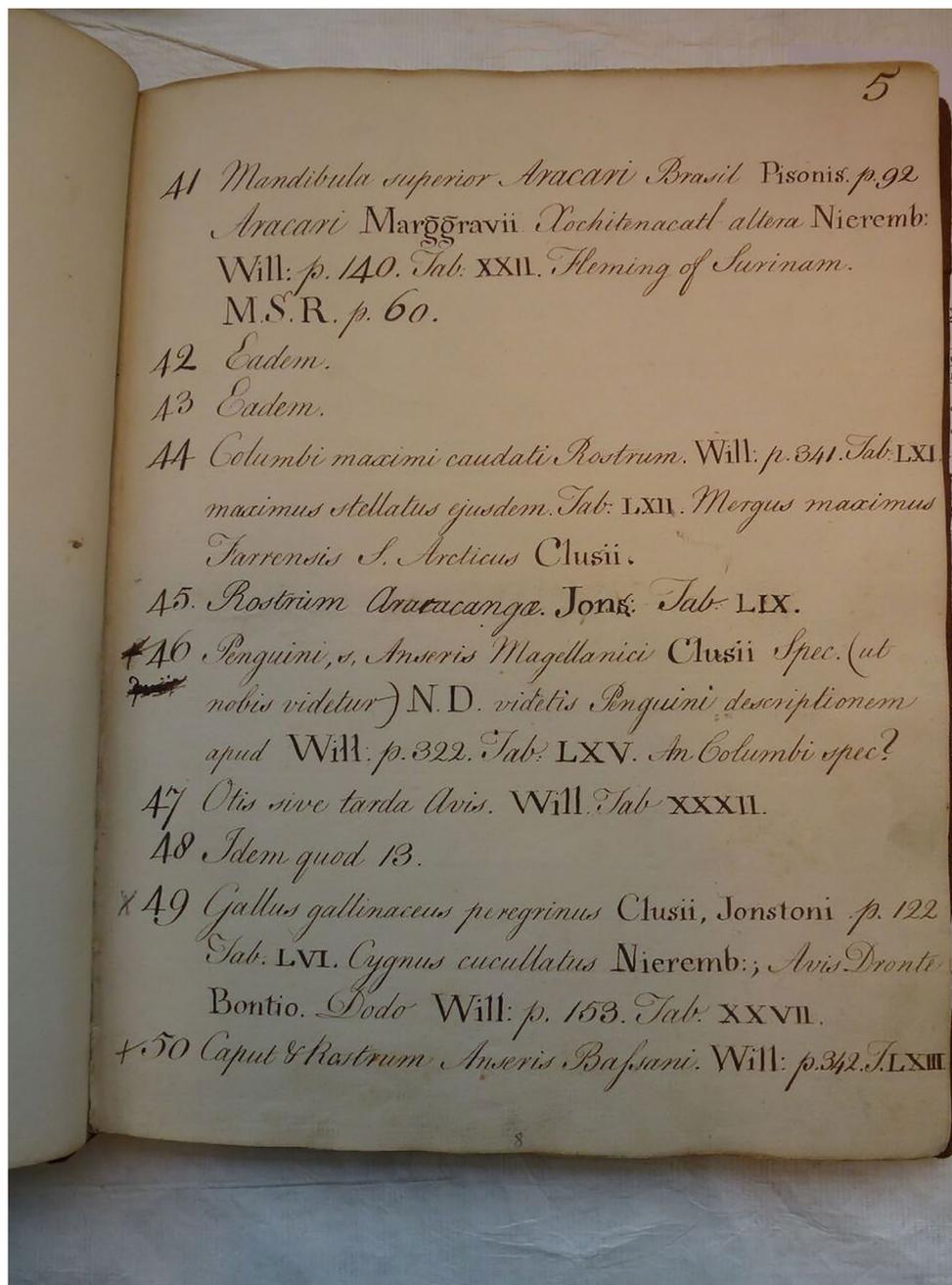


Figure 6. Listing of the Tradescant Dodo head (No. 49) in the new catalogue Liber Domini Principalis Collegii Aenei Nasi of 1756.

six Visitors, all University officials, who individually were made responsible for an annual inspection of specific collections, with the zoological specimens becoming the responsibility of the Principal of Brasenose (Ovenell 1986; MacGregor and Hook 2006). Another stipulation was that 'a Catalogue of the Rarities shalbe made ... within two years after they shalbe placed in the Museum'. As a further protection against 'embezelment' (sic) and 'fraude' (sic), a copy of each of the individual catalogues made and bound together into one volume to be kept as an insurance by the Vice-Chancellor (MacGregor 2001a). The original catalogue of the zoological specimens *Liber Dōni Principalis Coll. Ænei Nasi. Catalogus Animalium quæ in Museo Ashmoleano conservantur* (The Book of the Principal of Brasenose College) went missing, possibly as early as the beginning of the eighteenth

century (MacGregor and Hook 2006), so Ashmole's provision for a copy of each of the catalogues proved essential as this is the only documentary evidence for the existence of the Tradescant Dodo at this time. It is listed in the *Index Aviū* where it occupies position number 29:

Gallus gallinaceus peregrinus Clusij, Jonst. T.56. p.122. Cygnus Cucullatus Nierembergij, Avis Dronte Bontio Dodo Willugbeij. p.153. Tab. 27

[Dodo. Gallus gallinaceus peregrinus of Clusius. Jonston 1657b, p.122, Tab.56. The Cygnus cucullatus of Nieremberg; the Avis dronte of Bont; the Dodo of Willughby 1676, p. 153, Tab. 27]. (translation in MacGregor and Hook 2006)

The Tradescant Dodo was certainly, at that point, still an entire specimen, as Lhwyd (1695–1696), the compiler of the catalogue,

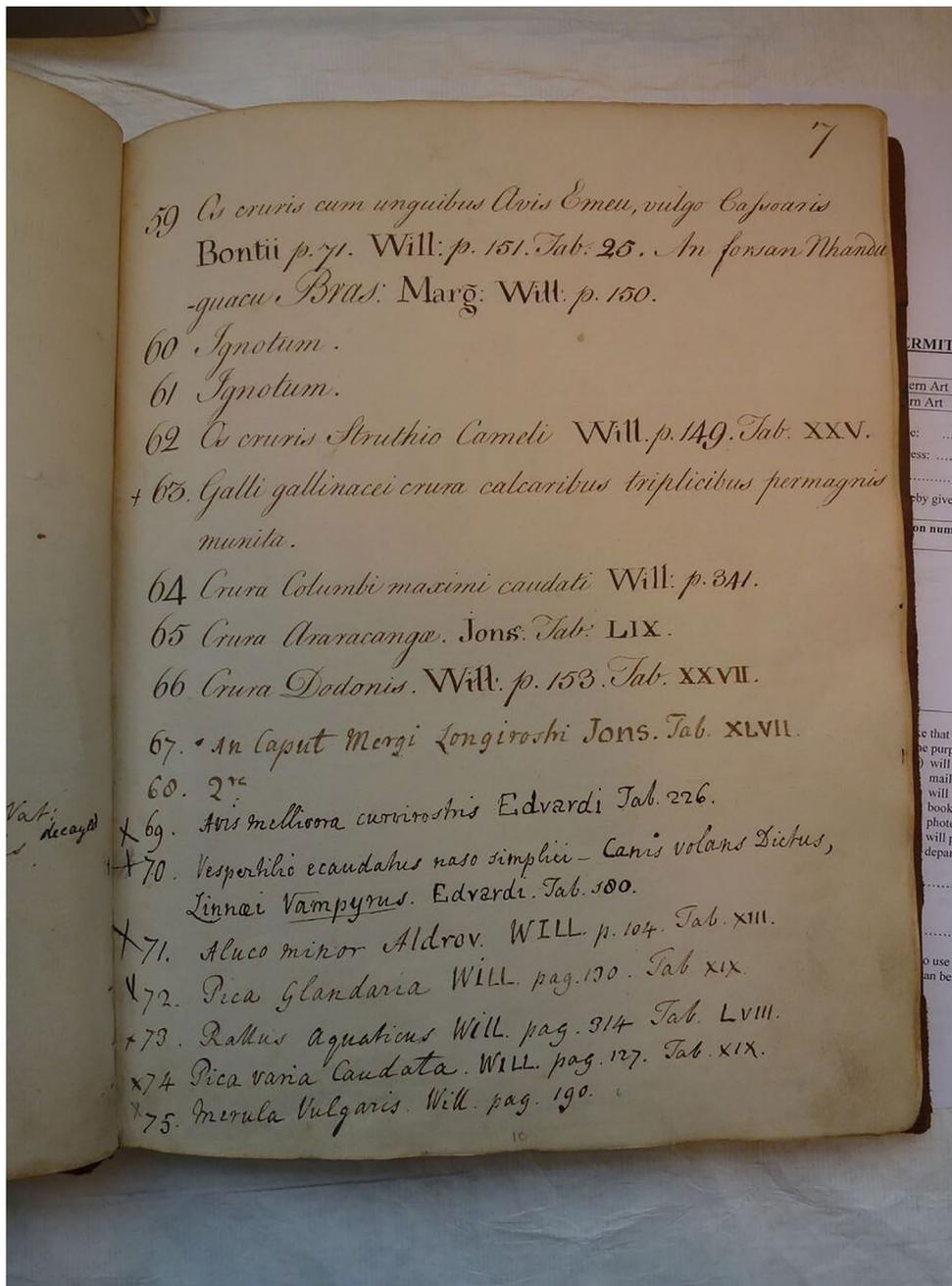


Figure 7. Listing of the Tradescant Dodo legs (No. 66) in the new catalogue Liber Domini Principalis Collegii Aenei Nasi of 1756. Note that a pair of legs is listed, indicating that both legs were originally preserved.

conscientiously recorded skulls, beaks or legs as the only representations of some of the other bird specimens.

Decline of the collection

The care and protection of the Museum's specimens did not last for long, as one foreign visitor soon noted the total lack of concern both on the part of the visitors, and curator for their welfare. Uffenbach (1928), visiting Oxford in 1707, wrote in his diary that the natural history specimens were to be found in the biggest and most important room of the Ashmolean Museum, which, however 'looks more dignified from the outside than from inside'. When, prior to his visit to

the Ashmolean Museum, he tried to visit the Bodleian Library, Uffenbach noted that:

it was market day and all sorts of country-folk men and women, were up there, for the leges ... allow everyone to go in. Every moment brings fresh spectators of this description and, surprisingly enough, amongst them peasants and womenfolk, who gaze at the library as a cow might gaze at a new gate with such a noise and trampling of feet that others are much disturbed.

A few days later, presumably not on a market day, Uffenbach made his way to the Ashmolean Museum, and in his usual acerbic style noted:

... The specimens in the museum might also be much better arranged and preserved, although they are better kept than those in Gresham College, London which are far too bad considering

their splendid description. But it is surprising that things can be preserved even as well as they are, since the people impetuously handle everything in the usual English fashion and, as I mentioned before, even the women are allowed up here for sixpence; they run here and there, grabbing at everything and taking no rebuff from the SubCustos.

The specimens displayed on shelves or in drawers were certainly easily accessible and not only liable to the damage inflicted by the handling of visitors, but also by fumes from the open fires, general dust and the perennial enemy of natural history collections – the insect pests.

The seventeenth- and early eighteenth-century preservatives were not that different from those used in ancient Egypt where the use of myrrh, cassia and various aromatic herbs and spices was widely practised (see Farber 1977; MacGregor 2007). Some changes in the taxidermy practices were introduced in the Middle Ages when stuffed birds were used in hunting and falconry. Early bird taxidermy did not include a thorough removal of soft tissues, apart from viscera, and the body cavity was stuffed, most often with straw; the remaining muscles and brain were left behind providing a rich source of nourishment to a variety of insect pests that caused extensive damage and destruction of the specimen (MacGregor 2007). The oldest surviving bird taxidermy specimen, apart from the Tradescant Dodo, is the Duchess of Richmond parrot prepared in 1702 (Morris 2010), but generally, taxidermy specimens, especially birds, were not expected to survive for more than 30 or 40 years at most (MacGregor 2007). The Tradescant Dodo's survival for nearly 100 years could be considered very unusual indeed when we consider that only tanning salts, (salt NaCl) and alum ($K_2SO_4 \cdot Al_2(SO_4)_3$), were used in its preservation (Julian Carter pers. comm. 2007). The use of arsenic and mercuric compounds as a better means of prevention of insect attacks or moulds did not come until around the middle 1800s (Morris 2010), but as late as 1846 bird skins were 'destroyed by insects, notwithstanding the arsenic soap' (letter from Edward Heath to Strickland, November 26, 1846 E-0778 Cambridge Mus. Zool.). Arsenic soap was invented in the mid-eighteenth century and made popular in 1803 by Louis Dufresne, curator and taxidermist at the Paris Museum (Farber 1977; Steinheimer 2005).

Another contributory factor, quite apart from the insect attacks, is the presence of fat under the skin. Fat needs to be fully removed before preservation, and this can be quite difficult. A seventeenth-century skinner might not been aware of the importance of its removal or been skilful enough to do it properly. If left in the skin, the fat can slowly migrate to the feathers changing their colour and, at the same time, attract dirt and dust. Further danger is caused by fat going rancid and rotting the skin, a condition known to taxidermists as 'fat burn' (Morris 2010). The skin becomes crumbly and simply falls apart, which could have been another reason for the disintegration of the Tradescant Dodo, and perhaps this was the main reason for its demise (Morris pers. comm. 2015). Only at the end of the eighteenth century was the total removal of all soft tissues recommended, and the standard preparations from now on would have the leg and wing bones left *in situ*, and the skull left incomplete, as the brain would have been extracted by the removal of its occipital parts (Morris 2010).

So it will not come as a great surprise that on the 8 January 1755 during an annual inspection of the Ashmolean Museum

Visitors, it was found that the Dodo was damaged beyond repair. Following another of Ashmole's rules in his 'Statutes, Orders and Rules' (see Ovenell 1992): 'That as any particular groves old & perishing, the Keeper may remove it [...] & some other be substituted'. The Dodo was removed from display but there was now no 'other' to be substituted.

The great myth that has surrounded the Tradescant Dodo for well over 150 years is the erroneous story of the burning of the specimen. The story told of the fateful day in January 1755 when the Vice-Chancellor of Oxford University, together with other officers, made the decision to destroy the Dodo and many other specimens, mostly birds, from the Museum. Over time, the story progressed to an even more dramatic scenario of a great fire, lit up on the ground outside the Museum in which the Dodo carcass was thrown, and at the very last moment, the Museum's curator rescued the head and foot. The story was started by Duncan (1828) who wrote that the Dodo was 'destroyed by order of the Visitors', repeated and added to by Strickland in his book (Strickland and Melville 1848), used and exaggerated by other authors like the Vernons in their History of the Oxford Museum (1909) and by Gunther in his Early Science in Oxford (1925) until it reached a crescendo in a story told by Whitehead (1970, p. 50), who stated:

On a cold January afternoon in 1755 a bonfire was lit outside the Old Ashmolean Museum in Oxford and a quantity of decaying and apparently useless specimens were consigned to the flames. Amongst these were the remains, then a century old, of the last Dodo to be seen alive in Europe. At the last moment someone darted forward and salvaged the head and one leg.

Reality, as it is usually the case, was rather more prosaic and mundane. It was most probably an inaccurate and misleading translation of the Latin text that reported the result of the meeting of the Visitors on the 8 January. The text contains the word 'lustrandum' meaning inspection or examination, but it was probably mis-translated as 'lustrum' – an ancient Roman ceremony of purification or cleaning, that was usually done by fire; this is the most likely origin of the fire story (Ovenell 1992).

Another fallacy was that the Vice-Chancellor with other visitors ordered the Dodo's destruction and it was only thanks to the Curator or Keeper that the head and the leg were rescued (Gunther 1925; Vernon and Vernon 1909). But the Vice-Chancellor and the Keeper were the one and same person! George Huddesford (c. 1699–1776), President of Trinity College from 1831 till 1776, became the Keeper of the Ashmolean in 1732 till 1755, and a Vice-Chancellor of the University in 1753 until 1756 (Ovenell 1992).

Thus, due to decay, a number of specimens were removed and in some way destroyed, but whatever remained in good condition, even parts of the disposed specimens, were kept and given new catalogue number or numbers (Ovenell 1986). Following Ashmole's Statutes, the catalogue served as means of noting any changes and decisions concerning the contents and the numbering of the constituent specimens. Indeed, on one of the first pages of the catalogue the following note can be seen (Figure 4):

Illa quibus nullus in Margine assignatur Numerus e \museo subducta sunt Cimeli, annuentibus V. Can. aliisque Curatoribus, ad ea Lustranda convocatis die Janii. Octavo. Convocatis An: Dni. 1755.

[Those items to which no number is assigned in the margin are withdrawn with the approval of the Vice-Chancellor and the other

Visitors, who met on 8 January 1755 to examine them]. (translation in MacGregor and Hook 2006)

and:

Numerus ille alter in Margine denotat quo signantur in novo Catalogo fact. 1756 (Figure 5)

[The other number entered in the margin indicates those assigned in the new catalogue drawn up in 1756]. (translation in MacGregor and Hook 2006)

Over the years, it became apparent that because of the changes, and the resulting notes cramming the pages of the catalogue, there was a need for a new version of it that would make the process of annual 'stock-taking' much simpler and easier. The then Keeper William Huddesford (Keepership 1755–1772), widely recognised as one of the best and most competent the Ashmolean Museum ever had, compiled a new catalogue where he carefully entered the surviving remains under new headings/categories and new museum numbers (Huddesford 1756; Ovenell 1986).

The new *Liber Domini Principalis Collegii Aenei Nasi* catalogue, compiled in 1756, so just a year after the famous Visitation, listed whatever was left of the Dodo. The remains of the Tradescant Dodo, now no longer one whole specimen, but two different parts, were thus catalogued under two separate headings with two separate numbers reflecting the changed nature of the specimen (MacGregor et al. 2000; Figure 6):

Avium exoticarum rostra (Beaks of exotic birds):

No.49. Gallus gallinaceus peregrinus Clusii, Jonstoni. p. 122 Tab. LVI, Cygnus cucullatus Nieremb; Avis Dronte Bontio. Dodo Will: p. 153. Tab. XXVII

[No. 49. Dodo. The Gallus gallinaceus peregrinus (wandering cock) of Clusius, Jonston (1657b, p. 122, Tab. 56); Cygnus cucullatus of Nieremberg [1635, p.232]; the Dronte of Bont; Dodo of Willughby (1676, p. 153, Tab. 27)]. (translated in MacGregor et al. 2000b)

and:

Avium exotic: cruza cum unguibus (Legs of exotic birds, with claws)

No.66. Crura dodonis. Will. p. 153, Tab. XXVII (Figure 7)

[No.66. Legs of the Dodo. Willughby (1676, p. 153, Tab.27)]. (translated in MacGregor et al. 2000)

Most interestingly, No. 66 lists 'crura' – legs, so it was not just one leg of the Dodo. As the preceding entries in the catalogue are quite specific in stating the singular or plural nature of respective specimens, it seems that at least in 1756 possibly both legs of the Dodo had survived the visitation of 1755. There is another mention of two Dodo legs by one of the visitors to the Ashmolean Museum (Carus 1846):

and the Dodo, along with the rest of Ashmole's collection was brought to Oxford in 1689. Here it was to be seen in the museum till 1752, when it fell to pieces, and only the head and the two feet could be preserved. One of the feet is now in the British Museum.

Indeed, there were suspicions that the British Museum (Natural History) (now the Natural History Museum, UK) Dodo leg is the missing Tradescant one. However, the London specimen was much larger than the Oxford one, and the fact that the leg was already in the possession of the Royal Society when the Tradescant Dodo was still intact (Strickland and Melville 1848; Hume et al. 2006), disproves this suggestion.

There was one other rule that Ashmole put into his statutes, though no attempt was ever made to enforce it (Welch 1983):

That whatsoever natural Body that is very rare, whether Birds, Insects, Fishes or the like, apt to putrifie & decay with te tyme, shalbe painted in a faire Velome Folio Booke, either with water colors, or at least design'd i black & white, by some good Master, with reference to the description of the Body it selfe.

Unfortunately, the opportunity of immortalising the Tradescant Dodo was now lost forever.

Ashmolean Museum – John Shute Duncan and Philip Bury Duncan

The few years of scientific expectations and excitement at the Ashmolean Museum gave way to a stupor and general lack of interest in science, the collections or in the Museum itself. After Huddesford's diligent keepership, the next curators came and went, but were generally apathetic in their roles (Cox 1870):

The Museum itself seldom seemed to occupy the time or thoughts of the Curator; indeed it was a rubbishy, neglected place, where a Deputy Curator sat, apparently for the sole purpose of looking after the sixpences charged per head for admission to the 'Curiosities'.

A general inertia ruled for many years, and the 'Museum lost nearly all hold on public attention' (Rowell 1881), but there were a few visits from naturalists like Shaw at the end of the eighteenth century (Shaw and Nodder 1792–1794), Hamel in 1814 (Hamel 1848), and Cuvier in 1818 and 1830 (Parish 2013), who all came to view the Dodo. According to Shaw (Shaw and Nodder 1792–1794):

... I have now the pleasure of presenting my readers with a still more satisfactory relique of that singular bird, viz. the beak, with the fore-part of the head still adhering to it. This I was so fortunate as to discover very lately in the Ashmolean Museum at Oxford.

Happily, there was a new interest in the natural sciences stirring in the rooms just below the Ashmolean. Lectures and experiments of Kidd, Buckland and Daubeny drew big audiences (Duncan 1836) and at the same time undoubtedly focused attention on the Museum itself. When John Shute Duncan (1769–1844), the new Keeper, took over the reins, he was presented by the Vice-Chancellor with a plan for re-developing the institution (Ovenell 1986). Duncan set off to sort out the collections, displays and the building itself, writing to the University governing body, Hebdomadal Council, that his efforts and any money received from the Council 'must be considered as in furtherance of a project to improve the Collection and introduce a little taste for Natural History, & to attempt a slight & very general illustration of Paley and Cuvier' (ibid). In his Report of the State of the Museum Catalogues, he states (Duncan 1825):

All the skins of Tradescant's Museum have long ago perished except that of the Manis or scaly lizard & one or two Armadillos ... The Reptiles & Fishes are for the most part the remains of Tradescant Collection.

Soon most of the remnants of the Tradescants' natural history collection were placed in a cabinet specifically purchased (at the cost of £25) for *Rarities formerly uncovered & unarranged* and now fully protected and placed on the eastern wall of the Museum.

During his time working on the Tradescant relics, Duncan became aware that there were doubts about the Dodo's authenticity. For example, James Francis Stephens in his *General Zoology or Systematic Natural History Commenced by the late George Shaw*

(1819) opined: ‘The Dodo of Edwards appears to have existed only in the imagination of that artist’, despite Shaw (1809, p. 214) having previously confirmed the validity of the bird. Not surprisingly, with just the remains from two individual Dodo specimens available, and the fact that all of these specimens were to be found exclusively in English institutions (Ashmolean Museum and the British Museum), some of the European naturalists raised serious doubts about it. The yet undiscovered Prague beak and Copenhagen skull, and the general paucity of information, did not help the widespread conviction and thus prompted Duncan (1828) to write a paper proving the existence of the Dodo.

Six years later, in 1829, John Shute Duncan resigned and his younger brother Philip Bury Duncan (1772–1864) took over the Keepership of the Museum (Ovenell 1986). Philip Bury followed his brother’s ideas and plans for the Museum, including extending it, by taking over the ground floor of the building (MacGregor and Headon 2000). The primary objective was to change the Ashmolean into a strictly natural history museum, without the distraction of any man-made objects. The displays were to continue to combine two purposes of the natural history collections: to show the greatness of the divine Creator’s perfect design according to the tenets of Paley’s (1743–1805) Natural Theology (Paley 1803); and to arrange the constituent specimens into their natural groups following Cuvier’s systematics (Duncan 1836). However, the followers of Paley’s Natural Theology had some difficulty with animals that did not adhere to the ‘perfect design’. One of those animals was the Dodo, described by Buffon (1770) as stupid and degenerate, thus questioning the perfection of the Creator’s design. To counter it, the admirers of Paley, including Duncan brothers, Kidd (1824) and Strickland warned against labelling any organism as ‘imperfect’ (Strickland in Strickland and Melville 1848, p. 34):

Each animal and plant has received its peculiar organisation for the purpose, not of exciting the admiration of other beings, but of sustaining its own existence. ... [and] in the adaptation of its whole structure to the external circumstances in which it is destined to live.

Both brothers contributed extensively to the Ashmolean collections, particularly the zoological ones, with innumerable specimens, mostly birds’ skins. In 1836, Phillip Bury Duncan set another milestone in the history of the Ashmolean Museum – the printing of the Ashmolean Museum Catalogue (at his own cost), nearly two hundred years after the printing of the previous catalogue, the *Museum Tradescantianum* in 1656. The Catalogue consists of an Introduction, Appendix and finally the catalogue proper, with the history of museum, including the Ashmolean Museum, as part one and part two where the specimens were grouped and listed following their taxonomic order. In the Introduction to the Catalogue, Duncan (1836) states that:

the head of the Dodo, or dodar is the sole specimen existing of a bird larger than a swan; presented probably by Mr. Thomas Herbert to Tradescant; and brought by him from the island of Mauritius, where only it is reported to have ever been seen, and where it certainly does not now exist. That the stuffed skin was in the Tradescant collection is proved by the Catalogue, and by the incidental mention of it in the Hyde’s Religio Veterum Persarum, and by the statement of Ray. [i.e. Hyde 1700; Ray 1678]

Duncan explains that he does not assign the Dodo to any species, but only to the genus: ‘for the preserved beak and leg, either considered separately or together, would not admit of their

classification with birds of any other genus’. This hesitation in stating that the leg and skull belonged to one bird mirrors widespread concern amongst the zoologist then, as Cuvier (1830), Owen (1846) and others thought that the two parts came from different birds.

The Museum’s specimens and artefacts were divided into seven groups with the zoological holdings assigned to the last group, number 7. Duncan compared and analysed the different systems of animal systematics by Linnaeus, Blainville, Cuvier, Blumenbach, Illiger, Temminck, Latham and Vigors. Both Latham and Blumenbach divided Aves into two main groups: Land and Water Birds, that were further subdivided into 29 groups based on the shape of the beak. According to this system, the Dodo belonged to Land Bird’s last subgroup, number 29, called Bifalcirostris, that followed subgroup Rhombirostris, No. 28, containing Struthio.

In the Catalogue proper, the Dodo is to be found on p.74 in a section *Heads and beaks of birds*, and listed as belonging to the Order V. Grallae, which it shares with the cassowary. The Dodo’s entry states:

81. Head and leg of the Dodo

The entry is accompanied by a history of the Dodo’s discovery on Mauritius, scientific authorities, and papers pertaining to it. Duncan also noted that ‘an accurate investigation of the island of Mauritius, which leaves no doubt of the former existence and present local extirpation of the whole genus’ was due to Mr. Telfair who was approached on this subject by the previous Keeper, Duncan’s brother, John Shute. Charles Telfair (1738–1833) was a military surgeon and naturalist based on Mauritius, and who had supplied many natural history specimens to England (Hume et al. 2014).

One year later W.J. Broderip (1837) from Oriel College, Oxford, wrote an article about the Dodo in the Penny Cyclopaedia, based on his previous publication (Broderip 1833).

With the growing interest in the Dodo, John Duncan commissioned a number of plaster casts of the Dodo’s head to be presented as a gift or means of exchange for other specimens for the Museum. One of the first casts was presented in 1828 to the British Museum (MacGregor and Headon 2000) and in 1835 Blainville received one after his application to Buckland (Blainville 1835). There was a series of five casts commissioned from one John Johnson, paid for on 5 May 1837, and soon after that, a cast was received by Temminck, the head of Leiden Museum. A bill for a series of four casts of the Dodo’s head in 1841 shows that they were made by P.A. Valentini for the price of 0.10.0 (10 shillings); later casts were made by George Augustus Rowell (1804–1892), the underkeeper of the Ashmolean Museum (Ovenell 1986). Casts were sent off to various individuals in England and abroad. One was sent to Liege, one to Brussels, one to Richard Owen, one to the Royal College of Surgeons, another to Copenhagen and another one was taken by Hamel to St Petersburg, to name but a few (Strickland archives F-200, F-408, E-564; Rookmaker 2010).

There is still a number of traditional, plaster of Paris, casts surviving in the OUMNH, but there is also a very different one, made out of wax. It is mounted on an oval stand covered by dark blue velvet, and is enclosed by a glass dome. It presumably came with the rest of the contents of the Christ Church Anatomical Museum when they were transferred to the newly

built University Museum in 1860 (Davies and Hull 1976; Nowak-Kemp 2009).

The tradition of presenting museums with the cast of the Oxford Dodo continued for many years, and as a result the casts can be found to this day in many scientific institutions around the world. The Museum remained open every day except Sundays and holidays. According to the regulations dating back to Ashmole's times, the Museum was free to members of the University, and persons introduced by them, but the admission fee to all others continued to be 6d. each.

The affinities of the Dodo still remained a mystery however, which prompted Duncan to grant permission to dissect the Dodo's foot and head in order to reveal the inner anatomy of the specimen. It was 20 years after the publication of John Shute Duncan's spirited defence of the bird and a decade after Broderip's (1837) article. The main work on the subject was going to be undertaken by Hugh Strickland, who was Broderip's colleague from Oxford's Oriol College. Strickland, although a geologist, was greatly interested in ornithology and consequently the Dodo. The dissection of the Tradescant Dodo resulted in the first and most important of all Dodo monographs, *The Dodo and its Kindred* in 1848, written by Strickland and Alexander Gordon Melville.

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