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NOËL-ANTOINE PLUCHE'S *LE SPECTACLE DE LA NATURE OU ENTRETIENS SUR LES PARTICULARITES DE L'HISTOIRE NATURELLE* (1732-1742) AS AN INSTRUMENT FOR THE GOVERNMENT OF BODIES

ELISABETH WALLMANN

Abstract

This article reads Noël-Antoine Pluche's best-seller *Le Spectacle de la nature ou Entretien sur les particularités de l'histoire naturelle* (1732-1750) as a contribution to eighteenth-century theories of government. It contends that the *Spectacle's* didactic as well as entertaining volumes on animals, building on and reinforcing the vogue for natural history among the eighteenth-century reading public, helped formulate and disseminate new ideas on how to increase France's prosperity. Interpreting Pluche's descriptions of animals in the light of Foucault's claims about the emergence of 'biopolitics', this article argues that his natural histories of animals provided the *Spectacle's* upper-class readers with tools for rendering the bodies of those lower down the social hierarchy as productive as possible without external coercion and thus for contributing to the country's political economy by exercising their management functions. Through the interpretation of several examples from Pluche's bestiary of hard-working animals, it shows how descriptions of animals were used as an instrument for reconstructing and disseminating the concept of 'work'. The essay thus provides an account of the intertwining of natural history, political economy and the shaping of the individual in the first half of the eighteenth century.

Ils sont pleins de force, & ne s'en servent que pour lui. Ils lui obéissent comme à leur seigneur. Le premier ordre qu'il leur donne est suivi de la plus prompte obéissance. Quelle récompense attendent-ils de leur service ? Un peu d'herbe, même la plus sèche, ou le moindre de tous nos grains leur suffit. [...] Des inclinations si sobres & si avantageuses pour nous, sont-elles dûes à nos soins ? Est-ce notre industrie qui les fait naître ? Non assurément, & Monsieur le Chevalier les a appellés avec raison un des plus beaux présens de Dieu.¹

Noël-Antoine Pluche (1688-1761) is referring here to the relationship between humans and domestic animals. Rejecting the preference of earlier naturalists (and fabulists) for exotic, rare or wild beasts, Pluche celebrated instead the humble but useful cat, dog, horse and ass. Although the eight volumes of his immensely successful bestseller *Le Spectacle de la nature ou Entretiens sur les particularités de l'histoire naturelle* (1732-1750) promised a comprehensive overview of the natural and human worlds, they focused, above all, on nature's humblest and most ordinary creatures. Domestic animals were thus presented alongside craftspeople and artisans as worthy objects of study, whose productivity, obedience and sobriety would serve to mould the minds of the book's readers. Taking these slippages between labouring animals and humans as its basis, this essay reads the *Spectacle* as a crucial contribution to the contemporaneous reconception of government as the management of productive bodies. It argues that the study of animals in the *Spectacle de la nature* served as a laboratory for experimenting with and disseminating two related forms of rendering bodies productive: one focused on the discipline of labouring bodies and one focused on the desires of their aristocratic 'managers'.

The first volume of Pluche's *Spectacle*, though neither a literary masterpiece (like Buffon's *Histoire naturelle générale et particulière* (1749–1804))² nor a model for meticulous empirical research (as we might characterise Antoine Ferchault de Réaumur's volumes on insects

¹ Noël-Antoine Pluche, *Le spectacle de la nature ou Entretiens sur les particularités de l'histoire naturelle: première partie, contenant ce qui regarde les animaux et les plantes : tome premier* (Paris: Veuve Estienne et Fils, 1749), p. 339.

² On Buffon's literariness, see Jeff Loveland, *Rhetoric and Natural History: Buffon in Polemical and Literary Context* (Oxford: Voltaire Foundation, 2001).

(1734-1742)),³ was the most widely read – or at least the most widely bought – work on natural history in eighteenth-century Europe.⁴ The *Spectacle* was, as Daniel Mornet demonstrated in his famous study of private libraries, the fourth most widely held work to be found on eighteenth-century French shelves.⁵ It was translated in Catholic as well as Protestant countries, and countless pirated editions were produced in an attempt to profit from its popularity.⁶ This success might at first puzzle the twenty-first-century reader ploughing through the tomes of the *Spectacle*. Indeed, scholars had long dismissed Pluche as a hopeless populariser and natural theologian, intent on finding marvel even in the apparently most mundane details of nature.⁷ However, as a result of the broader trend within eighteenth-century studies to reconsider the relationship between knowledge of nature and religion, and to link these fields to the so-called ‘popular’ Enlightenment, there has recently been a revival of scholarly interest in Pluche.⁸ Scholars now explain the *Spectacle*’s success as a result of Pluche’s skill at creating a comforting, optimistic natural theology compatible with the enlightened search for ‘useful’ knowledge. Most recently, historian Ann Blair has made the case that Pluche’s Jansenist natural theology successfully combined ‘some aspects of the Enlightenment agenda’ with the Christian ‘need for reason to accept its limits’.⁹ Others, notably Cynthia Koepf and Andreas Gipper, have argued that Pluche should be seen as a progressive social thinker who was one of the first

³ On Réaumur as the prototypical enlightened observer, see Mary Terrall, *Catching Nature in the Act: Réaumur and the Practice of Natural History in the Eighteenth Century* (Chicago: The University of Chicago Press, 2014).

⁴ Daniel Mornet, ‘Les enseignements des Bibliothèques privées (1750-1780)’, *Revue d’Histoire littéraire de la France*, 17.3 (1910), 449–96; Dennis Trinkle, ‘Noël-Antoine Pluche’s *Le Spectacle de La Nature*: An Encyclopaedic Best Seller’, in *Studies on Voltaire and the Eighteenth Century*, ed. by Anthony Strugnell (Oxford: Voltaire Foundation, 1998), CCCLVIII, 93–134.

⁵ Mornet, ‘Enseignements’.

⁶ Trinkle, CCCLVIII; Elena Serrano, ‘The *Spectacle de La Nature* in Eighteenth-Century Spain: From French Households to Spanish Workshops’, *Annals of Science*, 69.2 (2011), 257–82.

⁷ Consider, for instance, Jacques Roger’s judgement, taken from his seminal work on the eighteenth-century life sciences: ‘La science n’avait pas plus à gagner que la religion à ce finalisme effréné.’ Jacques Roger, *Les Sciences de la vie dans la pensée française au XVIII^e siècle*, 3rd [1963] (Paris: Albin Michel, 1993), p. 248.

⁸ Simon Grote, ‘Review-Essay: Religion and Enlightenment’, *Journal of the History of Ideas*, 75.1 (2014), 137–60.

⁹ Ann Blair, ‘Noël-Antoine Pluche as a Jansenist Natural Theologian’, *Intellectual History Review*, 26.1 (2016), 91–99.

Enlightenment authors to use his religious interpretation of nature to urge his contemporaries ‘to respect the workers and peasants who made life possible and more comfortable for everyone’.¹⁰

These critics, then, have read the *Spectacle* as a work exemplary of an enlightened ‘utilitarisme chrétien’.¹¹ Pluche’s text can also, however, help us see the connection between natural history and ‘political oeconomy’ in a broader sense than the focus on utility allows. As the eighteenth century progressed, political economy was increasingly understood as the question of how to govern human as well as natural bodies so as to increase the wealth of French society as a whole; wealth, in turn, was understood to include natural resources as well as the bodies capable of harnessing and producing them.¹² In the *Spectacle*, the observation and control of animal bodies served as a tool for disseminating new theories of government that focused not on the sovereign’s laws and orders nor on the roles of nobles and courtiers, but on the art of rendering bodies productive. As I will show, the example of the *Spectacle* demonstrates that the increasing hunger of the eighteenth-century reading public for natural historical accounts of animals needs to be understood in the context of these new theories and practices of government: readers enjoyed the *Spectacle* because it served two related purposes. Firstly, it was written as a manual for its aristocratic readers (the intended audience, the author states, is ‘notre jeune noblesse’ (vii)) on how to conduct themselves as ‘good’ subjects within the emerging political economic regime. For this purpose, the *Spectacle* developed readers’ *libido sciendi* – the desire to know the world around them and the ability to willingness to observe and then use plants, animals and other objects for productive purposes.¹³ Secondly, the *Spectacle* taught them how to

¹⁰ Cynthia Koepp, ‘Advocating for Artisans: The Abbé Pluche’s *Spectacle de La Nature* (1732-51)’, in *The Idea of Work in Europe from Antiquity to Modern Times*, ed. by Josef Ehmer and Catharina Lis (Farnham: Ashgate, 2009), p. 247; See also Andreas Gipper, ‘La nature entre utilitarisme et esthétisation : l’abbé Pluche et la physico-théologie européenne’, in *Écrire la nature au XVIIIe siècle : autour de l’abbé Pluche*, ed. by Françoise Gevrey (Paris: Presses de l’Université Paris-Sorbonne, 2006), pp. 25–37; André Viala, ‘Les idées de Pluche sur la société’, in *La Régence*, ed. by Centre Aixois d’études du dix-huitième siècle (Paris: Colin, 1970), pp. 307–16.

¹¹ Gipper, ‘La nature’, p. 29.

¹² For definitions of ‘political (o)economy’, see Neil De Marchi and Margaret Schabas, ‘Introduction to Oeconomies in the Age of Newton’, *History of Political Economy*, 35.5 (2003), 1–13.

¹³ Emma Spary has analysed a similar text, Gilles Augustin Bazin’s *Histoire naturelle des abeilles* (Paris: 1744) as teaching ‘the exercise and understanding of civic duty and the cultivation of the mind’ and as allowing readers to access polite circles; here I focus on the importance of the body.

observe and manage the peasants, artisans, and animals working in their service. These, as we will see, were presented less as desiring animals than as ceaselessly labouring machines; the *Spectacle*'s lessons in how to observe them thus also promised greater control over them and their labour.¹⁴

I

The *Spectacle*'s volumes are constructed on the model of the pedagogical dialogue, with the key difference, as the author points out in his preface, that the interlocutors are not the famous philosophers of the Platonic dialogue, but characters with whom the readers are invited to identify.¹⁵ The natural historical information is thus framed as the recording of the conversations, observations and experiments of a set of fictional characters. A young nobleman, called chevalier du Breuil, is imagined to spend his summer holidays at the provincial estate of friends of his parents, the comte and comtesse de Jonval. The comte decides to educate the chevalier on walks in the countryside, accompanied by the learned local prior in order to 'jetter dans son esprit les semences du bon goût, & d'une philosophie qui soit partout de service & de mise' (I, xvi). The prior – described as a man 'estimable par ses connoissances', equipped with 'un grand fond de politesse, & sur-tout de piété' – can plausibly be read as a mouthpiece for Pluche, given that he was himself both an abbé and a pedagogue, first at the collège de Laon and then, following the ban of Jansenism, as a private tutor in Rouen.¹⁶ In contrast to the more famous eighteenth-century natural histories, written by members of the *Académie des sciences* such as Réaumur or

See E.C. Spary, 'The "Nature" of Enlightenment', in *The Sciences in Enlightened Europe*, ed. by William Clark and Jan Golinski (Chicago, Ill.: University Of Chicago Press, 1999), pp. 272–304 (p. 285).

¹⁴ Simon Schaffer has made a similar argument with regards to the depiction of artisans in the *Encyclopédie*, which in turn relied heavily on the *Spectacle*: Simon Schaffer, 'Enlightened Automata', in *The Sciences in Enlightened Europe*, ed. by William Clark, Jan Golinski, and Simon Schaffer (Chicago: University Of Chicago Press, 1999), pp. 126–65.

¹⁵ On the vogue for scientific books for children and their uses by different religious groups in Britain, see Aileen Fyfe, 'Young Readers and the Sciences', in *Books and the Sciences in History*, ed. by Marina Frasca-Spada (Cambridge: Cambridge University Press, 2000), pp. 276–90.

¹⁶ For biographical information, see Benoît De Baere, *Trois introductions à l'Abbé Pluche : sa vie, son monde, ses livres* (Genève: Droz, 2001).

Buffon, Pluche's *Spectacle* served an explicitly didactic purpose. Instead of adding to the stock of knowledge, Pluche was concerned with disseminating it, particularly among young (embodied by the chevalier) and, we can assume, female readers (embodied by the comtesse), so that it could become useful ('de service') to them.

My argument that Pluche's *Spectacle de la nature* is an exploration as well as an application of theories of government is informed by the framework of Michel Foucault's investigations into what he saw as the transformation of the relationship between knowledge and power in the eighteenth century. Analysing texts on political economy from the seventeenth and eighteenth centuries, Foucault concluded that a new form of power, centering not on the soul or on rational consent, but on the body, emerged over the course of this period. As he explained in a 1976 lecture at the Collège de France:

c'est que, au XVII^e et au XVIII^e siècle, on a vu apparaître des techniques de pouvoir qui étaient essentiellement centrées sur le corps, sur le corps individuel. C'étaient toutes ces procédures par lesquelles on assurait la distribution spatiale des corps individuels (leur séparation, leur alignement, leur mise en série et en surveillance) et l'organisation, autour de ces corps individuels, de tout un champ de visibilité. C'étaient aussi ces techniques par lesquelles on prenait en charge ces corps, on essayait de majorer leur force utile par l'exercice, le dressage, etc.¹⁷

As Foucault describes, the kind of power emerging in the seventeenth and eighteenth centuries was no longer focused on the figure of the sovereign, who had the right to demand his subjects' death in the name of their own protection. With the emergence of 'biopower', the governed were no longer wilful subjects, but bodies whose desires and needs could not be fully controlled or suppressed. The task of government thus became to manage life, so as to make individuals – now human bodies endowed with animal desires – as productive and useful as possible. The abbé de Saint-Pierre, for instance, in his *Un Projet pour perfectionner l'éducation* (1730), insisted that the task of government was to increase the resources of both state and individual, and to do so through the harnessing of the human body; this was possible only, he argued, if governors and educators took into account that men were fundamentally and by nature

¹⁷ Michel Foucault, *Il Faut Défendre La Société : Cours Au Collège de France (1975-1976)*, ed. by Mauro Bertani and Alessandro Fontana (Paris: Seuil, 1997), p. 215.

driven by the search for pleasure and the avoidance of pain.¹⁸ Foucault famously called this type of government – which continues to inform political theory and practice today – biopolitics.¹⁹ He presented biopolitical techniques of government focused on the management of bodily desires as an animalising force: with disciplinary power, man becomes ‘un animal dans la politique duquel sa vie d’être vivant est en question.’²⁰ Despite the interest Foucault had shown in natural history – particularly in the natural history of plants – in his *Les mots et les choses* (1966), he treats the field only very briefly in his later work on biopower and governmentality.²¹ Though persuasive, the later Foucault’s general account of the shifts in theories and practices of power thus neglects observations of the natural world as a crucial source for these developments. This essay, instead, will argue that research into the lives of nonhuman animals could be used as an exploratory space for thinking through and testing knowledge about human bodies and their government.

As the example of Pluche’s *Spectacle* will show, during the very period Foucault designated as the origin of biopower, animal bodies became a crucial instrument for both exploring and disseminating ideas about how to harness the individual’s labour so that it would serve the ‘state’ (the founding question for eighteenth-century political economy).²² It should also be noted that Pluche’s account did not teach his readers how to classify natural objects, thus contradicting Foucault’s claim in *Les mots et les choses* that natural things in the Classical Era were understood to be related by common visible traits. The first volume of the *Spectacle*, which will be the focus of this article, described not so much the visible, exterior characteristics of animals or plants which provided the basis for classificatory schemes; instead, the *Spectacle*’s pages talk about living things. Humans, animals, and plants thereby form part of an interrelated natural world in which every living body contributes productively to what some eighteenth-century commentators called the ‘oeconomy of nature’. Humans, in the *Spectacle*, are kinds of

¹⁸ Charles Irénée Castel de Saint-Pierre, *Projet pour perfectionner l’éducation: avec un discours sur la grandeur & la sainteté des hommes* (Paris: chez Briasson, 1728).

¹⁹ Michel Foucault, *Histoire de la sexualité: La volonté de savoir* (Gallimard, 1976), p. 183.

²⁰ Foucault, *Histoire de la sexualité*, p. 188. The phrase ‘animalising force’ is used by Agamben, though in a slightly different sense than I am using here; Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life* (Stanford, California: Stanford University Press, 1998), p. 3.

²¹ Michel Foucault, *Sécurité, territoire, population: cours au Collège de France, 1977-1978* (Paris: Gallimard, 2004), p. 80.

²² *Histories of Scientific Observation*, ed. by Lorraine Daston and Elizabeth Lunbeck (Chicago: University of Chicago Press, 2011).

animals, even though they are endowed with souls, and plants are kinds of animals: ‘Ce sont des espèces d’animaux qui ne marchent pas à la vérité, mais qui se nourrissent, & qui deviennent peres d’une nombreuse postérité comme ceux qui marchent’ (I, 412). For Pluche, in other words, the fundamental characteristic of the living being, whether human, animal or plant, was its capacity to nourish and reproduce itself, and thus to contribute to nature’s oeconomic system.

While plants are part of Pluche’s productive nature, however, he draws direct analogies only between human bodies and animals, from insects to elephants. Human bodies were (and are) difficult to observe and discipline; naturalists’ methods for observing animals, on the other hand, became increasingly sophisticated, enabling observers to ask questions they were unable to answer when observing humans. In the period when influential political economists began to refocus the question of government from ensuring the obedience of subjects to the management of their bodies, they frequently had recourse to the vocabulary used in descriptions of animals. The example of the *Spectacle* shows how animals were used to suggest ways of rendering bodies productive by, as Pluche puts it, ‘nourrir selon leurs inclinations’ (I, 338) nature’s perfectly efficient labouring bodies. Within this vision of nature, all bodies contribute to the production of wealth and all depend on one another’s labour; this also applies to the noblemen who figure in the dialogues, as their task becomes to manage the bodies of their subordinates. This vision of the relationship between natural and human bodies is illustrated, for instance, by Pluche’s hierarchical ordering of the animal kingdom. In the *Spectacle*, the noblest animal is no longer the tyrannical idle lion, but the horse, with its ‘port noble’ and, most importantly, its willingness to serve its master because it is ‘sensible à cet honneur’ (I, 343).²³ As the example of the horse shows, the anthropomorphic language renders the analogies between hard-working animals and humans explicit, and instructs the reader as to which animals serve as models for, or illustrations of, which kinds of humans. Pluche’s horse, like the dialogues’ interlocutors, is noble and driven by its desire for honour. The donkey, on the other hand, with its ‘façon d’agir toute naïve & toute simple’ is compared to a peasant who, as long as his master sees to his modest needs, fulfils a range of important and difficult tasks (I, 353-357). While writers of political economic treatises used a vocabulary that could equally apply to soulless animals, then, studying Pluche

²³ As John Shovlin discusses in detail, honour was seen as the fundamental motivating desire of aristocrats; John Shovlin, ‘Toward a Reinterpretation of Revolutionary Antinobility: The Political Economy of Honor in the Old Regime’, *The Journal of Modern History*, 72.1 (2000), 35–66.

demonstrates that this worked the other way too: observing the labouring bodies activities of animals could teach a political economy centered on the labouring bodies of both humans and animals.

Most historians interested in the intersections between knowledge of nature and eighteenth-century theories and practices of political economy have focused on plants as natural resources to be mined, cultured, and traded across the globe (following the example set by Foucault in *Les mots et les choses*).²⁴ As my reading of the *Spectacle* will confirm, the natural history of animals, too, was an important testing ground for developing ideas on government based on the control, improvement and visibility of bodies, though in a different way than described by historians of botany. Instead of viewing natural history solely as a tool for cataloguing and classifying resources for global market exchange, focusing on animals reminds us that the field also played a crucial role in thinking about the labouring bodies responsible for extracting and harnessing resources. Through the study and observation of animals, eighteenth-century thinkers learnt how to make living and moving bodies visible and thus easier to survey and render productive. After all, as historians of economics insist, political economists of the early eighteenth century laid the groundwork for thinking of production rather than of commerce as the fundamental building block for the creation of wealth.²⁵ Pluche's *Spectacle* was, like many texts by mid-century political economists, not written for the benefit of government officials and state administrators, but for noble readers forging a role for themselves as crucial contributors to the wealth and prosperity of France.²⁶ The book's task, accordingly, was not to map strategies for organising and exploiting subjects or natural resources, but to provide its readership with instructions on how they could render the bodies of those lower down the social hierarchy (and here we might include domestic animals) as productive as possible without external coercion and thus contribute to the country's political economy by exercising their management functions. For

²⁴ Crucial contributions can be found in *Oeconomies in the Age of Newton: Annual Supplement to Volume 35, History of Political Economy*, ed. by Margaret Schabas and Neil De Marchi (Durham, N.C. ; London: Duke University Press, 2003).

²⁵ Gianni Vaggi and Peter Groenewegen, *A Concise History of Economic Thought* (London: Palgrave Macmillan UK, 2003), pp. 3–8.

²⁶ On the vogue for political economy among the lower and middle ranks of the nobility, see John Shovlin, *The Political Economy of Virtue: Luxury, Patriotism, and the Origins of the French Revolution* (Ithaca, N.Y.: Cornell University Press, 2007).

Pluche, all parts of the natural and human worlds had a role to play in increasing prosperity.²⁷ In what follows, we shall see how Pluche uses the growing knowledge on animals for the purpose of forming productive human subjects.

II

In her recent study of Pluche's *Spectacle*, Cynthia Koepp argues that it should be read as an exemplary Enlightenment text championing the dignity of workers.²⁸ Pluche, indeed, pays sustained attention to labouring bodies, both in the animal and human worlds, and praises them for their contributions to the common good. As Koepp shows, considering his text in the wider context of the contemporaneous recrafting of theories and practices of government underlines that Pluche is not only 'advocating for artisans' but also for the management of their craft on the part of noble readers in such a way as to increase the productivity of the craftspeople. It is worth pausing for a moment to remind ourselves of Pluche's likely intended readership. Sentences such as the following, for instance, make it very clear that Pluche was writing not for artisans, but for those benefitting from their labour:

Nous devons donc estimer & très réellement aimer l'humble artisan, dont le travail nous épargne des peines & nous fournit quelques-uns des soutiens de notre corps.²⁹

The young chevalier, as the embodiment of the 'jeunes esprits' addressed by the *Spectacle's* subtitle and of the 'nous' in the preceding sentence, would, one day, take on the task of managing his father's estates, including those artisans labouring under his service. Like most of the consumers of natural historical works in the eighteenth century, he was part of the class of well-off landowners, members of the 'beau monde' who were not necessarily members of the nobility

²⁷ This becomes very clear not only in the volume animals and plants, but also in volumes 6 and 7, which address 'l'homme en société' and deal with a range of political economic questions from Colbertian policies to breastfeeding.

²⁸ Koepp, 'Advocating'.

²⁹ Pluche, *Le spectacle de la nature, ou Entretiens sur les particularités de l'histoire naturelle, qui ont paru les plus propres à rendre les jeunes-gens curieux, & à leur former l'esprit. Tome Sixième, contenant ce qui regarde l'Homme en Société.* (Paris: Frères Estienne, 1770). p. 277

but could increasingly afford to buy noble titles.³⁰ Knowledge of the arts and crafts might help raise esteem for their practitioners, but its fundamental purpose was to enable their masters to render them more productive and thus enjoy new ‘soutiens de corps’. As the prior points out in his praise of the donkey, noblemen such as the chevalier depended on the work of peasants and artisans just as the latter depended on the labour of the donkey; together, these human and animal bodies form ‘comme le nerf de la république, & le soutien de notre vie’ (I, 356). By describing animal bodies so carefully, Pluche could instil techniques of attentive observation, which made the labouring body and its activities visible and thus open to improvement, control and discipline.³¹

Given the importance of the production of wealth in Pluche’s political and natural economy, it is no wonder that he finds the natural world to be populated by hard-working animals. Projecting human ideas about ‘work’, and particularly its importance for the prosperity of the whole, onto animal bodies, he could subsequently conceptualise human work on the basis of what he had described in animals.³² Practices of observation and description thus allowed him to teach his conception of government as if it were ‘natural’ and thus true; since these claims were hard to see in the human world, he turned to the much more visible lives of animals, and in particular of insects. Pluche’s natural theology, that is, his insistence on the idea that God had arranged nature in as orderly and thus productive a way as possible, thereby provided the rationale for using animals to explain the human world. Since God had created all living creatures, the arrangement of parts to form a harmonious whole, whether in the body of an individual animal, in animal societies or in the wider balance of nature, could be used to prove the existence of a similarly harmonious order in other bodies:

³⁰ Spary, ‘Nature of Enlightenment’, pp. 280-281.

³¹ In his discussion of optics, Pluche similarly proposes the use of new optical instruments for the surveillance and improvement of labourers. See Antoine Pluche, *Le spectacle de la nature, ou Entretiens sur les particularités de l’histoire naturelle, qui ont paru les plus propres à rendre les jeunes-gens curieux, & à leur former l’esprit. Première partie, contenant ce qui regarde l’homme considéré en lui-même* (Paris: chez la veuve Estienne & fils, 1751), v, pp. 521–96.

³² This process is analysed in Lorraine Daston, ‘Attention and the Values of Nature in the Enlightenment’, in *The Moral Authority of Nature* (Chicago: University Of Chicago Press, 2004), pp. 100–126.

Vous êtes surprise, sans doute, de voir la nature si occupée de la parure & de l'équipage de guerre de ces insectes que nous méprisons. Votre surprise seroit toute autre, si vous examiniez en detail l'artifice des organes qu'elle leur a donnés pour vivre, & des outils avec lesquels ils travaillent tous selon leur profession. Car chacun d'eux a la sienne. Les uns savent filer & ont deux quenouilles, & des doigts pour façonner leur fil. [...] Il y'en a qui travaillent en cire, & dont l'atelier est garni de ratissoires, de cuillieres & de truelles (I, 9-10).

Each insect had been given the anatomical features it needed to fulfil its role in God's order of nature. Pluche's anthropomorphic descriptions are not merely naïve remnants of an earlier way of viewing the world, but they indicate that nature's basic order applies to all its inhabitants, from insect to human. Crucially, of course, nature's driving force is work; without the 'outils' and 'professions' given to animal (or, by implication, human) workers, nature's 'oeconomic' order would break down. While these insects resemble human artisans, this does not mean that the noble observers of either human or insect workers remain idle. At a time when political treatises increasingly decried noble idleness,³³ Pluche's description of a world in which all elements contribute productively to the prosperity of the whole offered a new role for France's comtesses and chevaliers as active managers of labouring bodies and improvers of natural resources.

The artisan-insects described above are not incidentally the first animals described by the prior. Eight out of a total of fifteen memoirs in the first volume are concerned with insects (in the loose early-eighteenth-century definition which included, for example, arachnids and scorpions), even though the volume is dedicated to the entire animal and plant realms. Historians have thus far explained Pluche's focus on insects and domestic animals (the two categories to which most animals in the memoir on 'animaux terrestres' belong) as the effect of his providential worldview; these humble creatures, according to the most common line of argument, were useful to natural theologians like Pluche because they allowed them to explain the wonders of God even

³³ Istvan Hont, 'The Early Enlightenment Debate on Commerce and Luxury', in *The Cambridge History of Eighteenth-Century Political Thought*, ed. by Mark Goldie and Robert Wokler (Cambridge: Cambridge University Press, 2006), pp. 379–418.

in the seemingly insignificant.³⁴ Pluche's bestiary, however, is also a reaction against the focus on rare and exotic beasts in works like Claude Perrault's (1613-1688) anatomy of animals at the Versailles menagerie. No species 'naturally' lends itself to certain kinds of political meanings, of course, but rare birds, rhinoceroses, and lions had been over-determined by savants in the seventeenth century who had emphasised their spectacular bodies and behaviours. As Peter Sahlins has argued, Louis XIV exhibited exotic animals at his menagerie in Versailles so that seventeenth-century courtiers could learn the correct social behaviour of the aristocracy and those aspiring to their ranks.³⁵ Taming wild animals provided a model for the behaviour of the nobles who came to see them; it demonstrated that such a transformation was both plausible and desirable. Though naturalists outside of France, most notably Jan Swammerdam (1637-1680) from the (republican) Netherlands, did publish important volumes on insects, the natural historical programme of the Paris *Académie des sciences*, instituted by Louis' minister Jean-Baptiste Colbert (1619-1683), was heavily weighted towards 'nobler' beasts.³⁶ Pluche's aim, of course, was not to tame aristocrats, but to render all of the crown's subjects productive. In contrast to the pomp of the Sun King's regime, encapsulated in the display of individual 'spectacular' beasts at the Versailles menagerie, Pluche's spectacle celebrates the everyday sight of insects, exhibited not individually but appearing in large, harmonious groups. As Pluche writes in the introduction to his work, these creatures feature so heavily because they were particularly suited for imparting techniques of making visible: most people, the comte de Jonval laments, are so blinded by 'le tumulte de Paris' that they have become incapable to see 'ce qui est beau & satisfaisant': 'le spectacle de la nature' (I, 3-4).

³⁴ On insects, see Véronique Le Ru, 'Pluche et la théologie des insectes', in *Écrire la nature au XVIIIe siècle : autour de l'abbé Pluche*, ed. by Françoise Gevrey (Paris: Presses universitaires de l'Université Paris Sorbonne, 2006), pp. 69–75. The most famous insects used for thinking through political economic ideas were, of course, Bernard Mandeville's; his *Fable of the Bees* was also vigorously debated in France. See Elena Muceni, 'Mandeville and France: The Reception of the Fable of the Bees in France and Its Influence on the French Enlightenment', *French Studies*, 69.4 (2015), 449–61.

³⁵ Peter Sahlins, 'The Royal Menageries of Louis XIV and the Civilizing Process Revisited', *French Historical Studies*, 35.2 (2012), 237–67. See also Peter Sahlins, *The Year of the Animal: 1668 and the Making of Early Modern France* (New York: Zone Books, Forthcoming).

³⁶ Anita Guerrini, *The Courtiers' Anatomists: Animals and Humans in Louis XIV's Paris* (Chicago: University of Chicago Press, 2015).

The most obvious example of this misdirected gaze, focused on the decadent entertainment of the city rather than the useful natural world of the countryside, are insects, useful both as resources (such as bees, silkworms or cochineal) and as lessons in self-disciplined labour. Training his readers in the observation of natural bodies was not aimed, of course, at creating new generations of professional naturalists; rather, Pluche considered natural history a useful vehicle for the formation of citizens whose curiosity and willingness to be productive would help increase national wealth. As young readers of the *Spectacle* learned to be curious of the natural world, they also learned to find potentially useful purposes for natural objects. As Réaumur too had emphasised in his work on insects, the curious exploration of nature could lead to unexpected new riches: ‘Si on n’eût jamais observe les Chenilles, eût-on découvert celle qui fournit à tant d’arts & à tant de manufactures différentes?’³⁷ Pluche’s dialogues, that is, supplied the moral training needed in order to increase individuals’ ‘productive force’, not through the external application of violence, but through the fostering of the individual’s useful passions.³⁸ As the comtesse describes the prior’s pedagogy: ‘Votre but étoit de le rendre curieux, parce que la curiosité est une passion agissante, qui ne sauroit demeurer oisive’ (I, 93). Through the observation of nature, in other words, young people such as the chevalier could develop not only factual knowledge but, more importantly, the desire to know so as to be productive. While the Versailles menagerie taught its visitors the art of polite manners, Pluche’s *Spectacle* was aimed not at training people how to show obedience to the monarch, but to produce for the prosperity of the country as a whole.

The idea that animals were flawless ‘oeconomists’, rather than spectacular models for court nobility, is echoed across the descriptions of the various species. The beaver, for example, attracted Pluche’s attention because of its elaborate social life:

Ils s’associent au nombre de dix ou douze, ou quelque peu plus : tous bons amis & gens de connoissance, sur qui on peut compter pour passer agréablement l’hiver ensemble. Ils

³⁷ René Antoine Ferchault de Réaumur, *Mémoire pour servir à l’histoire des insectes: Sur les chenilles & sur les papillons* (Paris: Imprimerie royale, 1734), I, p. 4.

³⁸ Pluche’s *Spectacle* could thus be cited as evidence for Hirschman’s famous thesis of the reconception of the passions as a force to be harnessed rather than suppressed; see Albert O. Hirschman, *The Passions and the Interests: Political Arguments for Capitalism before Its Triumph* (Princeton: Princeton University Press, 1977).

ont une, qui leur fait proportionner la place & les provisions aux besoins de la compagnie ; & comme c'est un usage parmi eux de demeurer chacun chez soi sans jamais découcher, ils font point de dépense inutile pour des survenans I, 368).

In including a description of the beaver, despite the fact that it did not fit Pluche's own criteria of domestic, useful or common animal, the author was following a tradition of beaver-lore that goes back to the French presence in New France.³⁹ One of the most well-known texts emerging from and exploiting this tradition is Jean de La Fontaine's (1621-1695) *Discours pour Mme de la Sablière*, contained in book nine of his *Fables* (1678). Bear in mind that the fabulist was an avid visitor of the Versailles menagerie:

Chaque Castor agit ; commune en est la tâche ;
Le vieux y fait marcher le jeune sans relâche.
Maint maître d'œuvre y court, et tient haut le bâton.
La république de Platon
Ne serait rien que l'apprentie
De cette famille amphibie.
Ils savent en hiver élever leurs maisons,
Passent les étangs sur des ponts,
Fruit de leur art, savant ouvrage ; Et nos pareils ont beau le voir,
Jusqu'à présent tout leur savoir
Est de passer l'onde à la nage.

Though both Pluche's and La Fontaine's beavers work together in order to build their elaborate homes, and though both of their descriptions might strike us as anthropomorphic fables, these two descriptions differ in crucial ways. La Fontaine's poetic animal is an artist, and its dam is a beautiful product of its 'art'. What is more, the beaver of the *Fables* is a model of obedience, both to the older citizens of its republic and to its 'maître d'oeuvre' (an accolade, we might infer, attributed to its best artists). Pluche's beavers, on the other hand, are 'amis', distinguished not by their artistic merits, but their 'arithmétique naturelle'. Pluche's beavers are 'oeconomists',

³⁹ Gordon Sayre, 'The Beaver as Native and a Colonist', *Canadian Review of Comparative Literature/ Revue Canadienne de Littérature Comparée*, 22.3 (1995), 659–82.

producing and consuming their resources as efficiently as possible, so that no ‘dépense inutile’ is made. While in La Fontaine’s poem, the beaver society is organised hierarchically, in Pluche’s version all animals are equally considered as productive contributors to their ‘compagnie’. Pluche, in short, depicted animal societies as utopian spaces where each individual took pleasure in working and being constantly for the benefit of the common good.

In an aside on weavers, inserted into the description of the (hard-working and tirelessly weaving) spider, Pluche rendered explicit how knowledge of animal bodies would help discipline (male) human bodies. Having learned the basics of natural historical observation, the chevalier is ready to apply them to human workers; his tutor thus decides to invite him to a weaver’s workshop so that he can observe the artisans at work. Explaining the success of his pedagogical method through the example of his former pupil, the comtesse’s son, he outlines the young comte’s curriculum. In the mornings, the tutee studied ‘la Physique, ou les plus belles parties de la nature’. In the afternoons, he would visit one workshop after the other:

se faisant une affaire très-sérieuse de saisir le véritable objet, & la méthode la plus estimable de chaque metier. Il suivoit un tireur d’or, un imprimeur, un horloger, & un teinturier des quinze jours & trois semaines : il donnoit autant au menuisier & au serrurier, encore plus au charpentier. Il ne quittoit point son homme, qu’il ne l’eût vû dans toutes les entreprises de sa profession. La vûe réitérée des mêmes ouvrages, les entretiens naïfs des ouvriers, les éloges ou les plaintes des maîtres, les difficultés, les précautions, les remarques des acheteurs, lui rendoient chaque métier & chaque art familier [...]. Il connoît les noms & l’usage des outils : il sait quelles sont les matières que les ouvriers employent, les pays d’où on les tire, les marques de leur bonne ou mauvaise qualité, & le prix qu’elles valent de la première ou de la seconde main. Il sait discerner la main d’ouvrier, & faire une juste différence d’un ouvrage solide & de bon goût, d’un ouvrage brillant, & fait à la légère. Un ouvrier fripon ne le trompera pas : mais il sait aussi rendre justice à l’ouvrage d’un habile maître (I, 91-92).

This description of the prior’s pedagogical aims and methods is worth quoting in full here, because it highlights both the close connection between the practices of observing natural bodies (such as that of the spider) and human bodies, and their usefulness for maximising the labouring bodies’ productivity. Just as the prior had instructed his students, over the course of the

first three memoirs on insects, the comte had learnt to observe animals and thus, according to the *Spectacle*, men. The emphasis on the visual ('qu'il ne l'eût vû'; 'la vûe réitérée') is combined with a focus on details (each of the worker's tools and materials), so that the observer can grasp not the labour process as a whole, but only its most efficient version ('le véritable objet, & la méthode la plus estimable'). Just as the spectacle of the animal body had been stripped down to its visible, essential details, the labouring process was made observable and thus controllable by first attentively observing and then reducing it to its most essential steps, instruments, and materials. Having learnt to attentively observe insects and beavers, the chevalier was ready to observe and manage his employees so that they would produce in the service of the community.

In line with his reappraisal of lowly tasks as fundamental to the order and prosperity of the commonwealth, Pluche places great emphasis on the domestic, and particularly reproductive activities of female – animal as well as human – bodies. These tasks, like any other activity, are deemed important in so far as they can be considered labour benefitting the community as a whole. Just as the male artisans and labourers, the female workers populating the pages of the *Spectacle* followed perfectly regimented working days, designed to render their bodies as (re)productive and as 'useful' as possible to both the family and the community as a whole. With the descriptions of female animals and their supposedly 'natural' roles in of the lives and reproduction of their species, Pluche's choice of bestial subjects gains additional importance. It is certainly no coincidence that he focused on domestic, or at least ordinary, animals, just as theorists increasingly emphasised women's roles as mothers on the one hand and managers of the household on the other. The *Spectacle*, it seems, uses domestic animals to discipline – or domesticate – women. Pluche's descriptions of the supposedly 'natural' labours of females provided support for the idea that the main function of the female body was to labour for the reproduction of her community. This is evident, for instance, in the attention the author paid to a previously despised creature: the wasp. In earlier periods, when naturalists and moralists looked at insects, they had been interested above all in the honeybee, considering its hive as a model for the organisation of monarchy: the hive had gentle kings (it was not until the seventeenth century that the gender of the chief bee had been confirmed to be female) and loyal, obedient subjects.⁴⁰ Until the work of Swammerdam, wasps had attracted comparatively little scholarly attention and

⁴⁰ Jonathan Woolfson, 'The Renaissance of Bees', *Renaissance Studies*, 24.2 (2010), 281–300.

were discussed mostly in relation to bees. As the Dutch observer claimed in his anatomical and behavioural work on social insects, wasps' social organisation did not lend itself to the discovery of natural models of the ideal sovereign, 'for these insects suffer many females at once in the nest.'⁴¹ Pluche, however, like the theorists of government writing at the same time, is much less interested in the figure of the sovereign than he is in the labouring bodies producing sustenance and offspring for the hive as a whole. Wasps were decried in medieval and early modern bestiaries as the enemies of the noble honeybees. Charles Butler, in his treatise *The Feminine Monarchy* (1609), for instance, concluded his examination of the ferocious wasp with the counsel 'Wherefore, if you love your Bees, suffer not a Waspes nest about you.'⁴² The prior, to the contrary, promises his listeners that they will find a world full of wonders (he insists that these are observable and thus 'true', or 'sans mélange de mensonge').⁴³ Though the prior does mention the wasps' brutality and their habit of stealing bees' produce, their 'industrie' and 'police' redeem the insects and turn them into worthy object for his teaching. The attribution of 'police' to wasps is worth briefly dwelling on here, as a particularly telling case of naturalising ideas of government. As historians have outlined, the word 'police' in the eighteenth century carried a far broader meaning than it does today.⁴⁴ The anonymous author of the *Encyclopédie* article writes, for example, that the administrative forces of the 'police' were responsible for the organisation and ordering of almost all aspects of individual as well as communal life: 'la religion, les mœurs, la santé, les vivres, la sûreté, la tranquillité, la voirie, les Sciences & arts libéraux; le commerce, les manufactures & arts mécaniques, les domestiques, manœuvres &

⁴¹ Matthew Cobb, 'Jan Swammerdam on Social Insects: A View from the Seventeenth Century', *Insectes Sociaux*, 49 (2002), 92–97 (p. 96).

⁴² Charles Butler, *The Feminine Monarchie, Or the Historie of Bees: Shewing Their Admirable Nature, and Properties, Their Generation, and Colonies, Their Government, Loyaltie, Art, Industrie, Enemies, Warres, Magnamimitie, &c. Together with the Right Ordering of Them from Time to Time: And the Sweet Profit Arising Thereof* (Oxford: Joseph Barnes, 1609).

⁴³ The description of the wasps is accompanied by three large plates, which further underlines the importance of this animal for the aims of the *Spectacle*.

⁴⁴ Vincent Milliot, *L'admirable Police : Tenir Paris Au Siècle Des Lumières* (Ceyzérieu: Champ Vallon, 2016); Marc Raeff, 'The Well-Ordained Police State and the Development of Modernity in Seventeenth- and Eighteenth-Century Europe: An Attempt at a Comparative Approach', *American Historical Review*, 80.5 (1975), 1221–43..

pauvres.⁴⁵ To state that wasps have a ‘police’ thus means to present their communal life as consisting of a series of perfectly regulated details; every wasp in the hive contributes to the (re)productivity of the hive as a whole.⁴⁶ In wasps, the chevalier (and the *Spectacle*’s readers) could observe the workings of a ‘natural’ – and thus flawless – police in action.

In the wasp hive described by Pluche, two different models of government are at play, one embodied by the females and one by the males and neuters. The bodies of the female wasps, described as ‘mères de famille’ rather than as queens,⁴⁷ are completely driven by their reproductive functions. Tasked not only with laying eggs and nurturing the young, the wasp mothers also fulfil the strict roles of the police in order to ensure the survival of their hives. Each of her tasks is carried out, as the prior describes, with the greatest possible efficiency, including even the necessary killing of her own offspring before the winter because she would be unable to feed them and ‘on ne veut plus se charger d’un travail inutile’ (I, 135-136). The female wasp has no desires of her own but works as a tireless and incredibly efficient reproductive machine. In his description of the insects, the chevalier notes the comparatively privileged status of wasp mothers (called ‘mères’ rather than ‘reines’) within the hive: ‘Je trouve que la condition de mère est bien douce dans ce pays-là.’ His tutor, though he concedes that they receive ‘tous les bons mets, toutes les attentions des maris’ points out that unlike the other members of the hive they labour tirelessly:

⁴⁵ unknown, ‘Police’, ed. by Denis Diderot and Jean le Rond d’Alembert, *Encyclopédie, Ou Dictionnaire Raisonné Des Sciences, Des Arts et Des Métiers* (University of Chicago: ARTFL Encyclopédie Project (Spring 2016 Edition), Robert Morrissey and Glenn Roe (eds), 1751), 904 <<http://encyclopedia.uchicago.edu>> [accessed 19 October 2016].

⁴⁶ As Foucault put it in his analysis of the eighteenth-century police: it manages everything so as to ‘increas[ing] the state’s forces to the maximum while preserving the state’s good order.’ Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France, 1977-78* (Basingstoke ; New York: Palgrave Macmillan, 2007), p. 314.

⁴⁷ Dror Wahrman has argued that the shift to naming the egg-laying bee signified a shift in the role of women in the late eighteenth century; Pluche’s discussion precedes the texts discussed by Wahrman, but similarly emphasises women’s role as mothers. Dror Wahrman, ‘On Queen Bees and Being Queens: A Late-Eighteenth-Century “Cultural Revolution”?’ in *The Age of Cultural Revolutions: Britain and France, 1750-1820* (Berkeley: University of California Press, 2002), pp. 251–80.

Elles ont un terrible ménage à conduire. Tant d'œufs à pondre, tant de petits à nourrir: aller sans cesse d'étage en étage, & de chambre en chambre, visiter tout le monde, & recommencer sans fin le même travail, sans sortir du logis (I, 137).

Their hard work is essential for the functioning of the hive and sympathy for them would be misplaced. After all, the wasp mothers' entire being is directed towards the purpose her work fulfils in the hive, which is, of course, that of procreation. As the chevalier describes, underlining the 'natural' conjunction between motherhood and female bodies, her body is perfectly adapted to this task: while all other wasps die before the winter, wasp mothers' bodies are built to resist the cold so they can survive and rebuild the hive once spring returns (I, 136). The male and sterile wasps, on the other hand, though they also contribute to the productivity of the hive, are attributed more freedom, and even their own desires. The male wasp is allowed to 'play' before it goes on to 'faire sa cour à la reine', while the neuters, responsible for collecting the pollen, 'vont chercher leur vie' and 'voyagent en liberté' (I, 135). Interestingly, in the dialogue on the wasp, the comtesse is absent because she has to look after her household while her two male guests discuss the female wasp's tasks alone.

Like the wasp mothers, other female animals in the *Spectacle* appear to be destined to ensure the reproduction of their 'families'; everything in their bodily 'oeconomies' (the term referred to the organisation of bodies as well as of societies) and behaviours is geared towards this duty. Even the brutal spider, whose capacity to pierce a wasp's body is described in gruesome detail (I, 108), is shown to possess an inborn love for her young: 'sa tendresse pour ses petits' means that to protect them, 'elle y passe tous les jours & les nuits' (I, 111). The spider is even presented as a perfect housekeeper, as she ensures that her home is in order but without wasting her time and efforts:

Elle ôte de tems en tems la poussière qui chargeroit trop sa toile : elle balaye le tout en y donnant une secousse d'un coup de patte : mais elle pèse ce qu'elle fait ; & elle mesure si bien la force du coup, qu'elle ne rompt rien (I, 102).

The spider becomes a perfectly ‘oeconomic’ actor, in the eighteenth-century sense of the measured and orderly management of the household and its resources.⁴⁸ In Pluche’s model of the oeconomy, women played a crucial role as labourers in the households: by applying anthropomorphic vocabulary to the descriptions of female insects, Pluche could make his own vision of the household economy appear to be rooted in nature.

IV

Pluche’s bestiary of ordinary animals was thus just as much of a civilising instrument as the rare and exotic animals of the Versailles menagerie. Like Louis XIV’s menagerie analysed by Sahlins, Pluche’s insects and useful beasts served to teach readers and onlookers the ‘repression of biological drives’ and the suppression of ‘aggression and affect’.⁴⁹ The *Spectacle de la nature*, however, unlike its seventeenth-century bestial forebears, did not offer instructions to a privileged few (in order to visit the menagerie, subjects needed a special letter of recommendation) who were looking for and at models of civilised courtly behaviour. Instead, the wasps, asses and beavers we have encountered in this paper served to highlight the importance of the bodies of less noble but productive bodies so that they would, one day, contribute to the wealth of their state. At the same time, the *Spectacle* offered a new, useful role for its noble readers as managers of the work of others. In instructing his readers to see the contribution of animals to the productivity of both their own societies and of the natural world as a whole, Pluche’s best-seller contributed to the formation and dissemination of a conception of government based not on the immaterial soul and the absolute obedience to the sovereign on part of loyal subjects, but on the productivity of the body of noble, curious managers and of ceaselessly productive artisans and labourers. His continued popularity over the course of the eighteenth century was thus not only ensured by his ability to marry religion and knowledge of nature, but also by the continued relevance of his behavioural models to Enlightenment theories

⁴⁸ ‘Oeconomie. s. f. L’ordre, la regle qu’on apporte dans la conduite d’un menage, dans la dépense d’une maison. *Avoir de l’oeconomie. entendre l’oeconomie. vivre avec oeconomie. avec une grande oeconomie. il a de l’oeconomie dans sa dépense. il n’a point d’oeconomie.*’ Académie française, ‘Oeconomie’, *Dictionnaire de l’Académie Française* (Paris: Vve J. B. Coignard et J. B. Coignard, 1694), 140.

⁴⁹ Sahlins, ‘The Royal Menageries of Louis XIV and the Civilizing Process Revisited’, p. 255.

of government. In Pluche's presentation of the spectacle of nature, animal and human bodies, men and women, and the natural and social worlds are all interconnected to form one ceaselessly productive and prosperous whole.