TRAVEL LITERATURE, THE NEW WORLD, AND LOCKE ON SPECIES

Patrick J. CONNOLLY*

Abstract. This paper examines the way in which Locke's deep and longstanding interest in the non-European world contributed to his views on species and their classification. The evidence for Locke's curiosity about the non-European world, especially his fascination with seventeenth-century travel literature, is presented and evaluated. I claim that this personal interest of Locke's almost certainly influenced the metaphysical and epistemological positions he develops in the *Essay*. I look to Locke's theory of species taxonomy for proof of this. I argue that Locke uses evidence gathered from the non-European world to (1) show that in taxonomizing objects we rely on their sensible qualities rather than their real essences and to (2) undermine Scholastic Aristotelian views about a mind-independent species/genera structure to the world.

Keywords: Locke, travel literature, species, natural kinds, taxonomy, classification, Bacon

"But, whatever you may think,
I assure you all the world is not Mile-end."

- Locke, *A Third Letter for Toleration*[1]

1. Introduction

In the *New Organon* Francis Bacon remarked that:

> We should also take into account that many things in nature have come to light and been discovered as a result of long voyages and travels (which have been more frequent in our time), and they are capable of shedding new light in philosophy. Indeed it would be a disgrace to mankind if wide areas of the physical globe, of land, sea and stars, have been opened up and explored in our time while the

* University of North Carolina, Chapel Hill, e-mail: pconnoll@email.unc.edu

> boundaries of the intellectual globe were confined to the discoveries and narrow limits of the ancients.[2]

Many members of the early Royal Society heartily agreed with this view of things. As a result, they devoted significant effort to the collection and dissemination of information about distant lands. The Society was always eager to find correspondents in far-flung corners of the globe and played an important role in the collection and dissemination of travel literature. To take just one example, there was a tight connection between the Royal Society and François Bernier's account of his travels on the Indian subcontinent. Henry Oldenburg (the first Secretary of the Royal Society) not only translated Bernier's account into English but also arranged for it to be published.[3] And, more generally, ownership of travel literature was far more common among members of the Royal Society than among the general reading public.[4]

Most importantly, it is clear that the Royal Society saw this information about the non-European world as useful for their larger natural philosophical projects.[5] Boyle, to take just one example, clearly thought that travel literature and information garnered from travelers was part of his research. The preface to the *General History of the Air* (a book which Locke helped to research and upon Boyle's death edited, finalized, and saw through the press) says that he made use of: "Questions I put to divers travelers and navigators: but I have also cast in several pertinent passages that chanced to occur to me in the reading of some voyages and other books."[6] The minutes of Royal Society meetings and the *Philosophical Transactions* show that the members of the society clearly regarded the study of the non-European world to be relevant to their activities.[7]

My goal in this paper is to discuss the possibility that contact with the non-European world played a role in the thought of one member of the Royal Society, John Locke. Specifically, I want to focus on one way in which Locke's thinking about the non-European world influenced the metaphysics and epistemology of his theoretical philosophy in the *Essay*. On this topic, those who work on Locke's theoretical philosophy are behind those who work on Locke's practical philosophy. There are already a number of studies which explore the impact of Locke's thinking about the New World on his moral and political philosophy.[8] There is far less work on the impact it had on his metaphysics and epistemology.[9]

This paper will proceed as follows. In Section 2 I will discuss Locke's fascination with the non-European world, especially his voracious consumption of travel literature. Travel literature was the primary medium through which Locke learned about the non-European world. So examining this interest of Locke's, in particular, will help prepare us to understand the impact the non-European world had on his philosophy. In Section 3 I will discuss the role of non-European places and species in Locke's theory of species taxonomy and attack on the Scholastic theory of real essences. I will argue that Locke used non-European species to (1) show that in taxonomizing objects we rely on their sensible qualities rather than their real essences and to (2) undermine Aristotelian views about a mind-independent species/genera

structure to the world. In the conclusion I will review the findings of the paper and suggest that scholars continue to look for ways to illuminate Locke's metaphysics and epistemology in light of his interest in the non-European world.

2. Locke and the non-European World

Locke had a lifelong interest in distant lands and peoples. This section will describe some of the ways that Locke learned about the non-European world.

2.1 Personal Connections

One way in which Locke learned about the non-European world was through his personal contacts. Locke personally conversed and corresponded with a number of individuals who had travelled outside of Europe. For example, Locke had a close relationship with François Bernier. Bernier had travelled extensively in India and published a book detailing his trip.[10] Locke's governmental duties brought him into contact with a number of individuals in the Americas. More important for our purposes, Locke corresponded with some of them about natural philosophy. For example, he had an acquaintance forward an account of a poisonous fish in the Bahamas and then passed the account on to the Royal Society (see letter #299).[11] An account of the fish was published in *Philosophical Transactions*.[12] Letters #858 and #961 also show Locke discussing natural philosophy with those outside of Europe.[13] These letters show Locke's connection (via Caspar Sibelius) to Willem ten Rhyne, a Dutch physician living in the East Indies. An account of the Cape of Good Hope by ten Rhyne appears in the Churchill volume mentioned below.[14] Possibly it was included at Locke's suggestion.

2.2 The Royal Society and London

By Locke's time, networks of correspondence and trade meant that many non-European plants, animals, and artifacts were finding their way to London.[15] As mentioned in the introduction, the Royal Society played an important role in this process. Locke's acquaintances from the Royal Society, attendance at meetings, and perusal of the *Philosophical Transactions* would have kept him abreast of these new discoveries. But the Royal Society was not alone in this endeavor. Private collections and cabinets of curiosity were becoming fashionable at this time. And exotic animals, or at least their corpses, were often exhibited to the public and became a popular diversion for a broad cross-section of the population. The cassowaries which Locke saw in St. James' Park, and which will be discussed in detail in Section 3.2, are a nice example of this. They were part of a private menagerie which was put on display for the amusement and edification of the public.

2.3 Locke's Collection of and Interest in Travel Literature

So Locke had ample opportunity to learn about the non-European world through his personal contacts, correspondence, and time with the Royal Society and in London more generally. That said, it seems that Locke's primary source of information about the non-European world was travel literature. Travel literature

included reports of goings on and descriptions of life in other parts of the world. Works like this made up a booming literary genre in late seventeenth century England. And Locke was among the foremost consumers of this genre; his library contained a vast repository of travel volumes.[16] All told he possessed 195 volumes of travel literature at the time of his death.[17] This represents more than 5% of his entire library. Thus Locke had more volumes of travel literature than of physics, of natural history, or of chemistry. Even by the standards of the time, in which travel literature was a popular genre, these numbers represent a special personal interest in travel literature. Indeed, one commentator on Locke's library has gone so far as to say that his holdings in travel literature are "the cream of Locke's library."[18] When we compare Locke's travel literature holdings to those present in comparable libraries of the time we find Locke's holdings were exceedingly large.[19] There is also evidence that Locke not only *owned* a great deal of travel literature but also that he *actually read* the works he owned. As Peter Laslett, the compiler of our record of Locke's library, writes: "Indications such as [bookmarks, items placed between pages, or turned down corners], and all the evidence of Locke's having actually read a volume, are commonest in his books of travel, exploration, and geography…"[20] Finally, it is worth noting that travel literature was an interest that Locke maintained throughout his entire mature life; it plays a constant role from his student days at Oxford until his death at Oates.[21]

One final piece of evidence which demonstrates Locke's deep interest in and respect for travel literature is his involvement in a project to publish a massive collection of travel literature. The main force behind this project was the London publisher Awnsham Churchill.[22] Churchill had published several of Locke's works including the *Two Treatises* and the later editions of the *Essay*. More importantly for our purposes, Churchill turned to Locke for advice in producing the massive four volume compilation of travel literature which was published in 1704 under the title *A Collection of Voyages*.[23] Locke's correspondence shows that he was consulted about the project and asked for his advice about what to include. When the project was completed Churchill sent him a copy of the work.[24] The "Publishers Preface" in Churchill's work notes input from Locke and others: "since the undertaking of this Design, divers other Relations, some in Manuscript, others printed, no less curious than useful, are fallen into our hands; why by the advice of learned and judicious Friends we have resolved to prepare for the Press with all possible Expidition, and to publish them...."[25]

2.4 The Relevance for Locke's Philosophy

These are the facts relating to Locke's fascination with the non-European world. It will now be worthwhile to say a few words about the connection Locke saw between this interest and his work as a philosopher, specifically his philosophical work in the *Essay* (as opposed to his political works). More specifically, I want to suggest that Locke saw his interest in foreign lands as directly relevant to and immensely important for his interest in philosophy. One piece of evidence is the fact that travel literature is cited far more often than any other literary genre (including philosophy,

natural philosophy, or theology) in the *Essay*. In fact, in the 1705 edition of the *Essay*, of the sixteen works cited by Locke, fifteen are appropriately categorized as travel literature.[26] Further, even when there are no specific citations, the *Essay* contains a great number of references to foreign countries, peoples, and practices.[27]

Thinking about the topic of the *Essay* can help us to get a handle on *why* Locke saw travel literature and the non-European world more generally as playing a vital role. The *Essay* is an essay concerning *human understanding*. Its goal is to describe the contents, activities, capacities, and functions of the human mind and the ways in which it succeeds or fails in acquiring knowledge. Given that this was Locke's project it is easy to see why travel literature was important to him: it described entire realms of human thought, experience, and practice that Locke had no other access to. Locke would have understood his reading of travel literature as data collection for the project of the *Essay*. Some have even gone so far as to suggest that because Locke attempts to draw conclusions about human nature and because in doing so he relies heavily on observations from different cultures he can be understood as engaged in a project of anthropology.[28]

So we have reason to think that Locke understood the non-European world to be relevant for his philosophical project. We might wonder however, whether this interest has some concrete and specifiable impact on the philosophical doctrines of the *Essay*. In the next section I want to make good on this possibility. Specifically, I want to show that Locke's thinking on the taxonomy of species and genera was in part determined by what he knew about the animals of the non-European world.

3. Locke, non-European Animals, and Species Taxonomy

Chapter 6 of Book 3 of the *Essay* ('Names of our Ideas of Substances') is the most relevant chapter for discussions of Locke's views on species, genera, and taxonomy. The argumentative structure of the chapter is two-fold: there are a series of positive arguments in favor of Locke's view and a series of negative arguments against a position which can be roughly characterized as 'Scholastic'. The major goal of the positive argument is to show that our divisions of objects into species and genera are the product of mind-dependent features of the world. They are heavily influenced by the perceived outward appearances of objects as well as by our interests and our conventions. The major target of the negative arguments is the position that our divisions of objects into species and genera accurately track mind-independent features of the world. According to this view there are more and less accurate species and genera distinctions where the standard of accuracy is determined by the (real) essences or (substantial) forms of objects.

Claims about Locke on language, species, taxonomy, and related topics are bound to be controversial claims. Arguing in great detail for the positions outlined in the above paragraph is beyond the scope of this paper. Nevertheless, I have attempted to make my characterization of Locke's view broad enough to encompass many, if not most, of the popular positions in the literature. My hope is that even those who disagree with this characterization of Locke's position can benefit from the following

discussion. Locke's love of travel literature as well as his deep interest in non-European flora and fauna are no doubt relevant for their views as well.

3.1 *Prima Facie* Evidence for Influence

Is there any *prima facie* evidence for thinking that Locke's interest in travel literature and non-European countries influenced his thinking on taxonomy and the positive and negative arguments of 3.6 specifically? The answer to this question is yes. 3.6 contains at least 19 references to non-European places or animals. And these references are spread across 13 sections, meaning one-quarter of the sections in the chapter make references to a non-European place or animal. So Locke clearly had the non-European world on his mind while crafting this chapter.

Further, there is at least one direct parallel between a section in the chapter and a work of travel literature which Locke owned. Consider some passages from 3.6.12: "There are Fishes that have Wings, and are not Strangers to the airy Region", and just a few lines later: "and Porpoises have the warm Blood and Entrails of a Hog..." Compare these with Jean de Léry's *History of a Voyage to the Land of Brazil*, a book which Locke owned and cited by name elsewhere in the *Essay*.[29] In Chapter 3 of this book Léry writes "I had always thought that the sailors who spoke of flying fish were telling us tall tales: however, experience showed me that they really did exist" and reports that they have "wings like those of a bat, almost as long as the whole body."[30] A few paragraphs later Léry describes porpoises highlighting their similarity to pigs: "It is a great amusement to hear them blow and snort; you would think that they really were ordinary pigs, such as we have on land... As for the insides of a porpoise: its four flippers are lifted off, just as you would remove the four hams from a pig...and the ribs are removed; open and hung in that fashion you would say that it is an ordinary pig—indeed, his liver has the same taste...There were little ones in the bellies of some that we caught (which we roasted like sucking pigs)..."[31] So some travel literature seems to have played a rather direct role in the construction of 3.6.

So far so good. But what precise role does travel literature play in the argument of the chapter? And how might have Locke's reading of travel literature influenced the philosophical views presented in the chapter? I think we can discern two different responses to these questions. First, Locke appealed to non-European species to rebut the claim that classification according to real essence was, in fact, possible. Second, Locke's references to non-European species which cross over different Aristotelian genera support his argument that species classifications are prior to and less mind-dependent than genus classifications.

3.2 Responding to an Objection

One of Locke's arguments throughout the chapter is that it must be the case that we classify objects into species and genera as a result of our observations of their outward appearances because it would be impossible for us to classify them according to their real essences. This argument of Locke's faces an objection: many people allege that they can, in fact, classify objects according to their real essences. They claim that faced with a number of donkeys and a number of horses they are able to confidently

sort them into their proper species on the basis of their respective real essences. Given that some people make this claim it is incumbent on Locke to both reject it and to offer a diagnosis of what has gone wrong in their thinking. Significantly for our purposes, Locke's diagnosis makes appeal to non-European animals.

Locke's diagnosis is that people assume they are able to sort objects into their proper species based on their real essences only because they are so familiar with those objects. The familiarity of the object misleads us into thinking our categorization of it (which is, in fact, a product of the sensible features of the object) is far more robust than it is (and is based on some concrete features pertaining to the object's essence). Locke argues that one way to realize this error of ours is to shift our attention from animals (like horses and donkeys) that we are familiar with to animals that we are not familiar with. The best way to do this is to focus on the vast numbers of new and unfamiliar animals discovered in the non-European world. Once we are presented with these unfamiliar animals, any misplaced confidence in our ability to correctly taxonomize them on the basis of anything other than a careful description of the ideas they produce in our minds will fade.

The above paragraph gives the general outline of an argumentative strategy. I will now show that Locke employs this strategy on two distinct occasions. The first instance of this argumentative strategy occurs in the *Essay*. Here is what Locke writes: "He that thinks he can distinguish sheep and goats by their real essences, that are unknown to him, may be pleased to try his skill in those species called cassiowary and querechincio; and by their internal real essences determine the boundaries of those species, without knowing the complex ideas of sensible qualities that each of those names stand for, in the countries where those animals are to be found."[32] What is the precise role being played by the cassowary and the querechincio in this passage? Locke obviously intends to imply that his opponents would be unable to discern which animal was which. Further, Locke intends for his opponents to reflect on how they *would* attempt to differentiate these foreign animals if they did face them. The implication is that one would be forced to rely on the sensible features of these new animals. One manifestly is unable to discern the real essence of a cassowary or a querechincio without having seen one; but Locke also means to suggest that even after meeting one of these strange creatures one would be no closer to knowing its real essence.

Locke's emphasis on "determining the boundaries" of these species is also important. When faced with two entirely unfamiliar animals that share similarities, but which are not entirely identical in appearance, Locke thinks his opponents will be faced with a difficulty. Are both of these animals members of the same species, the cassowary, perhaps? Or instead, are they members of distinct, but closely related, species? Well, according to Locke's opponents, this question should be easy to settle, we could simply examine the real essences of the animals and then classify them appropriately. But the example is meant to show that we actually cannot determine these real essences. The best we can do is carefully observe the visible features of the animals and categorize on the basis of these.

Ideally this will lead us to reflect on our classificatory practices more generally. For example, given this, what should we make of our confidence in sorting goats and sheep? Of course, we are very good at differentiating between these two, but is it because we know their real essences? Earlier in this section Locke writes that "Though the familiar use of things about us take off our wonder, yet it cures not our ignorance…"[33] Sheep and goats may not inspire the wonder that cassowaries and querechincios do, but Locke's goal is to show us that while common English barnyard conventions make it easy to sort them into two groups, we are as ignorant of their real essences as we are of the real essences of more exotic species.

Later in the chapter Locke returns to the cassowary and makes a similar point. He suggests that when he encounters a cassowary he will learn all about its sensible qualities: "about three or four feet high, with a covering of something between feathers and hair, of a dark brown colour, without wings, but in the place thereof two or three little branches coming down like sprigs of Spanish broom, long great legs, with feet only of three claws, and without a tail."[34] He confesses that learning the sortal term "cassowary" will allow him to refer to this creature. But he claims that knowing this word will bring him no closer to knowing the creature's real essence, it will only stand for the sensible features.

Just as in the previous cassowary passage, Locke draws a parallel between our knowledge of cassowaries and our knowledge of more familiar creatures. He writes that even before he knew the name 'cassowary' (and while he was still ignorant of the real essence of cassowaries) he knew as much about cassowaries as "many Englishmen do of swans or herons, which are specific names, very well known, of sorts of birds common in England."[35] Again, the implication is that Englishmen do not distinguish between swans and herons based on their real essences. Rather, they are only able to differentiate between them based on the sensory features of the birds. So Locke's reference to cassowaries and querechincios is one instance of his using the non-European world to demonstrate that it is our familiarity with the sensible features of creatures, and not our knowledge of their real essences, that grounds our confidence in the classification of them.[36]

The second Lockean deployment of this strategy occurs in the Stillingfleet correspondence. Stillingfleet was one of Locke's opponents who thought he could easily distinguish objects into species based on their real essences. As an example, Stillingfleet had confidently asserted that Peter, James, and John were all clearly men and all clearly shared the same essence. Locke's strategy is familiar. He suggests that it is only familiarity with men named Peter, James, and John that allows Stillingfleet to think he is categorizing them according to a real essence and that presentation of less familiar objects would require careful attention to sensible features. And Locke again looks to the non-European world to make this point: "if I should ask your lordship, whether Weweena, Chuckerey, and Cousheda, were true and real men or no? Your lordship would not be able to tell me, until I having pointed out to your lordship the individuals called by those names, your lordship, by examining…[their] sensible qualities…"[37] By using names common to African tribesmen rather than seventeenth century Britons Locke is again able to emphasize that it is our familiarity with the

sensible features of objects, rather than our knowledge of their real essences, that allows us to categorize them.

The new plants and animals encountered by Europeans in the seventeenth century proved, in many cases, difficult to taxonomize. And it is perhaps possible to think that the discovery of varied new species had something to do with the final collapse of taxonomies based on substantial forms or essential features and the transition to a more empirical strategy which based taxonomy on observable properties of animals.[38] Consider a passage pertaining to the opossum published in the *Philosophical Transactions* shortly after Locke's death: "I [had] queried to what *Species* in the Prædicament of Animals this Creature might properly be reduced?....I must confess we cannot be at a certainty in this matter, unless we had a more perfect Enumeration and Description of the several sorts of Animals that are in the World; and by a strict Enquiry into their *inward* as well as *outward* Parts, observed, how they differ from one another…"[39] Here we see, in the face of difficulties posed by an unfamiliar non-European creature, the distinctive Lockean claim that certainty as to species classification is difficult to come by but if it is to be achieved at all can only be done on the basis of the animal's observable qualities.[40]

3.3 Splitting Genera

Another way in which non-European species seem to influence the content of Locke's views on classification pertains to the relationship between species and genera. A broadly Scholastic position had it that there was an objective species/genera structure to the world. On this view, every particular species (human, cow, horse, etc.) has a *differentia*. This differentia serves to distinguish that species from every other belonging to the same genus. More importantly, this differentia ensured that there was an objectively correct categorization of that species within the whole species/genera hierarchy. For example, humans are *rational*, which differentiates the species "human" from all of the other species in the genus "animal". And animals are *sensible*, which differentiates the species "animal" from all of the other species in the genus "living things". And living things are *animate*, which differentiates the species "living things" from all other species in the genus "material substances". So the differentia of a species determines exactly which larger groups it is appropriate to classify it under.

Non-European animals provided Locke with a large number of species which either failed to fit cleanly into a traditional Aristotelian genus or which seemed to have characteristics of two (or more) different genera. The existence of species like this was important for Locke's views in two ways. First, species like this furthered Locke's claim that there is no objective, mind-independent ordering of species and genera in the external world which determines correct classification. Second, the existence of species like this furthered Locke's view that individual species are logically and cognitively prior to the genus they belong to. This counters the Scholastic view which suggests that the distinctions made at high levels of generality are every bit as real and robust as the distinctions between particular species.

I have already mentioned some of the creatures that fall into more than one genera but it will be worth revisiting them and discussing them in further detail. One

excellent example is the flying fish mentioned by Locke at 3.6.12. Reference to the flying fish is followed immediately by reference to a swimming bird: "There are fishes that have wings, and are not strangers to the airy region; and there are some birds that are inhabitants of the water, whose blood is cold as fishes, and their flesh so like in taste, that the scrupulous are allowed them on fish-days." I have been unable to discover where Locke learned about these fish-like birds, but he likely read about flying fishes both in Léry, as mentioned above, and in Pyrard.[41] These two species are candidates both for the genus of 'bird' and for the genus of 'fish' but fit cleanly into neither. This is especially striking given that 'bird' and 'fish' are meant to be obvious examples of Aristotelian genera. Consider Aristotle's introduction of the term 'genus' at the beginning of Book 1 of his *History of Animals*: "By 'genus' I mean, for instance, Bird or Fish; for each of these is subject to difference in respect of its genus, and there are many species of fishes and of birds."[42]

These are not Locke's only examples of creatures that fail to fit into a clear genus. The example of a porpoise mentioned above is also relevant. The porpoise lives in the sea like a fish, but also clearly has pig-like mammalian features. We can also return to our friend the cassowary. Cassowaries are clearly bird-like but they do not fit cleanly into the genus 'bird' insofar as they are both enormous and flightless. And Locke could have discovered a great many more genus-defying or genus-free species through his reading of travel literature. Switching from animals to plants, Gonzalo Oviedo, in his immensely popular *Natural History of the West Indies*, confesses deep confusion over whether a certain plant is a tree or a shrub: "There are some trees [cacti] in the Island Hispanola that are very spiny…I have not been able to determine whether they are trees or shrubs....It would be very difficult to describe this plant with words; it would be much more satisfactory to make a sketch of it for through the eyes one might understand what cannot be described with words."[43] Or, moving back to animals, Léry mentions a creature which confuses two different species groupings: "In fact, you could say [of this animal] that it partakes of both, and is half cow and half donkey."[44]

In general, it seems that consideration of creatures like these helped convince Locke that the world was not arranged into an objective hierarchical structure of species and genera. A critical component of the Scholastic picture sketched above is the belief that each species can be situated at one, and only one, determinate place in the branching pattern of species and genera. The idea that one species (like "flying fish" or "cactus") could fit under two different genera (like "bird" or "fish" or like "tree" or "shrub") is deeply problematic for this picture. So it seems that non-European species may have played an important role in Locke's belief that this hierarchical picture of the world with strict divisions between different species was incorrect.

But the existence of these genus-crossing non-European species did more than lend support to Locke's rejection of the Scholastic picture. It seems they also supported his positive view, on which species are logically and taxonomically prior to genera. The textual locus for this position is 3.6.32: "If the *number of simple* Ideas, *that make the nominal Essence* of the lowest *Species*, or first sorting of Individuals, *depends on the*

Mind of Man, variously collecting them, it is much more evident, that they do so, in the more comprehensive *Classes*, which, by the Masters of Logick are called *Genera*." Locke's goal in this section is to show "The more general our ideas are, the more incomplete and partial they are." So Locke's positive view is that our claims about any given genus are much more obviously creatures of our mind than are our claims about any given species.

Locke believes we start by making species generalizations and move up from these to make genus classifications. On this view, if there are animals that participate in more than one genus or who fail to fit cleanly into a particular genus there is nothing particularly problematic about that fact; it will just be the case that some species can be thought of as belonging to two different groups. The Scholastic Aristotelian paradigm, however, will struggle to incorporate these creatures. A key claim for this view is that each species has a differentia which sorts it neatly into a determinate genus. Many of Locke's genus-defying examples seem designed specifically to problematize this view. The existence of creatures like cassowaries and flying fish is both a serious problem for the Scholastic taxonomic paradigm and an argument for the replacement designed by Locke.

I think that with these thoughts in mind we can properly appreciate two of Locke's statements from 3.6. The first comes from 3.6.24 where Locke writes that "Much less were any substantial forms ever thought on by any but those who have *in this one part of the world* learned the language of the schools…." [emphasis added]. Locke here, among other things, seems to suggest that there is something parochial about the Scholastic view of species classification.[45] The second, related, quote comes from 3.6.25. Locke here suggests that we do not actually sort creatures according to any mind-independent structure in the world: "But supposing that the real essences of substances were discoverable by those that would severely apply themselves to that inquiry, yet we could not reasonably think that the ranking of things under general names was regulated by those internal real constitutions, or anything else but their obvious appearances; *since languages, in all countries*, have been established long before sciences…" [emphasis added]. Here again we have a very thinly veiled attack on the pretensions of the Scholastic view of species and genera. Pretensions which were, in part, unveiled by the existence of non-European species.

4. Conclusion

My goal in this paper has been to show that Locke's reading of travel literature and his knowledge of the non-European world played a significant role in his theory of species classification and taxonomy. Non-European species helped Locke to show that our species classifications are made on the basis of our interests and on the basis of sensible features of animals. And non-European species also helped Locke to show that our species classifications do not proceed on the basis of a mind-independent structure of substantial forms arranged into a species/genera hierarchy.

While the main goal of this paper has been to show that Locke's reading of travel literature and encounter with the non-European world had a substantial impact

on his views about species classification and taxonomy my hope is that this paper can also do more than that. I hope it can also serve as a case-study in the way that Locke's interest in the non-European world impacted the metaphysics and epistemology of the *Essay*. And, to some extent, that it can teach us about the ways that European philosophy was impacted by the discoveries in non-European lands during the seventeenth and eighteenth centuries.[46]

References

[1] Locke, J., *Four Letters Concerning Toleration*, in *The Works of John Locke* (London: Printed for T. Tegg, 1823), volume 6, 225. The quote was occasioned by Jonas Proast's admission of ignorance about conditions in the West Indies.

[22] Bacon, F., *The New Organon*, eds. L. Jardine and M. Silverthorne (Cambridge: Cambridge University Press, 2000), 69 (book 1, aphorism 84).

[3] Bernier, F., *Travels in the Mogul Empire AD 1656-1668*, ed. A. Constable (Delhi: S. Chand & Co., 1968), 477-478.

[4] Talbot, A., *"The Great Ocean of Knowledge": The Influence of Travel Literature on the Work of John Locke* (Leiden: Brill, 2010), 121.

[5] And the Royal Society was not the only early modern scientific society which saw reports from travelers to the non-European world as integral to their work. See Freedberg, D., *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History* (Chicago: University of Chicago Press, 2003), chapter 9 for an account of the Lincean Academy's attempt to taxonomize and disseminate knowledge of Meso-American flora.

[6] Boyle, R., *The General History of Air*, in *The Works of Robert Boyle*, eds. M. Hunter and E.B. Davis (London, Pickering & Chatto, 1999-2000), volume 12, 10. For Locke's extended involvement with the *General History* see Dewhurst, K., "Locke's Contribution to Boyle's Researches on the Air and on Human Blood", *Notes and Records of the Royal Society of London* 17 (1962): 198-206 and Stewart, M.A., "Locke's Professional Contacts with Robert Boyle", *Locke Newsletter* 12 (1981): 19-44.

[7] See, in particular, Boyle, R., "General Heads for a Natural History of a Countrey, Great or Small", *Philosophical Transactions* 1.11 (1666): 186-189. For more on the Royal Society and travel literature see Talbot, A., (2010), chapter 11 and Carey, D., "Compiling Nature's History: Travellers and Travel Narratives in the Early Royal Society", *Annals of Science* 54.3 (1997): 269-292.

[8] As a sampling: Talbot, A., (2010), especially chapters 2, 6, 13, and 14; Squadrito, K., "Locke and the Dispossession of the American Indian", in *Philosophers on Race: Critical Essays*, eds. J.K. Ward and T.L. Lott (Oxford: Blackwell Publishers, 2002), 101-124; Arneil, B., *John Locke and America: The Defence of English Colonialism* (New York: Oxford University Press, 1996).

[9] Two notable exceptions are Talbot, A., (2010) and a series of works by Daniel Carey: Carey, D., "Locke, Travel Literature, and the Natural History of Man", *The Seventeenth Century* 11.2 (1996): 259-280; Carey, D., "Locke's Anthropology: Travel, Innateness, and the Exercise of Reason", *The Seventeenth Century* 19.2 (2004): 260-285; Carey, D., "Travel, Geography, and the Problem of Belief: Locke as a Reader of Travel Literature", in *History and Nation*, ed. J. Rudolph (Lewisburg: Bucknell University Press, 2006), 97-136; Carey, D., *Locke, Shaftesbury, and Hutcheson: Contesting Diversity in the Enlightenment and Beyond* (Cambridge: Cambridge University Press, 2006).

[10] Bernier, *Travels in the Mogul Empire*. Bernier later became a Gassendist philosopher (for Locke's connection to Bernier see Woolhouse, R., *John Locke: A Biography* (New York:

Cambridge University Press, 2007), 139; for Bernier's life and philosophical thought see Lennon, T., *The Battle of the Gods and Giants: The Legacies of Descartes' and Gassendi, 1655-1715* (Princeton: Princeton University Press, 1994).

[11] Locke, J., *The Correspondence of John Locke*, ed. E.S. De Beer (Oxford: Clarendon Press, 1976).

[12] Locke, J., "An Extract of a Letter…", *Philosophical Transactions* 10.114 (1675): 312.

[13] Locke, J., *Correspondence*.

[14] Churchill, A., *A Collection of Voyages and Travels* (London: Printed for Awnsham and John Churchill, 1704), volume 4, 849-866.

[15] See Harris, S.J., "Networks of Travel, Correspondence, and Exchange" in *The Cambridge History of Science*, eds. K. Park and L. Daston (New York: Cambridge University Press, 2006), volume 3, 341-362, for a discussion of these networks and their role in early modern European science.

[16] For an excellent overview of Locke's holdings see Talbot, A., "Locke's Travel Books", *Locke Studies* 7 (2007): 113-135.

[17] Harrison, J. and Laslett, P., *The Library of John Locke* (Oxford: Clarendon Press, 1971), 18, table 1.

[18] Hughes, H.C., "John Locke's Library", *The Book-Collector's Quarterly* 12 (1933): 32-40.

[19] Talbot, A., (2007), 120-121.

[20] Harrison J. and Laslett, P., (1971), 27. See also page 38.

[21] For evidence that Locke read travel literature at Oxford note the reference to Brazil in Essay 5 of his *Essays on the Law of Nature* (composed in the early 1660's). For evidence that Locke cared about travel literature until his death see the role it plays in his *Some Thoughts Concerning Reading and Study for a Gentleman* (composed in 1703).

[22] For details of Churchill's life and association with Locke see Knights, M., "Churchill, Awnsham (1658-1728)" in *Oxford Dictionary of National Biography*, eds. H.C.G. Matthew and B. Harrison (Oxford: Oxford University Press, 2004).

[23] Churchill, A., *Collection of Voyages and Travels*.

[24] For further details see Talbot, A., (2010), 222-223.

[25] Churchill, *Collection of Voyages and Travels*, volume 1, ii.

[26] Harrison, J. and Laslett, P., (1971), 28.

[27] See, for example, Locke's mentions of Jamaica (3.6.13), Siam (4.15.5), the Americas (2.13.20, 2.14.20, 2.16.6, 4.12.11, 4.17.4), Japan (1.3.19, 2.14.23, 4.15.6), and the Indies (2.1.11, 3.6.23, 4.11.4). All references to Locke's *Essay* are to Locke, J., *An Essay Concerning Human Understanding*, ed. P.H. Nidditch (Oxford: Clarendon Press, 1975). I will provide the book, chapter, and section number separated by periods. For example, the reference to Jamaica above is to section 13 of chapter 6 of the third book.

[28] See, in particular, Batz, W.G., "The Historical Anthropology of John Locke", *Journal of the History of Ideas* 35.4 (1974): 663-670, and more generally Rogers, G.A.J., "Locke, Anthropology and Models of the Mind", *History of the Human Sciences* 6.1 (1993): 73-87 and Carey, D., (1996).

[29] For Locke's ownership see Harrison, J., and Laslett, P., (1971), 172. For the other *Essay* reference to Léry see 2.16.6.

[30] Léry, J. *History of a Voyage to the Land of Brazil*, trans. J. Whatley (Berkeley: University of California Press, 1990), 15.

[31] Léry, J., *History of a Voyage*, 17-18.

[32] Locke, J., *An Essay Concerning Human Understanding,* 3.6.9.

[33] Locke, J., *An Essay Concerning Human Understanding*, 3.6.9.

[34] Locke, J., *An Essay Concerning Human Understanding,* 3.6.34.

[35] Locke, J., *An Essay Concerning Human Understanding,* 3.6.34. Locke makes a very similar argument, again using a non-European species and explicitly referencing "a new-discovered Country" at 3.10.32.

[36] For a discussion of other seventeenth century natural philosophers who saw the cassowaries in St. James' Park and the difficulties they presented to seventeenth century taxonomy see Walmsley, P., *Locke's Essay and the Rhetoric of Science* (Lewisburg: Bucknell University Press, 2003), 13-17 and 41-47.

[37] Locke, J., *A Letter to Edward, Bishop of Worchester*, in Locke, *Works*, volume 4, 85. Locke essentially repeats the point at pages 164-5.

[38] See Ogilve, B., *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2006), chapter 5 for a discussion of some Aristotelian and non-Aristotelian approaches to taxonomic classification in the Renaissance.

[39] Cowper, W. and Tyson, E., "Carigueya, Seu Marsupiale Americanum Masculum…", *Philosophical Transactions* 24 (1704): 1565-1575.

[40] And indeed, the rest of the article goes on to offer just such a taxonomic scheme based on observable features.

[41] Pyrard, F., *The Voyage of François Pyrard of Laval*, trans. A. Gray (New Delhi: Asian Education Services, 2000), volume 3, 352: "As for flying fish they are met with everywhere under the Torrid Zone…"

[42] Aristotle, *The Complete Works of Aristotle: the Revised Oxford Translation*, ed. J. Barnes (Princeton: Princeton University Press, 1984), volume 1, 774. (*History of Animals*, Book 1, Part 1: 486a15-486b4).

[43] Fernandez de Oviedo y Valdéz, G., *Natural History of the West Indies*, trans. S.A. Stoudemire (Chapel Hill: University of North Carolina Press, 1959), 99. It is worth reading 3.11.25, which recommends pictures or sketches be included in dictionaries of flora and fauna, in light of this passage. Also, it is perhaps worth noting that this passage comes immediately after Oviedo's long discussion of the pineapple which, given Locke's apparent love for the fruit, may have caught his eye.

[44] Léry, J., *History of a Voyage*, 78.

[45] Compare with 4.6.4: "Though therefore these Things might, to People not possessed with scholastick Learning, be perhaps treated of, in a better and clearer way: yet those wrong Notions of *Essences* and *Species*, having got root in most Peoples Minds, who have received any tincture from the Learning, which has prevailed in this part of the World..."

[46] A previous version of this paper was presented at the 2012 Pacific Division meeting of the American Philosophical Association where I received helpful comments from Jan-Erik Jones. I am also grateful to Peter Anstey, Alan Nelson, and two anonymous referees who all read an earlier draft and offered valuable feedback.