"Anything that Is Strang": Normality, Deviance, and the Tradescants' Collecting Legacy

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The Tradescants—father and son—naturalists, gardeners, and collectors, are credited with major contributions to seventeenth-century Britain's natural and cultural landscapes. Keen collectors, they amassed artefacts and other objects in what soon became Britain's most illustrious "cabinet of curiosities"—known as Tradescant's "Ark." Here, drawing from historical and scientific evidence, I discuss ways in which the Tradescants' collection reflects, reinforces, and challenges the sixteenth- and seventeenth-century understanding of human relation to knowledge, and offers an alternative interpretation of the conceptual categories that it represents. Specifically, I propose a shift of emphasis from the contrast between the natural and the artificial—the two categories into which the collection is explicitly divided—to the one between the normal and the deviant. I suggest that, by embodying the coexistence and juxtaposition of the familiar and the foreign, the near and the far, the common and the rare, Tradescant's Ark provided a safe physical and intellectual context for encountering normality and deviance, possibly marking the way seventeenth-century British (and Westerners at large) imagined, learned about, and engaged with the other, and with the self.

I

John Tradescant the Elder (d. 1638) was probably born in England in the 1570s. The earliest known historical record of his life documents his marriage to Elizabeth Day, at Meopham (Kent) on 18 June 1607.[1] A long career working as gardener in the service of England's nobility—among his employers

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1. This and the following biographical information is based on MacGregor 2004.

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were Robert and William Cecil (first and second Earls of Salisbury), Edward (first Baron) Wotton, and George Villiers (first Duke of Buckingham)—provided numerous opportunities for travel abroad in pursuit of the exotic species for which his eminent employers clamored. As a result of his voyages, Tradescant not only imported hundreds of plant varieties for his clients, but also amassed thousands of artefacts and other ethnological rarities and curiosities—costumes, weapons, dried animals, stones, boots and other objects—which he collected out of personal interest. Following the assassination of the Duke of Buckingham in 1628, Tradescant lost his employment as gardener and moved with his family (and his curiosities) to South Lambeth, in Surrey. There, in the house and garden, he arranged his thousands of plants and artefacts into a collection, which he opened to the public for a fee of six pence.[2] The collection, which eventually became known as "Tradescant's Ark," quickly grew in scope and reputation, attracting visitors from England and abroad.[3] After Tradescant's death, in 1638, the Ark was inherited by Tradescant's son, also John (the Younger, bap. 1608, d. 1662), who, himself a gardener, naturalist, and collector, continued to develop it[4], and, most importantly, compiled a catalogue of its contents. The *Musaeum Tradescantianum*, containing the complete list of "those Rarities and Curiosities which my Father had scedulously collected, and my selfe with continued diligence have augmented, & hitherto preserved together" (Tradescant 1656), went to print in 1656, and is considered the first catalogue of its kind to be published in Britain (Ivins 1925). In the introduction, John the Younger presents the collection by addressing "the Ingenious Reader" as follows:

> Now for the materialls themselves, I reduce them unto two sorts; one Naturall, of which some are more familiarly known & named amongst us, as divers sorts of Birds, foure-footed Beasts and Fishes, to whom I have given usual English names. Others are lesse familiar,

2. The original site of the Tradescants' house and garden is marked approximately by the present-day Tradescant Road and Walberswick Road (Sturdy 1982).

3. The size and import of the collection can be inferred from the account of one of these visitors, Peter Mundy, who, in 1634, reported spending "a whole day in peruseing, and that superficially, such as hee had gathered together," praising the Ark as a site "where 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" (Temple 1919).

4. Among the notable additions are "Powhatan's Mantle"—the collection's most famous surviving treasure (a shell-decorated deerskin artefact, whose origin and function is still disputed)—as well as a supposed fragment of the cross of Christ. http://www.ashmolean.org/ash/amulets/tradescant/tradescant07-13.html (accessed 23 October 2014) Despite these additions, the Younger Tradescant maintained a modest claim to the collection, emphasizing his father's key role in its establishment, and eventually handing it all over (under still controversial circumstances) to antiquarian and collector Elias Ashmole, who later donated it to the University of Oxford, which, in 1683, opened it to the public as the Ashmolean Museum.

> and as yet unfitted with apt English termes, as the shell-Creatures, Insects, Mineralls, Outlandish-Fruits, and the like, which are part of the Materia Medica; [...] The other sort is Artificialls, as Utensills, House-holdstuffe, Habits, Instruments of Warre used by severall Nations, rare curiosities of Art, &c. These are also expressed in English. (Tradescant 1656; quoted in Ivins 1925)

Three messages emerge here: the objects of the collection are explicitly divided into types (sorts), hence categorized; the two main categories represented in the collection are the natural ("Naturall") and the artificial ("Artificialls"); a complex relation exists between the ways in which objects are categorized (e.g., as naturally occurring or manmade, familiar or "lesse familiar"), and the ways in which they are named (e.g., in English, or in Latin).[5] Each of these points offers the opportunity to examine the phenomenon of collecting and display—for which Tradescant's Ark is a case study—as a manifestation of the (sixteenth- and seventeenth-century) understanding of how knowledge is acquired, organized, and acted upon. My aim here is to bring to the discussion an interdisciplinary perspective on the Tradescants' collection, and propose an alternative reading to the one presented in the catalogue's introduction. Drawing from historical and biological evidence, as well as from the catalogue's references to the "familiarly known," the "usual," the "lesse familiar," and the "outlandish," I would like to argue that the key categorical distinction in the collection is not the one between naturality and artificiality—as the catalogue's introduction states—but rather the one, orthogonal to the former, between normality and deviance.[6] I suggest that the public appeal enjoyed by Tradescant's Ark—and by seventeenth-century cabinets of curiosities at large—is the result of their embodying the spatial and temporal coexistence and juxtaposition of the familiar and the foreign, the near and the far, the normal and the deviant, which provided a safe physical and intellectual context for encountering, learning about, and engaging with the other, and with the self.

5. While the use of Latin is unsurprising in the traditionally elite context of a collection, the use of the English language represents a radical innovation, and a crucial contribution to the promotion of learning among the lower classes.

6. The terms normality and deviance are employed here to signify respectively what is (statistically) common and uncommon in a given context. The two concepts are further elaborated in the following sections. Here it bears reminding that Henry Cockeram's 1623 English Dictionary defines deviant as "farre out of the way" (Vol. I, p. 52), thereby capturing the key concept that spatial distance (from a given cultural context) is a powerful predictor of being uncommon (in that context).

II

It is beyond the scope of this essay to review the entire history of collecting and display since its inception, with its many political, social, religious, and economic implications: others have already done so brilliantly (see, for example, Pearce 1992, 1995). It will however be helpful to recall the original etymological meaning of the word 'culture', as it is precisely through this original connotation that the constellation of the cabinet of curiosities congeals. Culture originally refers to *agri*culture. It derives from the Latin verb *colere*, meaning to cultivate, in reference to land, soil. Hence, culture is born as a discourse of nature.[7] It is an ironic twist of fate that the term should have undergone a total reversal of meaning, to the extent that, by the nineteenth century, it had become synonym with exposure to elite urban life, as *opposed to* the state of nature.[8] This semantic wandering is relevant here because collecting plays into fantasies of appropriating nature through culture (Abt 2006, p. 116)[9], and epitomizes a symbolic declaration of sovereignty over the (natural and artificial) world.[10] The collector extracts the objects from their original (natural) context, and imposes upon them a new (culturally determined and, to a degree, subjective) order. Through their selection and classification, the objects are made to reflect and bring into focus the collector's own culture, knowledge of the world, and the categories in which it is organized. And it is from these categories—and the notion of category itself—that I want to begin.

7. With the exception of Cicero's *Tusculan Disputations*, where *cultura animi* (cultivation of the soul) is used to signify the development of a philosophical soul, culture kept its original agricultural meaning into the late Middle Ages (Oxford English Dictionary online: www.oxforddictionaries.com/).

8. Poet and critic Matthew Arnold (1869) defines culture as the pursuit of perfection, the full expression of one's authentic self through the learning of "the best that has been thought and said in the world" (preface). A few years later, W. B. Yeats ([1909] 1926) proclaims culture as "the sanctity of the intellect" (p. 361). Other meanings arose with the establishment of the discipline of anthropology—e.g., culture as the "collective customs and achievements of a people" (*Etymology Dictionary online* http://www.etymonline.com/ accessed 22 October 2014). They too, however, mark a departure from the original botanic sense.

9. Such fantasies are found, for example, in the Baconian prediction that science will eventually be able to control the weather and increase crop productivity. An example of this increased control over nature is Bacon's detailed description of a device that responds to changes in temperature and atmospheric pressure (*Novum Organum*, 1620).

10. As an example of the symbolic charge of collecting and displaying as representing mastery over the world Jerome J. Pollitt recalls how, during the Southeastern expansion of the Roman Empire, architectural and statuary specimens from the conquered lands were regularly transported to the capital and displayed in public spaces, such that "Rome became a museum of Greek art" (Abt 2006, p. 117).

The term category has a duplicitous meaning, as it connotes both unity and division. "To categorize" implies the dual action of first splitting, and then (re)assembling according to certain criteria of inclusion and exclusion. Categories are therefore defined as much by presence as by absence. Through the act of categorizing, humans establish hierarchies, impose discipline, and "tame the wild profusion of existing things" (Foucault [1966] 1970, p. xv).[11] Categories, however, are protean entities: they cohere, unravel and reform with the mutations in the historical and cultural circumstances in which they arise.[12] Hence, Tradescant's Ark, as well as the phenomenon of the cabinet of curiosities at large—an instantiation of collecting and categorizing—cannot be divorced from the social and scientific context of seventeenth-century Europe: a time and place of transition and transformation, where the problem of knowledge, especially the ways in which it is acquired, was a central intellectual preoccupation. The intersection of the Enlightenment and the Scientific Revolution had overturned the ancient Greek idea of natural order, and introduced a notion of nature as a well-organized "machine reducible to a relatively small number of universal rules" (Moran 2002, p. 5)[13], which the empirical method—through hypothesis testing, and inductive reasoning—allowed to discover. The gradual realization that humans could, in principle, access the whole of knowledge, had led to an overall impulse towards ordering and classifying information. Early attempts to create taxonomies of knowledge[14], were generating an urge to categorize into types[15], and providing the seeds for what would later develop into the modern encyclopedia[16], which, a typical product of the Enlightenment, "encompass[es] unity and

11. The notion of discipline is itself polyvalent, referring to the maintenance of order and control, as well as to a branch of learning, the unit in which knowledge—hence, culture—is organized and taught. According to Moran (2002), the two meanings converged in the fifteenth century, when the term discipline came to denote a moral training aimed at teaching proper conduct.

12. To illustrate how subjective and context-dependent categories can be, it bears recalling Jorge Borges's example (quoted also by Foucault, in the Preface to *The Order of Things*) of a Chinese encyclopedia, in which animals are divided into such categories as, for example, "belonging to the Emperor," "drawn with a very fine camelhair brush," "having just broken the water pitcher," or "that from a long way off look like flies" (Borges 1952).

13. Although the natural laws were thought to determine the course of the Universe, the original creating act was often ascribed to a deity (e.g., Deism). The postulation of a non-interfering (after the original creating act) Creator renders the emphasis on reason and scientific observation of nature as only legitimate sources of knowledge compatible with the acknowledgement of a spiritual element.

14. E.g., Francis Bacon's *Instauratio magna scientiarum*, 1620.

15. E.g., Carolus Linnaeus's *Systema Naturae* (1735), in which the natural world was classified into species, genera, orders, classes and kingdoms.

16. E.g., *Encyclopaedia Britannica*, 1768–71.

interdependence of knowledge, while also cataloguing and systematizing it" (Moran 2002, p. 6). The cabinet of curiosities is a manifestation of this encyclopedic enterprise. The amassing of specimens and artefacts represented a "tangible expression of an encyclopedic world-view" (Hill 1985), and reflected both the Baconian approach to the acquisition of knowledge by means of inductive reasoning (Bacon 1620) (as the information gathered from the present—namely, the objects *within* the collection—could be extrapolated to the absent—namely, all of the other members of the same category, populating the world *outside* the collection[17]), and the Cartesian reductionist method (Descartes 1637), in which nature is broken up into its component parts, which are studied separately.[18] Through the cabinet's *microcosmos*, the whole of knowledge could be collected, preserved, ordered, and controlled.

The Tradescants' collection is part of the seventeenth-century discourse about the quest for a comprehensive, encyclopedic knowledge of the world.[19] The Ark represents an evolution of the Renaissance tradition of private collecting, which consisted mainly of antiquities and other legacies of the Grand Tour, and a precursor of the eighteenth-century natural history cabinet, which instead emphasized scientific study and knowledge. Crucially, however, in the Tradescants' collection, the transition from a collecting mode focused on art (Grand Tour) to one focused on nature (natural history cabinet) is captured mid-air: "Naturall" and "Artificialls" are distinctly but equally represented, with little judgment over their relative worth. All evidence—be it natural or artificial—holds equal weight, with connections and fluidity between *naturalia* and *artificialia*. In Tradescant's Ark the *naturalia*—and the garden itself—were displayed and treated as works of art, living specimens endowed with beauty and cultural meaning. This two-way correspondence between nature and art echoes—but reverses—the Aristotelian idea of art as imitation of nature[20] (in Tradescant's garden, nature is taken to imitate art), and anticipates the Schopenhauerian notion that art both reveals the natural world, and is revealed in it (Schopenhauer 1844). In the Ark, the categorical boundaries between "Naturall" and "Artificiall" act not as barriers—as the catalogue's

17. This flow of inference from the known to the unknown is a common learning strategy and a key mechanism in biological systems, as it enables applying previous experience in order to make informed predictions about the environment and adjust behavioral responses appropriately.

18. The trend towards dissecting knowledge into smaller, more amenable units is central to the rising of disciplines, and an enduring legacy of the scientific revolution.

19. On the Tradescants' tombstone, the collection was memorialized as "a world of wonders in one closet shut" (MacGregor 1983).

20. Aristotle, *Poetics*, 335 BCE (and a nod to Plato's *Republic*).

introduction appears to emphasize—but as loci of relationality and exchange. Here is where the reversal of meaning of culture from the natural (cultivation of the soil) to the artificial (cultivation of the soul) comes into play: in Tradescant's Ark, the two connotations converge.

Hence, the Tradescants' collection and catalogue—each in its own way[21]—reflect a symbolic endeavor to reassemble and classify reality, and reclaim dominion over the entire world—natural and artificial. However, despite the catalogue's emphasis on the separation between *naturalia* and *artificialia*, a great deal of osmosis exists between these two categories. Consequently, my suggestion is that the crux behind the collection's appeal has less to do with the distinction between nature and art(ificiality), than with different, orthogonal juxtapositions: the ones between familiar and foreign, near and far, normal and deviant, and, ultimately, between self and other. And it is to these juxtapositions that I now want to turn.

III

The notions of familiarity and foreignness occupy a clear position in the Tradescants' collection. According to the introduction to the *Musaeum Tradescantianum*, within the "Naturall" objects some are "more familiarly known & named," while others are "lesse familiar," or even "outlandish." The Younger Tradescant goes on to establish that the former are "therefore given usual English names," while the latter are as yet "unfitted with apt English termes." There is a twofold implication here: first, what the collection does through categories, the catalogue does through names; second, choices about naming (e.g., in English or in Latin) are based on criteria of familiarity or lack thereof.[22] Both categories and names are inextricably intertwined with the notion of identity.

Through names, the *Musaeum Tradescantianum* turns the Ark into an object of explicit as opposed to implicit knowledge. The collection's content is coded into a textual, disembodied form, a potential knowledge without a knower (Popper 1972, p. 109), easy to store and communicate. But the

21. Collection and catalogue make distinct contributions to the cause. The collection provides the contents in a fragmented fashion; the catalogue superposes to it a (more or less cohesive) narrative, in which the encounter with the objects follows a spatial and chronological order. In the specific case of the *Musaeum Tradescantianum*, though, the curatorial impact is kept to a minimum, as objects are merely listed, and the narrative aspect is virtually absent (although occasional comments—for example, references to contemporary collectors, such as Ulisse Aldrovandi—anchor the catalogue to its historical context by showing Tradescant's awareness of the place the collection occupies within the cultural and intellectual landscape of its time).

22. This choice also denotes modesty: when objects already have Latin names, Tradescant uses these rather than coining neologisms (I am grateful to an anonymous reviewer for pointing this out).

way in which things are named together also has implications that go beyond the practical purpose of categorization and communication: names are objects in their own right, both creating the concepts, and supplying the tools for their description and analysis.[23] Also, the naming of things entails judging, "for men, by giving names, do usually not only signify the things themselves, but also their own affections, as love, hatred, anger, and the like" (Hobbes 1642, p. 192).[24] Through names, objects can be controlled, and, most importantly, identified. The kind of identification to which I am referring here is not limited to the act of recognizing and acknowledging an object's inherent, natural (or otherwise previously established) identity, but rather extends to the act of creating and assigning it. Through naming, objects may not only be recognized for what they are, but also made to become what the assigned name dictates—an issue of considerable consequence when the named object has no obvious prior identity, such as when it is unfamiliar, unknown, or simply yet unnamed. The act of naming the (unknown or unnamed) other presents the opportunity to construct its identity in relation to the self. Said maintained that the construction of identity involves "the establishment of opposites and 'others' whose actuality is always subject to the continuous interpretation and re-interpretation of their differences from 'us'" (Said 1978, p. 332). In the *Musaeum Tradescantianum*, the act of naming the other marks the transformation of the conceptual hotchpotch of the cabinet into an ordered whole defined by a text, a narrative, a language (e.g., English, as opposed to Latin), all of which impose their own constraints, and ultimately create the objects and categories that they purport to describe.

Naming creates the object's identity as much as collecting creates the subject's. Gathering objects, categorizing them, and making choices of inclusion and exclusion plays into fantasies to dominate reality, and asserts agency upon the objects'—as well as one's own—identity[25], a crucial

23. As an example of how the name emerges as an object in itself and tames the named thing, Walker (1975) notes that artistic production is often at its most exciting and subversive before it has been named, i.e., when it is still defined by what it is not.

24. Here the topic of naming things is discussed in the context of politics, but the author's reflections can easily be translated to a broader debate. According to Hobbes, there is no substantial difference between democracy and anarchy, between aristocracy and oligarchy, or between monarchy and tyranny. For each pair, the different names "betoken not a diverse kind [of government] but the *diverse opinions* [of the subjects about their ruler]" (Hobbes 1642, p. 192; emphasis added).

25. This link between collecting and agency is not new, and has been discussed already, among others, by Findlen (1994), and Benedict (2003). My aim here is to integrate it in the context of my argument. Specifically, what I am suggesting is that the exercise of agency in the context of collecting and display plays into the larger phenomenon of the construction of the self through the juxtaposition with the (foreign, far, deviant) other.

paradigm shift in seventeenth-century society, where one's identity was traditionally conceived of as determined at birth. Collecting is an integral part of self-discovery, shaping of individuality, and self-representation. Collections showcase distinctiveness and good taste (Findlen 1994), and are physical representations of elitism, which memorialize and parade the collector's private experience of travel[26], contemplation and study (Benedict 2003).[27] Hence, the acts of collecting and naming crystallize the separation between subject and object of knowledge, and construct identities for both.

The construction of identity through collecting extends beyond the individual collector's self, to include social and political group identity.[28] The sharp rise in the popularity of collecting in the mid-seventeenth century (Impey and MacGregor 1985) overlaps with the timeframe in which Britain was acquiring colonies, and the ensuing geographical explorations had led to contact with exotic[29] plants, animals, and materials. The Tradescants, both father and son, travelled extensively by the standards of their time. John the Elder is known to have visited France and the Low Countries in 1610 and 1611, respectively, in pursuit of botanic specimens for Salisbury's gardens at Hatfield. In 1618, the Elder Tradescant sailed on a diplomatic mission to Archangel, in Russia, where he conducted fieldwork among the arctic coastal flora.[30] In 1620, he volunteered with the British Navy on an expedition to Algiers, which gave him the opportunity to collect Mediterranean specimens, such as clover, pomegranate, and apricot (Parkinson 1629). A second visit to the Low Countries ensued in 1624, followed by several other trips on behalf of (or with) the Duke of Buckingham, including to Paris and the Ile de Rhé. Tradescant the Younger made three recorded voyages to Virginia: the first, presumably at the King's request, in 1637; the second, on his own account, in 1642; the third—and final—in

26. Homer's *Odyssey*, Vergil's *Aeneid*, St Augustine's *Confessions*, Dante Alighieri's *Divine Comedy* epitomize the notion of travelling—and travel-writing—as a means to discover and shape one's identity.

27. As Bourdieu (1984) points out, collecting plays into a "game of culture," and reflects anxieties and power struggles motivated by the "desire to display taste and discrimination, which is in turn inspired by [a] need to place [oneself] within social hierarchies" (Bourdieu 1984, quoted in Moran 2002, p. 67).

28. As Fumerton (1993) argues, the early modern cabinet of curiosities was the locus of construction of identity of the aristocracy at large. In it, the artefacts "guide, regulate, and *control* the way 'selves' walk, stand, sit, eat, look, and all the other actions of life" (p. 171; emphasis added).

29. The term 'exotic' is used here as a synonym for 'outlandish' in Tradescant's time.

30. The resulting manuscript (translated in Hamel 1843), currently housed at Oxford's Bodleian Library, is one of the earliest known documents recording the characteristics of plants and other wildlife on Russian soil.

1653–4.[31] Unlike their contemporaries—in the seventeenth century travel tended to be the preserve of merchants (Moran 2002)[32]—the Tradescants travelled for discovering, learning, and bringing back home their newly acquired knowledge—and collectibles.[33] As a result of the Tradescants' expeditions, several hundred botanic varieties—including new species of rose, narcissus, lily, anemone, red maple, nectarines, vines, cherries, walnuts, chestnuts, larches, and pomegranates—were introduced in their patrons'—and Britain's—gardens.[34] Whilst, by operating under royal (and other eminent) patronage, the Tradescants acted as a *longa manus* of Western power and mirrored England's imperialistic and colonial operations,[35] the Tradescants' travelling exposed them to the encounter with the foreign and unfamiliar, and their collecting (in terms of gathering plants and artefacts, and bringing them back to Britain) made this encounter possible also for those who stayed at home. The objects in the Ark provided visitors with a sensory (e.g., visual and haptic) encounter with the exotic, the different, the deviant. Notably, among the objects collected in the Ark were not only strange and exotic specimens, but also common local items (for example, body parts of a doe found in London's St James's Park). The sudden proximity of familiar and foreign, normal and deviant, has been claimed to intensify the distance between what is close and what is far, with the intent of intensifying its sense of self and identity (Said 1978).[36] Hence, my suggestion here is twofold: firstly, that the opportunity afforded by the Ark to experience a sensory encounter with the deviant might have

31. The species brought back from Virginia include jasmine, cypress, and the Virginian locust tree (Parkinson 1640).

32. Other travelers were wealthy young men and agents.

33. The Tradescants' botanical expeditions anticipate the tradition of biologists, naturalists, and geographers that emerged in the eighteenth century.

34. The plants growing in the Elder Tradescant's garden at Lambeth are listed in Tradescant, 1634 (cited in Veitch et al. 2010).

35. Tradescant the Elder is a pioneer of a new kind of traveler—including biologists, botanists, and geographers—and a new tradition of travel writing characterized by an effort towards objectivity and a systematic approach to knowledge. His Russian diary (Tradescant 1618, in Hamel 1843), however, his only extant manuscript, reveals an attitude tinged with the colonial overtones of his time (e.g. he refers to the Russian people as uncivilized).

36. The attempt to confront the exotic scientifically has been likened to an attempt to better understand the (European) self through the contrast with the (non-European) other: an instantiation of Europe's need to "present and re-present its peripheries and its others continually to itself" (Pratt 1992, p.6; also quoted in Moran 2002, p.153). As an example, travel writing from the Grand Tour is often characterized by a romanticization of exoticism, which purports to express anti-conquest sentiment, but, as Said (1978) points out, ends up reinforcing European hegemony through the othering of the colonial subject.

brought the other into sharper focus.[37] Secondly, that the "proximity of extremes"[38] between normal and deviant might in fact be central to the Ark's significance and popularity.

IV

My first suggestion is that it is in the senses—i.e., in the ways in which normal and deviant are perceived and responded to by the body—that a key to the Ark's aesthetic appeal can be found. Before articulating this proposition further, it will be helpful to consider the semantic vicissitudes of another term, 'aesthetics', as it is through the notion of aesthetics that in the Tradescants' collection the normal-self and the deviant-other coalesce.

The original meaning of aesthetics is "perception through the senses." Hence, aesthetics is originally a discourse of the body, of the natural corporeal sensorium, with little relevance to art and beauty.[39] It was following the work of mid-eighteenth-century German philosopher Alexander Baumgarten that the word aesthetics came to signify "perception of beauty" (through the senses), to finally end up with the modern connotation of "judgment of beauty" (through the intellect)—a connotation associated first and foremost to art.

The issue of what determines aesthetic judgments has long been controversial. From the first empirical investigations by Gustav Theodor Fechner

37. As an aside, it helps to remember that collecting contributed to the preservation of foreign local cultures. An example is the bead calculator that Tradescant the Elder brought back from Russia in 1618, and which is currently on display in the Ashmolean Museum. The calculator is the earliest extant Russian specimen of its kind, more than a century older than the earliest extant specimen in Russian collections (Ryan 1991). As it has been observed (Ryan 1972), the fact that the earliest specimen of this Russian instrument survived outside Russia highlights the crucial contribution of curious foreign travelers and collectors to the preservation of artefacts that would otherwise be discarded and lost to decay and oblivion. The Russian example also illustrates on a more general scale the duplicitous valence of the Tradescants' collection, which blurs the distinction between normal and deviant (e.g., by making the strange familiar—for example through the cultivation of foreign plants in a London garden—and the familiar strange—for example by presenting it to a different audience (Britons, as opposed to Russians) and/or in a different context (e.g., parts of a doe from a public park in central London are exhibited in the context of a private home)), while also attempting to solidify the boundaries between these and other categories (e.g., by classifying and naming the objects on display).

38. According to Foucault, the "proximity of extremes [...] threatens with collapse the age-old distinction between the Same and the Other" ([1966] 1970, p. xvi).

39. For an elaborate discussion of the historical birth of aesthetics as a modern discourse see Terry Eagleton's 1988 essay "The Ideology of the Aesthetic," and Susan Buck-Morss's 1992 essay "Aesthetics and Anaesthetics."

on the aesthetics of the "golden ratio"[40], several theories have been proposed, suggesting that the aesthetic response depends on the object's complexity (Birkhoff 1933), on the level of arousal induced on the observer (Berlyne 1971), on familiarity (Hargreaves 1986), or predictability (Reber et al. 2004).[41] Since its inception, experimental aesthetics has mainly concentrated on aesthetic responses to visual art. Vision, of all senses, has enjoyed a long tradition of epistemological primacy, being associated with believing and understanding—to see is to know (Goode 1889; cited in MacDonald 2006, p. 139). In science, vision has enabled a "leap out of the marked body and into a conquering gaze," and the power "to see and not be seen, to represent while escaping representation" (Haraway 1988, p. 581). The senses, however, are fallible.[42] Vision can easily be fooled: trompe l'oeil, linear perspective, chronostasis, and other visual illusions are compelling examples.[43] It has also become increasingly clear that the knowledge gained through the senses, including vision, is mediated by physical and psychological biases. Seeing enables the acquisition of knowledge, but knowing can also alter seeing (Hooper-Greenhill 1992). "The eye is not innocent" (Corbey 1993; quoted in MacDonald 2006, p. 141): it does not register reality as it *is*, but rather as it is *constructed* by the observer.[44] Imagination and perception

40. The golden ratio, also called phi = 1.618, was claimed to be inherently more aesthetic than other ratios, and has been widely applied in Renaissance architecture. Two sides of a rectangle are in the golden ratio if the ratio between the sum of the two sides and the longer side is the same as the ratio between the longer side and the shorter side. In his *Vorschule der Ästhetik* (1876), Fechner advocated a "bottom-up aesthetics," aimed at *in*ducing aesthetic principles from empirical observations and systematic analysis of aesthetic preferences in humans. Fechner's approach contrasted with the top-down aesthetics, typical of philosophy, in which aesthetic principles were *de*duced from general truths or divinity.

41. Aristotle too, in its concept of art as imitation, could be said to have argued in this sense.

42. The fallibility of the senses leads Descartes (1641) to conclude that true knowledge of the external world cannot be achieved. Hume (1739), likewise, laments the perceptual experience as fluctuating and incessantly evolving.

43. Recent criticism on the early modern attitude to the sense of sight reveals two opposing stances. Some congratulate Renaissance and early modern scholars for establishing an objective correspondence between the subjective visual experience and external reality (e.g., Ivins 1938); others emphasize instead the early modern intellectual preoccupation with—and often doubtful attitude as to—whether vision was indeed veridical, i.e., whether it granted access to reality (e.g., Clark 2007).

44. Interestingly, the notion that the senses are not only passive recording devices of a reality that exists prior to and independently of their perceiving it, but rather active co-creators of the world they perceive has emerged and dominated the 20th century both in the humanities (e.g., Derrida's deconstruction, Said's orientalism) *and* in science (e.g., Heisenberg's uncertainty principle, Schrödinger's and Feynman's thought experiments on quantum superposition, the wave-particle duality, and the influence of the observer on the collapse of the wave function).

interact mutually. Mental imagery enriches visual perception by endowing it with an interpretation that raises it above the mere physical domain, and enables the thought to wander outside the confines of the present perceptual reality, into the realms of the absent and the non-existent. An aesthetic experience originates from the interplay of visual and cognitive components (e.g., Baldwin 1911; Neperud 1988), and is affected by previous experiences, knowledge, and other individual characteristics of the subject (Leder et al. 2004).

Touch, unlike vision, has been conceived of as the sense of certainty, having best and final access to reality (Summers 1987).[45] Philosophy and physiology suggest that, in the aesthetic response, vision and touch might in fact be closely connected. The theory that vision might involve an embodied reaction was championed by German philosophers Robert Vischer and Theodore Lipps, who pioneered (the former) and further developed (the latter) the notion of *Einfühlung* – aesthetic empathy (Vischer 1872; Lipps 1906). Later on, the question of the relations between bodily action and emotion was recuperated by William James (Shusterman 2011), and rearticulated in Merleau-Ponty's concern with the ways in which beholders are corporeally involved in works of art (Merleau-Ponty 1945). The (so far philosophical) issue underwent an explosive revival in the early 1990s, when Giacomo Rizzolatti and colleagues accidentally discovered a set of neurons that respond to the observation of actions performed by others *as if* the action were being executed by the observer (Di Pellegrino et al. 1992; Fadiga et al. 1995; Rizzolatti et al. 1996). These mirror neurons have been said to allow direct—embodied—understanding of the meaning of the actions and emotions of others through an internal replication—a simulation. This "as-if" body response has been interpreted as a direct form of bodily understanding that enables beholders to grasp the emotional states of others, and is thought to be central to the beholder's sense of physical involvement with visual representations—hence, to the response to a work of art (Molnar-Szakacs and Overy 2006; Freedberg and Gallese 2007). According to this empathy based account, the mirror neuron system mediates the aesthetic appreciation through automatic unconscious simulation, whereby individuals recognize actions made by others because the neural pattern elicited in their brain during observation is similar to that internally generated during execution. Contrasting Aristotle's idea of art as a productive science, the artistic merit being in the object, and not within the mind of the artist or beholder, the existence of mirror mechanisms suggests that intentions *do* matter, as the human brain appears to be hardwired for their effortless, automatic

45. The centrality of touch to knowledge extends beyond the realm of the physical, as touch was believed to establish emotional connections and to enable transferring of power.

recognition. Through the mirror system, the observer-self can directly—bodily—understand the observed other both in actions and intentions, and this form of sensory, embodied empathy may be central to the aesthetic response.

V

The detour through the distinctly sensory core of the etymology and neurobiology of the aesthetic is relevant here because there is both an intellectual and an aesthetic dimension to the cabinet (Hill 1985).[46] The visual qualities of the cabinet and its contents reflect not only a stimulus towards ordering, and a taxonomic approach to natural history, but also raise questions about the aesthetic judgment of nature, because certain natural objects—more than others—were actively collected and displayed.[47] Although the Tradescants' collection reflects the trend whereby knowledge became gradually more organized, categorized, and specialized in response to the competition fuelling the development of science in the seventeenth century (Jardine 2000), the objects in the Ark represent not only the categories of which they are exemplars, but also themselves. Unlike the typical Cartesian reductionist approach, in which the component parts are valued only in that they represent (and provide access to) the whole, the Tradescants' collection and catalogue emphasize individuality, as single items are decontextualized and aestheticized as things of interest and pleasure in their own right (Moisan 2001).[48] Hence, collecting, with its acts of classifying and naming conflates physical identification and aesthetic appreciation, and suggests a common root for order—i.e., the way in which objects are conceptually categorized—and aesthetic response—i.e., the way in which they are apprehended and judged through the senses.

Early moderns were intensely aware of the centrality of the senses in the aesthetic experience.[49] Challenging the modern connotation of the

46. The tension between these two forces (intellectual and aesthetic) is epitomized in Dezallier d'Argenville's *Treatise on Conchology*, where the author stresses the importance of arranging specimens in classes, commenting that only "les curieux" will sacrifice order to visual appeal (Dezallier d'Argenville 1757, Chapter 9; quoted in Hill 1985).

47. E.g., shells were valued natural collectibles (see Dezallier d'Argenville's *Treatise on Conchology* 1757, Chapter 9; quoted in Hill 1985).

48. It bears reminding that early moderns were most keen on the combination of usefulness or didacticism and pleasure. In his *Apologie for poetrie*, Sir Philip Sidney (1595), for example, argued that fiction was superior to philosophy and history because it could convey the lessons of each of those disciplines whilst surpassing them both in aesthetic appeal. I am grateful to an anonymous reviewer for pointing this out to me.

49. This awareness transpires from the early modern intellectual preoccupation with whether a two-way correspondence could be established between sensory (subjective) experience and objective reality, with sceptical stances doubting—or rejecting *tout court*—the

museum as an untouchable site of preservation, seventeenth-century cabinets of curiosities allowed—and expected—visitors to handle the objects on display (Classen 2007). Manual access, involving an intimate encounter with the object, was viewed as central to the acquisition of knowledge, as well as an ordinary mark of courtesy that extended the collectors' possession prerogatives to their guests. The Elder Tradescant had a habit of leading his visitors through the Ark personally, providing oral information on the nature and provenance of the objects on display, and explicitly inviting his guests to handle them.[50] The Tradescants' collection therefore reflects the early modern understanding of the senses—and touch in particular—as endowed with a dual epistemic and aesthetic quality, being central both to the acquisition of knowledge about the external world, and to its aesthetic appreciation.

VI

My second suggestion is that this aesthetic appreciation might be augmented by the proximity of extremes brought about by the simultaneous experience of normality and deviance.

Definitions of deviance, like all forms of knowledge, are relative, because historically and culturally grounded. But at the most basic level, the categorization in (and distinction between) normal and deviant is performed through the senses. From an evolutionary perspective, the prompt

notion that the senses could grant access to the real world (for an overview of the debate see Clark 2007). In philosophy, this preoccupation is central to the controversy about the epistemological primacy of reason versus the senses between rationalists (especially the Continental Descartes and Leibniz) and empiricists (chiefly the British Locke, Berkeley, and Hume) respectively. Criticizing the "systematic downgrading" of the senses in Western philosophy, Serres (2008) emphasizes the centrality of empirical knowledge, and dismisses all systems divorced from bodily experience.

50. Unlike their contemporaries, who reserved handling privileges to upper-class males, the Tradescants extended the multisensory encounter with the collection to everyone. Records from the period confirm that the Museum was popular with a wide section of the lower class (Brown 2005). Several accounts also document that the practice of allowing visitors to handle the items on display was still in use after the collection had become a proper museum. See, for example, the reports by visitors Celia Fiennes (1694) and Zacharias von Uffenbach (1710) (both reported in Classen 2007). The latter, in particular, highlights how the extension of handling privileges to women and to the lower classes was perceived as subversive: "The specimens in the museum," von Uffenbach wrote, "might be much better arranged and preserved. It is surprising that things are preserved even as well as they are, since the people impetuously handle everything [...] and even the women are allowed up here for sixpence; they run here and there, grabbing at everything and taking no rebuff from the sub-custos" (Classen 2007, p. 896). Hence, Tradescant's introduction of a democratic access to the sensory experience defied the categorical boundaries of class and gender with which seventeenth-century society was imbued.

and accurate discrimination between good (e.g., food, shelter) or bad (e.g., predators) is a crucial skill for survival. Empirical studies have shown that the brain is able to analyse its sensory surroundings and extract regularity—and deviations from it—with rapidity and precision.[51] Both abilities are automatic, that is, the brain extracts regularity and deviance independently of attention, and even in the absence of consciousness (see for example, Pressnitzer et al. 2008). This automaticity suggests that these mechanisms are evolutionarily and developmentally critical. Being able to identify regular patterns in the sensory environment confers the adaptive advantage of predicting what is likely to come next—and preparing for it. Likewise, being able to correctly and promptly identify change—that is, violations of those predictions, hence, potential danger—is essential for the development of appropriate behavioral responses (for example, choosing fight or flight). Fulfilment and violation of expectations each have their own neurobiological signature, consisting of distinct patterns of electrical activity emitted by the brain, which can be recorded from the scalp.[52] When sensory expectations are fulfilled by the expected, by that which can be readily recognized and predicted based on previous experience, the brain shows adaptation and dampening (or even suppression) of its activity[53]; when they are violated by the unexpected, that which does not conform to prior experience and predictions, the brain activity shows both an overall intensification and a sense specific surge.[54] Hence, the human mind is well equipped for making prediction about the future state of the world, and exceptionally sensitive to the failure of those predictions: while the encounter with the normal, or expected, results in habituation, the encounter with the deviant, or unexpected, elicits a sensory jolt. My addition here is that when the encounter with the deviant is experienced within a context of normality, the sensory jolt might turn into an aesthetic jolt.

Consider human response to unexpected danger. Faced with a sudden imminent threat—an erupting volcano, a thundering storm, a raging sea—the first human impulse is fear. The experience of fear comes with a conspicuous emotional and physiological accoutrement: sudden increase of

51. Visual discrimination is a rapid affair. Studies have shown that it takes humans and monkeys a few hundred milliseconds to detect an animal in a natural scene (Thorpe et al. 1996; Fabre-Thorpe et al. 1998; Rousselet et al. 2002). In the auditory modality, the process of extracting normal and deviant is referred to as "Auditory Scene Analysis" (Bregman 1990).

52. One of the most commonly used techniques is electroencephalography.

53. This effect is referred to as "repetition suppression." See Grill-Spector and Malach 2001 for a review.

54. One of the most reliable neural correlate of deviance detection is the mismatch negativity, a negative inflection appearing on the recording of the brain's electrical activity, elicited by unexpected sounds. Since its discovery by Näätänen et al. (1978) the mismatch negativity has been used extensively as a reliable index of the perception of change (e.g., Sussman et al. 2005).

heart and respiratory rate, widening of the pupils, tightening of peripheral blood vessels to promote the relocation of blood in core organs, such as the heart and lungs, as well as generalized increase in sensory alertness[55]—here is the sensory jolt. But if the danger is observed from afar, fear turns into a "delightful horror" (Burke 1756, p. 129), a sort of "fearfulness without fear" (Kant 1790), in which deviance, experienced in a context of safety, is stripped of danger, retains its arousing properties, and turns into the sublime.

VII

Deviance was the supremely desired feature in the Tradescants' collection. In a letter to Edward Nicholas (Secretary to the Navy), Tradescant the Elder entreats that merchant voyagers bring back from "Turkye, Gine, Binne, Senego, Constantinoble, the Newfound Land, and the New Plantation towards the Amasonians, *Anything that is strang*" [*sic*, emphasis added].[56]

The "strange" connotes the unfamiliar, the unexpected, the deviant.[57] The deviant can offend, and can therefore be demonized and rejected.[58] Assigning labels of deviant may help to solidify categorical boundaries and restore social order.[59] Historically, the Tradescants' collection is inscribed in the early modern shift from curiosity to taxonomy, whereby deviant or strange forms and similarities came to be seen as an expression of the diversity of nature, rather than of a supernatural phenomenon. During Tradescant's time, objects' shape—as well as novelty and rarity—were viewed as "evidence of God's power to alter the course of nature" (Shelton 1994, pp. 184–5, quoted in MacDonald 2006, p. 84).[60] The rise of popularity of the cabinets of

55. Through this physiological adjustment, the body optimizes the allocation of resources in preparation for a fight or flight behavioral response.

56. Letter written in 1625, on behalf of the Duke of Buckingham (cited in Leith-Ross 1984, p. 80).

57. The concept of deviant bears biblical overtones in relation to the concept of sin. The Hebrew word that English translators rendered as sin originally denotes the deviation from a set target, the act of going astray or missing the mark (see, for example, Biddle 2005).

58. In music, for example, critics may chastise innovation out of failure to accept the unfamiliar (e.g., Barzun 1953; Slonimsky 1994).

59. For example, Erikson (2005) argues that witchcraft mania arose among the Puritans of Massachusetts Bay as a way to relocate boundaries in society in a time of religious tension.

60. For example, in the theory of signatures, developed by Giambattista della Porta (1538–1615), shape and resemblance were interpreted as evidence of divine power over nature. A similar power had been attributed since Antiquity to relics, the physical remains of holy sites or individuals. According to The New Testament, relics that were touched by Christ or his apostles, for example, possess healing power. Relics also provide a spiritual—but also tangible—link between the human and the divine. The practice of collecting and displaying relics in churches, often within elaborate reliquaries, dates back at least to the Middle Ages (Boehm 2000). Interestingly, the Tradescant's collection too eventually acquired what was thought to be a fragment of the cross of Christ.

curiosities had been an expression of this fascination with the strange and the curious as a manifestation of the supernatural. The Scientific Revolution had begun replacing superstition with observation and experimentation (Alexander 1987). New instruments—microscope, telescope, thermometer, barometer—were making it possible to measure space and time with ever increasing precision.[61] Curiosity became less emphasized than scientific taxonomy of nature. As a result, even very unusual objects, which previously would have been referred to as 'curiosities' came to be understood as exemplars of "typological exuberance" (Bann 2003, p. 125). Placed at the center of the scientist's sphère d'activité, "even the most unusual occurrence can be seen naturally and known scientifically [...] without recourse to the supernatural" (Renan St. Hilaire in Said 1978, p. 145). The *Musaeum Tradescantianum* also marks the transition between emblematic and naturalistic approaches to nature on a linguistic level.[62] This positivistic shift, however, is incomplete, as both the Ark and its catalogue blur boundaries between sacred and natural history. The inclusion of stones next to talismans, and the multiple references to the Bible imply that curiosity for natural phenomena is still tinged with the supernatural. In the catalogue, the Younger Tradescant likens his father to Adam (Moisan 2001), inviting associations with the image of the Garden of Eden (an apt idealisation of the Elder Tradescant's botanic garden, at Lambeth), and with the notion of quest for knowledge, which the collection was meant to embody. The name of the collection, "Ark," resonates with Noah's Ark, conjuring up images of Tradescant as the preserver of life diversity, as well as with the Ark of the Covenant, whereby the Elder Tradescant embodies Moses, the recipient of divine instructions for creating a human *microcosmos* (i.e., the collection) that encapsulates the world's *macrocosmos* (i.e., the various regions of the globe from which the objects populating the collection had been

61. The measuring of time deserves a mention in the context of collecting. A key feature of the Enlightenment was the notion of progress and perfectibility over time. Time's natural forward movement meant objects tended towards decay, their natural fate. Collecting interfered with this natural motion towards decay. Hence, as Foucault pointed out (1973, p. 132), through the act of collecting, archiving, cataloguing, and classifying humans manage and redefine time.

62. The former, found, for example, in Gessner's *Historia Animalium* (Zurich 1551), in Topsell's *The Historie of Foure-footed Beasts* (London 1607), and in Aldrovandi's *Natural History* (Bologna 1637, published posthumously), was characterized by a "wondrous" style; the latter, which had come to predominate in natural history by the end of the seventeenth century, offered a rigorously detailed, naturalistic description. In the medical field, the transition is paralleled by a gradual disenchantment with the disease, whereby the practice of healing became separate from religious cult.

gathered).[63] Although these are speculative interpretations, the notion that the Tradescants might have included biblical references in their collecting mission is sustainable, as in Tradescant's time the Bible was often read as a source of suggestions for the improvement of mankind (Bennett and Mandelbrot 1998). The Ark was an instrument for imparting knowledge, "the universal solvent of ignorance and prejudice" (Hill 1985), and its biblical references appear consistent with the Baconian notion that education helps Providence to hasten the improvement of humanity.[64] In conflating the historical significance of the Elder Tradescant with the symbolic charge of biblical characters, the catalogue conveys the notion that the human and the divine join forces, and through learning and education, attempt to restore man's dominion over nature, and recreate the original human condition before the Fall.

Historical and physiological evidence therefore suggests that the aesthetic response may acquire a distinctly intense quality upon the sensory encounter with deviance, and that a combination of normality and deviance might prove the most aesthetically rewarding. The Tradescants' collection, with its combination and juxtaposition of common and rare, near and far, normal and strange, offered the opportunity to encounter otherness in the safe context of a London home, and to experience the transformation of the sensory jolt of the deviant into the aesthetic jolt of the sublime. This is where the originally sensory etymology of aesthetics reappears: when the aesthetic response is examined in terms of a sensory response, aesthetic theory and neurobiology converge.

63. Also, the inferences to Adam and Noah in the name of the collection connote aspirations to universal knowledge, especially in consideration of the Biblical reference to Adam as the first namer of things: "And out of the ground the Lord God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof" (Genesis 2:19). The topic of Adamic naming and the quest for the original universal language was popular in the sixteenth and seventeenth century, as shown for example in the work of Giordano Bruno and the Hermeticists (Yates 1966), John Dee (whose Diary 1554–1601 mentions the *Book of Soyga*, supposedly containing the language revealed to Adam in Paradise; see Harkness 1999), and Athanasius Kircher (who, in *Polygraphia nova*, 1663, proposes an artificial universal language).

64. The Elder Tradescant acknowledged the value of the collection to the local community and the general public. By opening the Ark to visitors, he set a precedent for universal access to knowledge, which is likely to have played a key role in the creation and educational agenda of major cultural institutions. As an example, the Statutes and rules of the British Museum, opened in 1759, make it clear that "although chiefly designed for the use of learned and studious men [...] it may be judged reasonable that the advantages accruing from it should be rendered as general as possible" (excerpt quoted in MacDonald, p. 126).

VIII

The Tradescants' material contribution to Britain's nature and culture has been widely acknowledged.[65] Here I have focused on a different facet to their legacy, one that has less to do with the materiality of the objects included in their collection than with the conceptual implications in terms of what these objects—and the act of collecting them—represent. I have proposed an alternative interpretation of the Tradescants' collection, and suggested that the key categorical boundary represented in it is not that between the natural and the artificial—the two categories into which, in Tradescant's time, the world was typically understood to be divided—but rather the orthogonal ones between the familiar and the foreign, the near and the far, and, more generally, between the normal and the deviant. Through the encounter with the deviant, the Tradescants' collection offers the opportunity to explore one's identity in relation to the other, which is actively sought, included, and turned into an innocuous object amenable to being observed, manipulated, and "held to the light of reason." I have also suggested that the opportunity to encounter deviance in the safe context of a collection is central to the Ark's aesthetic significance; it conveys a clear message that in order to be oneself one ought not to miss the encounter with the other, and is a compelling reminder of the originally corporeal meaning of the word aesthetics, and botanical connotation of the word culture.

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65. See, for example, Mea Allan's *The Tradescants: Their Plants, Gardens And Museum, 1570–1662* (1964), Arthur MacGregor's edited anthology *Tradescant's Rarities: Essays on the Foundation of the Ashmolean Museum 1683, with a catalogue of the surviving early collections* (1983), as well as Mary Grierson's illustrated catalogue *An English Florilegium - Flowers, Trees, Shrubs, Fruits, Herbs - The Tradescant Legacy* (1987). For Tradescant's role in the establishment of the first public museum, see n/a, 1937; Impey and MacGregor 1985.

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