Protestant Hermeneutics and the Persistence of Moral Meanings in Early Modern Natural Histories

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Abstract

Peter Harrison explains the disappearance of symbolic meanings of animals from seventeenth-century works in natural history through what he calls the “literalist mentality of the reformers.” By contrast, the present article argues in favor of a different understanding of the connection between hermeneutics and Protestant natural history. Martin Luther, Philipp Melanchthon, Johannes Brenz, Johannes Oecolampadius, and Jean Calvin continued to assign moral meanings to natural particulars, and moral interpretations can still be found in the writings of Protestant naturalists such as Conrad Gesner, Caspar Heldelinus, Jeremias Wilde, Thomas Penny, and Thomas Moffett. If there are differences between Protestant and Catholic interpretations of animals, then these differences derive from the reformer’s greater insistence on providing textual support for assigning symbolic meanings, their resulting greater reluctance in assigning prophetic meanings to animals, and their elimination of spiritual interpretations of animals that are in tension with central tenets of Protestant theology. These differences in hermeneutics and theology may explain some of the divergences between the symbolic interpretations of animals proposed by Protestant natural historians and their Catholic colleague, Ulisse Aldrovandi.

1. Introduction

One of the significant divergences between medieval and early modern works on natural history is the gradual disappearance of symbolic meanings—moral, prophetic, and spiritual—that were traditionally assigned to plants, animals, and other natural particulars. In *The Bible, Protestantism, and the Rise of Natural Science*, Peter Harrison explains the disappearance of symbolic meanings from early modern natural history through what he calls “the collapse of allegorical interpretation of texts.” In his view, the “literalist mentality of the reformers … gave a determinate meaning to the text of the scripture, and at the same time precluded the possibility of assigning meanings to natural objects” (Harrison 1998, p. 4). As he explains: “To insist … that texts be read literally was to cut short a potentially endless chain of references in which words referred to things and things in tum referred to other things ... The assertion of the primacy of literal reading, in other words, entailed a new, non-symbolic conception of the nature of things” (ibid., p. 114).

While the view of the hermeneutics of the reformers as a form of literalism has been taken up by Stephen Gaukroger (2006, pp. 139-148), Harrison’s book has triggered several critical responses, and several significant omissions in the story that he tells have been identified—such as the neglect of source materials from the fourteenth and fifteenth centuries (Iliffe 1998); the underrepresentation of Protestant sources from the continent (Mandelbrote 2001); the absence of detailed analysis of Protestant exegetical writings (Kusukawa 1999), as well as of their early modern Catholic counterparts (Rabin 1999); the lack of attention given to the role of literalist interpretation in Catholic exegesis (Mandelbrote 2001); and the lack of attention given to non-symbolic treatments of natural particulars in Catholic natural histories (Bowler 1999; Lindberg 1999). Most significantly for present purposes, Scott Mandelbrote has documented that in late sixteenth- and seventeenth-century English theology the view was widespread that literal interpretation needs to be extended by an interpretation of the biblical text guided by conscience, understood as an internal capacity implanted into the human mind by God (Mandelbrote 2011). In the present article, I would like to complement Mandelbrote’s critique with a different line of argument. I will use the analysis of hermeneutic practices of the first-generation reformers to explain why moral meanings did not disappear from sixteenth- and early seventeenth-century natural histories, mainly (but not exclusively) on the continent. Examining these sources may also indicate that Mandelbrote’s view that confessionalized debates about symbolic meanings had purely polemical purposes and were “not concerned with the appropriateness of figurative meanings of the text” (Mandelbrote 2011, p. 109) should be modified—plausibly, Mandelbrote’s diagnosis is accurate for the English authors whom he has in mind; however, the first-generation reformers were very much concerned with assessing appropriate figurative meanings, and the same can be said about those natural historians who had close personal connections to the reformers of the first generation.

This is not to deny that there are considerable differences between Catholic and Protestant natural histories. Catholic natural histories remain replete with moral and mystical interpretations of plants and animals, and many of these interpretations are directly drawn from Catholic biblical exegesis. By contrast, in the early modern Protestant sources studied by Harrison, the interest in issues such as respiration, nutrition, reproduction, trait acquisition, and microscopic anatomic structure superseded the interest in symbolic meanings. However, while the reformers arguably put a stronger emphasis on textually grounded interpretations than their Catholic colleagues, it would be a caricature to portray them as literalists, if by this one understands a position that rejects the recognition of moral and mystical meanings of natural particulars mentioned in the biblical texts. Also, several Protestant natural histories still make use of moral interpretations of animals. Given the ocean of potentially relevant exegetical writings and works in natural history, the present paper can offer no more than a few case studies. The point, of course, is not to refute the view that the main tendency in Protestant natural histories involved a move away from symbolic meanings. I agree that this tendency is well-documented. Rather, the point is to argue that the relatively rare occurrences of moral meanings that still can be found in Protestant natural histories reflect the tendency of Protestant exegesis to *retain* moral meanings of natural objects. The case studies presented here thus point to the conclusion that reformed hermeneutics cannot *explain* the disappearance of symbolic meanings in natural history.

The Zurich-based naturalist Conrad Gesner (1516-1565) is an instructive figure in this respect.[[1]](#footnote-1) Harrison invokes Gesner’s botanic works, alongside the botanic writings of the Augsburg-based physician Leonhart Fuchs (1501-1566), to illustrate the connection between Reformed hermeneutics and symbolism-free natural history (Harrison 1998, pp. 78-79). To be sure, in their botanic works Gesner and Fuchs present only empirical information concerning a large number of plant species. Much of this information is derived from classical sources. However, as Pamela Johnston has pointed out, moral meanings are present in Gesner’s zoological writings, as well as in *Insectorum sive minimorum animalium theatrum*, a work published in London in 1634. The latter work is built around unfinished notes by Gesner; one of his collaborators, the English preacher and physician Thomas Penny (d. 1589), added further material, and Penny’s friend Thomas Moffett (1553-1604), a physician to the English high aristocracy (Trevor-Roper 1990), completed the text. Johnston sees this text and Gesner’s histories of animals as intermediary steps in a development that led to a view of nature devoid of moral meanings (Johnston 2011). If so, one could put the presence of symbolic meanings in these works aside as a remnant of an outdated mode of thought.

By contrast, I would like to argue that some more interesting insights can be gained from the persistence of symbolic meanings of animals. As it turns out, contrary to what Harrison claims, the interpretations of natural qualities of animals as symbols for human virtues found in Gesner and Moffett *conform* with the hermeneutic practices of the reformers. Still, hermeneutic differences between the denominations have not been irrelevant to the details of sixteenth- and early seventeenth-century natural history. In all denominations, moral meanings of natural particulars continued to play a role, but in the Protestant tradition, there was a stronger emphasis on finding textual support for such symbolic readings—either by providing evidence from within a particular biblical text that a certain expression was understood as an allegory or by providing evidence that some natural particulars were used to give moral precepts. The emphasis on such textual evidence limited how they could be combined with mystical, especially prophetic interpretations—a combination that is found very rarely in Protestant natural histories and very frequently in their Catholic counterparts. Also, moral meanings assigned to natural objects had to be aligned with the theological teachings of the Protestant denominations, thereby excluding certain combinations of moral and spiritual interpretations. Arguably, both observations could be used to explain some substantial differences between how symbolic meanings were used in Protestant and Catholic works in natural history.

In section 2, I will draw attention to convergence concerning moral interpretations of natural particulars in the Isaiah commentaries by Martin Luther (1483-1546), Johannes Oecolampadius (1482-1531), Johannes Brenz (1499-1570) and Jean Calvin (1509-1564). In section 3, I will trace moral interpretations of storks in Gesner and one of his sources, the *Encomium Ciconiae* (1530) by Caspar Heldelinus the Elder, who studied in Wittenberg with Philipp Melanchthon (1497-1560) and later became a pastor in Lindau. In section 4, I will trace moral interpretations of ants in Melanchthon’s commentaries on the Solomonic Proverbs—an interpretation that made its way into Melanchthon’s *Praise of Ants* and was further developed in a monograph *On Ants* (1615) by the Augsburg-based Jeremias Wilde. In section 5, I will argue that there is a significant difference between these interpretations and those found in the zoological writings of the Bologna-based Catholic naturalist Ulisse Aldrovandi (1522-1605) (on Aldrovandi, see Ogilvie 2008, pp. 241-243; Olmi and Simoni 2018). Aldrovandi adopts moral interpretations of species such as storks and ants; but he has a stronger inclination to combine moral readings with prophetic and spiritual interpretations than his Protestant colleagues. I will argue that the differences between Protestant and Catholic hermeneutics and theology could be used to explain these differences.

2. Protestant Hermeneutics and the Moral Interpretation of Natural Particulars

2.1. Some Basic Distinctions

What is common to medieval and early modern Christian exegetes is the view that the literal-historical sense of biblical passages could be distinguished from a moral sense that was meant to provide instruction for leading a good life according to divine precepts. They also share the view that both the literal-historical and the moral sense could be distinguished from a mystical sense that takes biblical persons, events, and natural objects to be symbols that either designate prophetically persons and events of the Christian era or that refer spiritually to tenets of the Christian faith, such as divine providence, the Trinity, resurrection and eternal life. Since many persons and events of the Christian era and many tenets of the Christian faith have moral connotations, the distinction between moral and mystical interpretation was never sharp, and one can find considerations that one would intuitively regard as moral under the heading of mystical interpretation and vice versa. To make things even more confusing, figurative uses of language—often the concepts of *allegoria*, *metaphora*, and *parabola* were used without drawing clear distinctions—sometimes were regarded to belong to the realm of literal meaning, sometimes to lie outside this realm. An explanation for this wavering in categorization may be that figurative uses of language sometimes occur when no moral or mystical meaning is at stake; in such cases, taking into account the peculiarities of the figurative language of biblical times can be a method of elucidating the historical sense of a passage. However, when figurative language is meant to convey a moral or mystical message, it was usually distinguished from literal-historical meaning (for detailed exposition, see Brinkmann 1980).

While these basic distinctions remained fairly stable, it can be debated whether the Reformation brought about a shift from the interest in moral and mystical meanings characteristic of medieval exegesis to an interest in literal-historical meanings. Certainly, it would be foolish to deny that literal-historical interpretation played a significant role in Protestant biblical exegesis. Famously, Luther ascribes priority to literal-historical interpretation:

Historical interpretation must be the main and primary one, in which we see how the pious are defended and assisted divinely and the impious are deserted and punished. These should be accommodated to our circumstances, such that we learn that our fate will be the same unless we improve our lives … Hence, history should be our exemplar, through which we learn to live well in faith and charity. (Luther [1532] 1860, p. 13)[[2]](#footnote-2)

Similarly, Zwingli rejects allegorical interpretations where these obscure the message contained in the historical sense. For instance, assigning allegorical meanings to the details of the history of the Nativity of Christ obscures the central role that this history has for the essence of the Christian faith (Zwingli 1959, p. 151).

Recent work on the history of Protestant hermeneutics has very much focused on literal-historical interpretation. For example, in a very substantial edited volume about early modern hermeneutics, none of the contributions concerning the Protestant tradition even mentions the question of moral interpretation (Frank & Meier-Oeser 2011). Also, the influence of literal interpretations of natural objects and natural events mentioned in the Bible on early modern science has been explored in great detail, again without any consideration of the question of moral interpretation in Protestant hermeneutics (Killeen & Forshaw 2007; Roling 2013). This development in scholarly interest could be taken to indicate that—as Harrison’s thesis would have it—moral meanings have lost their importance in Protestant hermeneutics.

However, the contrary is the case. Protestant exegesis of the prophetic books provides some good examples of the persistence of moral interpretations, some of which involve metaphors and allegories. This is unsurprising since the prophetic books mention, often in highly figurative language, a wealth of natural objects and events such as plants, animals, and experiences of agricultural life. And while the reformers disagreed about many of the details of interpretation, they agreed that some of these passages require moral interpretations.

2.2. Interpreting Isaiah: The Case of the Vineyard

One of the most fascinating aspects of Protestant interpretations of natural particulars concerns the parable of the vineyard in the prophet Isaiah—a parable that already played a significant role in medieval exegesis that combined information from natural histories with the project of moral improvement (see Perfetti 2018). Luther and Zwingli treat this issue only in passing, but it has been given considerable attention by Johannes Oecolampadius, the reformer of Basel, and subsequently by Johannes Brenz, the reformer of Württemberg, and Jean Calvin. These commentators understand cultivating the vineyard as a symbol for God’s relations to the Jewish people in the time of the prophets and for Christ’s relation to the church (Oecolampadius 1525, fol. 46v-47r; Brenz 1550, p. 80; Calvin 1551, pp. 52-53).

In their view, what justifies a combination of moral and prophetic interpretations of this passage is that in *Matth*. 21:33-34 the relation between Christ and his church is characterized by using the vineyard as a parable. Oecolampadius takes the labor-intensive nature of cultivating a vineyard, the uncertainty of the results of the labor invested, and the necessity to expect the results with hope to signify aspects of the relations between God and humans; he understands the bad fruits as symbols for vices and contempt for the word of God and the sterility that is caused by neglect as a symbol for the anger of God over the neglect of the divine law (Oecolampadius 1525, fol. 48v). Brenz understands the contrast between wine and wild wine as a symbol between the faith in God and impiety, hypocrisy, neglect in the administration of the laws, injustice of judgments (Brenz 1550, 80). And Brenz emphasizes that the literary form of a canticle chosen by Isaiah demands a “metaphorical or parabolical figure of speech” (*metaphorica seu parabolica figura loquendi*). Similarly, Calvin comments that the comparison (*similitudo*) or metaphor (*metaphora*) of the vineyard “shows how much the Lord esteems his Church. For no property is more valuable than a vineyard; and no other property demands more work and assiduous care. Hence, the Lord recommends his care and assiduousness toward us” (Calvin 1551, p. 52).

 At the same time, the reformers explore the natural qualities of vineyards to give moral instruction. Oecolampadius takes the vineyard to function as a measure for natural wealth since, due to the amount of labor that a vineyard requires, there is only a certain amount of land that an individual can cultivate. This is why he takes Isaiah to convey a moral message against accumulating ownership rights:

For what purpose do you occupy more houses than you can dwell in? Or why do you buy more fields than you can cultivate? From thence arise many seeds of envy, superfluous cares, heavy expenses, and other inconveniences … What a stupid ambition! The earth belongs to God, and he alone possesses dominion; we have only a right of usage; and it should not happen that you consume more than is sufficient for your smallness. (Oecolampadius 1525, fol. 48v)[[3]](#footnote-3)

Similarly, Brenz notes that Isaiah offers a parable (*parabola*) (Brenz 1550, p. 83) that is meant to show that there is something naturally bad about increasing one’s fortune: Through conjoining fields and houses many houses will be abandoned, much land will be devastated, and sterility of fields and scarcity of goods will be the consequences (Brenz 1550, p. 84). Calvin, too, takes the conjoined fields and houses to be a sign of insatiable greed, avarice, and ambition, which is wrong because those who build up such extensive ownership “do not consider that they will need the work of others.” And he comments:

How big folly is it to expel those whom God has placed together with us on the earth and to whom he has given the earth as a common dwelling place? … God has conjoined humans among each other in such a way that they need the labor and industry of others: and no one, except the insane, rejects other humans as if they were detrimental or useless to them. But the ambitious can enjoy their glory only among others. How blind are therefore those who want to remove and expel others such that they alone rule? (Calvin 1551, p. 55)[[4]](#footnote-4)

As Calvin explains, this is why the vineyard of the greedy will become sterile (ibid., p. 56). Oecolampadius, Brenz, and Calvin thus share the view that Isaiah’s allegory has a moral meaning that tells us something about how our attitudes toward ownership, labor, and ambition should be reformed.

2.3. Interpreting Isaiah: The Case of the Ox and the Donkey

Moral interpretations of natural particulars do not necessarily involve allegory. A good example of this is the interpretation of a passage from *Isaiah* 1:3, where the disobedience of the Jewish people is contrasted with the observation that the ox and the donkey recognize the one who gives them food and shelter. Luther places this passage in the context of the idea that “through his gifts, God wants to attract the world to his veneration” (Luther [1532] 1860, p. 18);[[5]](#footnote-5) the impiety and idolatry of humans therefore should be regarded as an instance of highest ingratitude. Human behavior, therefore, is contrasted with the behavior of the ox and the ass:

Is it not extreme badness that through the divine voice the ox and the donkey are, I say, not compared with us but rather in every respect preferred to us because they fulfil their highest duty toward their owner, but we don’t toward our God? We must therefore open our minds in the presence of oxen and donkeys as if it were in the presence our teachers, which we see to be proposed to ourselves divinely, that we may learn from their example to venerate our God. (ibid.)[[6]](#footnote-6)

Luther thus regards the ox and the donkey to be moral exemplars in the sense that how they fulfil their duty toward their owner can draw our attention to the duties that we have toward God; and what grounds these duties is the similarity between the benefits that the domestic animals receive from their owner and the gifts that humans have received from God.[[7]](#footnote-7) Moreover, Luther sets his reading apart from Catholic interpretations that relate this passage to the nativity Christ.[[8]](#footnote-8) As he argues, it can be seen that the Christological reading is erroneous if one considers the pragmatic reason for criticizing the Jewish people by using animals as moral exemplars: “it was not safe for the prophet to attribute openly stupidity and impiety to the whole people” (ibid., p. 19).[[9]](#footnote-9)

Similarly, Oecolampadius compares the attitude of the ox and the ass toward their owner with other animal responses to humans, such as the supposed mildness (*mansuetudo*) of lions toward their benefactors (Oecolampadius 1525, fol. 7v). As he comments, these observations show that ingratitude cannot be found among beasts (ibid., fol. 8r). Calvin, too, assigns moral meanings to animals—in fact, often negative meanings (Huff, 1999). Still, regarding *Isaiah* 1:3, Calvin observes that the abilities of the ox and the donkey to recognize their owner shows that humans who do not recognize God are more stupid than beasts: “even if beasts lack mind and reason, they are nevertheless capable of learning, at least to the degree that they recognize those by whom they are nourished” (Calvin 1551, p. 9).[[10]](#footnote-10) In particular, he holds that one can learn one’s duty (*officium*) from them, since “often beasts follow the order of nature better and possess more humanity than humans themselves” (ibid.; on Calvin’s conception of nature, see Schreiner 1989).[[11]](#footnote-11) As Calvin explains, no animal feeds on its own kind and hence must be able to recognize its similarity in the other; brutes employ care in raising their offspring, while human parents often forget nature and humanity and abandon their children. Also, brutes take as much food and drink as is sufficient for upholding life and forces, while humans consume superfluous goods. And generally, brutes, in contrast to humans, do not transgress the laws of nature (Calvin 1551, p. 10). On these grounds, Calvin also sets his use of moral interpretations of animals apart from patristic interpretations that relate the ox and the donkey in *Isaiah* 1:3 to the iconography of the Nativity of Christ. As Calvin argues, if Isaiah does not talk about a miracle but rather about the order of nature, then this passage cannot be understood as a prophetic reference to the ox and the donkey at Christ’s crib (ibid.).

3. Learning Virtues from the Lives of Animals: The Case of Storks

3.1. Gesner on Animals as Moral Exemplars

If one compares these interpretations with the treatment of the moral signification of animals in Gesner, it becomes clear that Gesner’s views are fully consistent with the hermeneutics of the Reformed tradition. This is perhaps not surprising because Gesner was the son of a close associate of Zwingli, who personally oversaw the early education of Gesner (on Gesner’s relation to Zwingli, see Vogel 2019). In the preface to the first volume of his history of animals, Gesner gives some brief but informative hints concerning the role of animals as exemplars for the lives of humans. Under the heading of the usefulness of the history of animals “for the preservation of well-being” (*ad valetudinem tuendam*), he cites approvingly Theodore of Gaza’s preface to the translation of Aristotle’s *Historia Animalium*:

[Animals] use to change places according to the condition of time; they do not eat or drink more that is healthy for them, they do not sleep earlier than their well-being demands; they keep the proportions between moving and resting; each of them knows its medicaments; each of them lives content with its fate …[[12]](#footnote-12)

Animals, thus, can function as exemplars that teach us to live in good bodily and mental health. Even more so, they can function as exemplars of living a virtuous life. It is the discrepancy between the precepts of philosophers and their actual ways of living that leads to the result that “their prolix instruction remains empty and inert, as long as the example of the life of the preceptor is lacking and the authority that moves those who perceive more easily toward virtue and keeps them committed to their duty.”[[13]](#footnote-13) Under the heading of the “usefulness of the history of animals with respect to habits and the duties of virtues” (*utilitas historiae animalium ad mores & virtutum officia*), Theodore of Gaza suggests that natural history can remedy this shortcoming. This is so because, in his view, considering the habits of animals provides “examples of all duties and an image of virtues, by the highest authority of nature, which is the parent of all—examples that are not simulated, not fictitious, not inconstant and labile: but truly innate and perpetual.”[[14]](#footnote-14)

Emphasis on the concepts of *exemplum* and *effigies* is crucial here. The passage cited by Gesner does not ascribe virtue to animals—which would require ascribing rationality to them. Rather, it uses animals to illustrate the function that virtue has in the lives of humans. As certain qualities are naturally good for the lives of animals, so are virtues naturally good for the lives of humans. For instance, Theodore of Gaza speaks of “the justice of bees, who collect out of those things that contain something sweet but without any detriment to the fruits?”[[15]](#footnote-15) Evidently, bees do not practice justice in the sense of any of the early modern theories of justice because they have no understanding of rights and duties. However, their way of collecting nourishment has something in common with an aspect that was regarded to be central in early modern theories of justice, namely, the demand “not to injure anyone” (*neminem laedere*). And as the bees’ ability to collect foodstuff without damaging the sources of their livelihood is good for their lives, so is the human ability to live together with others without hurting them good for the lives of humans. These similarities make it possible to use an aspect of the behavior of bees as a symbol of a human virtue.

An analogous structure between signs and what is signified can also be found in the following group of examples that Theodore gives—as will become clear presently, this group of examples bears close similarities with moral meanings of animals in the writings of the reformers and with Gesner’s natural histories:

Who is of such a perverse nature that he is an enemy of his species who would not be made better and more moderate when it appears that no animal is killed by a beast of its species? Who would be so impious toward his parents that, when he understands the piety of the storks toward their parents, would not become more pious? Who is so inhuman and ungenerous whom the beneficence of the bearded vulture toward the hatchlings of the eagle would not make more benign? Who is so lazy, inert, and sluggish that he would not be motivated to pursue the necessities of life when he regards the labor and industriousness of ants or bees?[[16]](#footnote-16)

Not being killed by animals of the same species, being supported by one’s offspring, living in symbiotic relations with animals of different species, and having a reliable supply of food in the cold period of the year arguably are all examples of natural goodness. These instances of natural goodness occur in non-human animals without rational reflection; but they fulfil the same function that virtues fulfil in the lives of beings capable of rational reflection. This similarity explains why Theodore holds that animals can be used symbolically: “To this can be added the usefulness that arises from these animals for the art of speaking. For the comparisons and similarities that the Greeks call parables, which excellently ornament speech and keep the attention of the audience, can be developed with variety, copiousness, and aptitude from thence …” (ibid.).[[17]](#footnote-17) If these ideas are drawn together, then the ensuing view is that animals can be used symbolically (as exemplars of human virtues) *because* they exemplify natural goodness. And Gesner uses Theodore’s text as a preamble to his work on natural history. Does this give a clue as to what is going on in Gesner’s understanding of animals?

3.2. Heldelinus on Storks

It has to be admitted that the line of thought found in Theodore of Gaza is absent from many chapters in Gesner’s *Historia* *animalium*. But it can be traced at least in some chapters—for instance, those on dogs and elephants (on Gesner’s treatment of the latter, see Cummins 2010)—, and the chapter on storks is perhaps one of the clearest examples. In this chapter, Gesner refers to previous work by Melanchthon’s former student, Caspar Heldelinus—which nicely illustrates how moral interpretations of animals traveled across denominational boundaries. Heldelinus chose a literary form of the *Encomium* for which Melanchthon, like many other humanists, had a liking (I will return to Melanchthon’s *Encomium* of ants in section 4).

In Heldelinus’s view, the right way of teaching moral insight is not by invoking abstract notions such as Platonic ideas or philosophical theories of the first being; rather, should use the examples of animals and “other objects that are in the everyday usage of life, that are at hand and occur before our eyes” and therefore are accessible for the ordinary intellectual capacity of humans (Heldelinus 1533, p. 22). As he points out, this corresponds to the practice of Plutarch’s moral writings (ibid.). As an appendix to the *Praise of Storks*, Heldelinus has published his translation of Plutarch’s first *Table Talk*—on first sight, a strange choice because in this text Plutarch does not use animals as moral exemplars. However, what attracted Heldelinus’s interest may be a passage where Plutarch recommends dealing with those philosophical questions that can be dealt with in a playful and satiric way at a symposium. However, “Others should be derived from the things that are at hand and that are taken to be familiar from the common usage of things” (Heldelinus 1533, p. 107).[[18]](#footnote-18) Plutarch has human exemplars in mind; and this line of thought is what Heldelinus, in the *Praise of Storks*, applies to animal exemplars.

Why could storks function as symbols of human virtues? Forgetting the damage done to snakes and frogs, Heldelinus maintains that storks seek nourishment without injury (*iniuria*) to anyone (ibid., p. 55). From this perspective, he speaks of the “continence” (*continentia*) of storks in a sense that resembles closely the sense in which Gesner speaks of the “justice” of bees—storks derive their nourishment “not despicably from the detriment of another” (*non ex alterius turpiter incommodo*). He also points out that, in the prophet Jeremiah, storks, who know exactly the right times in the year for their migration, are contrasted with the Jewish people that does not know the judgements of God (ibid. p. 64; *Jer*. 8:7). As Heldelinus comments:

Here you can see … how much nature had deposited in the stork a striving that borders on virtue. For this reason, when Plutarch wanted to collect evidence showing that terrestrial animals are superior to birds with respect to love inclined toward virtue, he approved the example of storks and immediately cut the knots of the opposite opinion (ibid., pp. 64-65).[[19]](#footnote-19)

Heldelinus also notes the symbolic use of storks in ancient art, when storks were sculptured at the top of scepters to signify piety with respect toward all duties (*officia*) (ibid., p. 65). And he aligns his project with this tradition: What he wishes to achieve is “to kindle the souls of adolescents through the example of storks to [fulfil] the duties of piety” (*dum Ciconiarum exemplo adolescentes ad pietatis officia accendam*) (ibid.). And storks can fulfil this symbolic role because they were believed to assist their aging parents in flying (ibid., p. 70) and to provide nourishment for their aging parents (ibid., p. 71).

3.3. Gesner on Storks

Similar considerations can be found in Gesner’s chapter on storks. Gesner refers to Saint Basil (330-379), who takes the ability of storks to reunite and migrate at certain times as an indication of the ingenuity (*ingenium*) of storks (Gesner 1555, p. 254; see Saint Basil 1523, fol. 22r, where the point is rather made in term of prudence [*prudentia*]). Gesner also takes the ability of storks to anticipate tempests and to protect themselves against them by reinforcing their nests on the side that they expect to be most exposed to the weather (Gesner 1555, p. 254). Likewise, he accepts the widely held belief that storks feed their old parents and assist them in flying, which is why he takes storks to exemplify gratefulness (ibid.); and because storks in this way fulfil “mutual duties” (*officia mutua*), “[a]mong the birds, the stork is a unique symbol (*symbolum*) of piety (*pietas*)” (Gesner 1555, p. 254). Gesner also takes up the use of storks in ancient art: “In this way, the ancient used to sculpture a stork at the top of royal scepters, and on the bottom a hippopotamus, the meanest of all animals, thereby wanting to signify that justice is opposed to violence; and the stork is the symbol (*symbolum*) of justice because it is believed to nourish its parents in old age …” (ibid., p. 255).

Gesner reinforces this interpretation by collecting reports about gestures of gratefulness ascribed to storks in ancient natural histories, for instance, the story reported by Aelianus and Oppianus of a young stork with a broken wing that was saved and raised by a woman; this stork was reported to have brought her a beautiful stone when it was able to fly again (ibid., p. 255-256). Another “example (*exemplum*) concerning the marvelous gratitude of storks” that Gesner includes comes from Oppianus, who reports about a symbiotic relationship between storks and a not further classified bird that watches over the stork hatchling while the parents look for food; one of these birds was observed to have been bitten by a snake while defending the stork nest; and the storks were said to have postponed their departure in the autumn until the other bird had recovered—according to Oppianus an indication that they remembered the benefit they had received (ibid.). Gesner adds a report that the German jurist Justinus Göbler (1504-1567) sent to him: Göbler had observed that, before leaving for Africa, storks circle the doors of the houses that were hospitable to their nests, and when they see their hosts, they show signs of happy excitement and place gifts such as ginger roots at their feet (ibid., p. 256). As Gesner comments, the behavior described by Göbler admonishes us that also between humans many things should happen with piety and hospitality (ibid.).

4. Learning Virtues from the Lives of Animals: The Case of Ants

4.1. Melanchthon on Ants

A further starting point for moral interpretations of animals in Protestant exegesis are two passages in the Solomonic proverbs: one that advises the lazy to look at ants (*Prov.*, 6:5-7), and one that counts ants among the four little animals that possess prudence (*Prov.*, 30:24-25). These passages were central to the moral interpretations of animals found in patristic sources, and it is exactly this tradition that Luther criticizes. Luther points out that, in contrast to patristic authors such as Saint Jerome (347-420) and Origen of Alexandria (c. 184-c. 253), he does not want to be an “idle trifler about allegories” (*otiosus allegoriarum nugator*) (ibid., p. 149). And what he takes to be idle about their usage of allegories is that they make out of biblical allegories only “moral precepts … that could have as equally well be given by gentiles” (ibid., 388).[[20]](#footnote-20) Was Luther’s rejection of the idea of using animals as exemplars for secular virtues and his repudiation of the Church fathers for offering such interpretation to be universally accepted in the regions that were most under his influence?

The answer has to be: Not even in Wittenberg, where many of Luther’s excesses were mitigated by Philip Melanchthon. To be sure, in the *Loci communes* Melanchthon rejects what he regards as “incoherent allegories” (*inconcinnae allegoriae*) and a “forest of philosophical opinions” (*philosophicarum sententiarum sylva*) in patristic authors such as Origen, Saint Ambrose and Saint Jerome (Melanchthon 1521, sig. A2v). Nevertheless, in his *Encomium formicarum—*an oration that he had written for high-school students and that had been presented by one of his students—as well as his two commentaries on the Solomonic proverbs, Melanchthon takes up moral interpretations of ants both from patristic and ancient pagan sources.[[21]](#footnote-21)

 According to Melanchthon, what we can learn from King Solomon and his patristic commentators such as Saint Basil and Saint Ambrose (c. 340-397) is that, in ants, there are “images [*simulacra*] of several virtues that remind us of our duty; for it is most blameworthy for a human being to have degenerated so far from its nature that it is surpassed with respect to virtue even by beasts” (Melanchthon [1527] 1541, p. 547).[[22]](#footnote-22) In his view, ants give examples (*exempla*) of virtues that can function as an image (*imago*) with which the human lack of virtue can be contrasted (ibid. p. 552), as well as an image whose consideration can incite humans to become more virtuous (ibid., p. 558).

As Melanchthon argues, there could be no cooperation between ants without communication through sounds and a capacity to distinguish members of the same group from non-members; at the same time, he surmises that ants could not have these capabilities if they had not been divinely endowed with them (ibid., p. 548). Similarly, he understands the ability of ants to adjust their behavior to expected weather conditions as “traces of divinity” (*vestigia divinitatis*) (ibid.). Reference to divine power is essential here because Melanchthon does not make the implausible claim that ants possess the rational capacities that he thought to be constitutive of virtue.[[23]](#footnote-23) Rather, he takes the capacities of ants to be non-rational qualities that express divine rationality and therefore can function as moral instruction for humans: “When sacred scripture refers us to ants as to our teachers, it indicates that they were made by God to give us advice and that they have been endowed with these gifts of intellect to teach us useful things” (ibid., p. 549).[[24]](#footnote-24) Talk about the “gifts” (*dota*) should not be understood in the sense of “being gifted” but rather in the sense of “being given”—ants possess a power that is given to them by the divine intellect. As Melanchthon explains in his *Annotationes* to the Solomonic proverbs, ants labor daily but do not entertain any long-term plans; nevertheless, they show how creatures can fulfil “duties” (*officia*): God “wanted the one to serve others: he wanted the sun to serve us, other creatures to serve other creatures; cattle serve us to clothe ourselves, … plants serve as remedies;”[[25]](#footnote-25) and this insight into divinely instituted natural order allows Melanchthon to use ants as a reproach to humans: “All other creatures fulfil these duties, only humans drop out of this obedience”[[26]](#footnote-26) (Melanchthon 1525, fol. 23v-24r). As he clarifies:

Solomon does not have in mind the precept that one should work to produce food but rather the insight that we are constituted like that; for it is a divine command that is innate to this little animal; it does not have words but rather a natural condition, in which it is driven by the word to operate, it follows only the word through which it is constituted. (Ibid., fol. 24r)[[27]](#footnote-27)

If ants do not possess the rational capacities required for virtues, then the relation between their natural qualities and human virtue is a symbolic one. In the *Encomium formicarum,* Melanchthon holds that ants teach us that not only in humans but also in small insects there are “seeds” (*semina*) of virtue that are transmitted by nature from parents to their offspring (Melanchthon [1527] 1541, p. 549). They teach us “what is right, what is dishonorable, what is useful, what is useless, and what is decent” (ibid.). For instance, we are given an insight into how labor is a foundation for virtues and prevents those vices that arise from idleness (ibid.); they also cannot tolerate consumption without utility for others (ibid., p. 550); and they lead us to an understanding of the nature of justice in two respects: First, each of them allows the others their loads without interfering; second, they are a symbol of parsimony because they collect for their future needs—in Melanchthon’s view an important condition for justice (ibid., p. 551).

Ants teach us that humans overlook the fact that there are no real goods in human life that could be gained without labor and care; for instance, agricultural products can be harvested only by having cultivated the grounds; and genuine honor is only due to actions that are genuinely useful for a community (ibid., p. 556).

And if you do not wait for the natural desire for sweet things but rush at them and fill yourself before your nature desires them; if you eat before getting hungry; if you drink before you get thirsty; if you invent various spices to trigger appetite … (Ibid.)[[28]](#footnote-28)

By contrast, caring for a family, mutual support against dangers, and cultivating friendships will help to experience “the secret pleasures of food and drink without boredom since they expect only the natural desire for them to be fulfilled” (ibid., p. 557).

 In his *Nova scholia* on the Solomonic proverbs, Melanchthon gives a specifically theological turn to this idea: “First it has to be considered how our nature is vitiated; the beasts obey the sense that they have received from God, humans do not; in this way, the flesh is corrupted through original sin” (Melanchthon 1529, fol. 23v-24r).[[29]](#footnote-29) In the sense that it draws attention to original sin, consulting the example of ants thus also has a spiritual dimension; however, as the passages mentioned before show, Melanchthon does not exclude interpretations that concern secular virtues. In the commentary on the Solomonic proverbs, he uses secular ethics as corroboration for his moral interpretation when he points out that even the Gentiles have regarded idleness as one of the sources of vice (ibid., fol. 23v).

4.2. Wilde on Ants

The naturalistic strand of Melanchthon’s treatment of ants is taken up by Jeremias Wilde, who published a natural history of ants in Augsburg, one of the strongholds of the tradition of the *Confessio Augustana*.Going beyond Melanchthon, Wilde offers some considerations of what the natural capacities of ants consist in*.* Wildeargues that ants must have memory since otherwise it would be inexplicable why they can find again a pathway to food and to return to their abandoned heap when they are threatened by hunger at their new place (Wilde 1615, p. 38). Contrary to Aristotle (1964, *De an*., III, 3, 428a8-11), Wilde ascribes to ants also the kind of imagination that apprehends those things that have been the object of the external and internal senses (Wilde 1615, p. 39). Wilde argues that ants need the ability to imagine things that have not been sensed, or to combine imagined images in novel ways—the first capacity in order to be able to search for food; the latter in order to be able to fulfil the tasks of prudence, such as upholding order in a community, building a dwelling place, and using signs to anticipate future events such as upcoming weather conditions (ibid., p. 41).

 Considerations concerning the cognitive powers of ants are relevant to Wilde’s reading of Salomon. As Wilde argues, Salomon counts ants among the four little animals that possess wisdom because ants accomplish more than humans, although they only use the power of imagination (ibid., p. 42). Wilde is clear that talking about “prudence” (*prudentia*) here should be understood as analogical speech (ibid., p. 41). As he explains, such analogical speech can be justified by keeping Aristotle’s insight in mind that, in brutes, there is a natural power that fulfils the same function in art, as wisdom and prudence fulfil in the life of humans—in particular, animals have a natural power that fulfils the function that virtue should fulfil in the life of humans (ibid., p. 42). Wilde connects his symbolic reading of Salomon’s ants also with the idea that in ants one can find a “representation” (*repraesentatio*) of virtue (ibid., p. 59). This is why he believes that ants can function as symbols for the “good person” (*vir bonus*) who cares about the public good (ibid.). As Wilde argues, such symbolic relations between the qualities of ants and human virtue hold because ants exemplify the innate generosity of nature, in the sense that ants act without institutions and coercion (ibid.).

 Wilde therefore draws attention to the convergence between symbolic interpretations of ants in patristic theology and ancient secular ethics. According to Saint Ambrose: they embody “pious laboriousness” (*pia industria*) because they collect food for the next year; they do not know poverty and do not show signs of mutual envy or hate, nor signs of fatigue; and they do not receive anything in precarious ways (Wilde 1615, pp. 70-72; Saint Ambrose 1529, p. 242 [*Hexaemeron* 6.4]). Similarly, Saint Jerome interprets the fact that they do not take away loads of others neither by force nor by fraud as one of the aspects of goodness given to them by nature (Wilde 1615, p. 72; Saint Jerome 1616, p. 117 [*Commentary* on Psalm 91]). Wilde aligns these passages with Seneca’s conjecture that, if God could choose a form of life on earth, he would have chosen one in which there are no poor and where everyone would live according to nature (Wilde 1615, p. 71; see Seneca 1952, *Ep.* 90).

4.3. Gesner, Penny and Moffett on Ants

Similar considerations occur in Gesner, Penny, and Moffett’s *Insectorum sive minimorum animalium theatrum*, which contains a chapter that takes up the literary form of the *encomium* used by Melanchthon. In this chapter, Salomon is described as “the prince of worldly prudence,” which indicates that Salomon’s recommendation is understood as relating to ants as models of secular virtues (Gesner, Penny, and Moffett 1634, p. 240). Among the natural qualities worthy of imitation by us, it is mentioned that the smaller ants make way for the greater; that those without loads make way for those who carry loads; and that there is no contention over which one steps out of its way. These qualities remind humans of the modesty that they are often lacking (ibid.). The authors of *Insectorum sive minimorum animalium theatrum* do not ascribe to ants rational capacities. Rather, they hold that “this divine animal has derived the figure of its dwelling from the heavens” (ibid., p. 239).[[30]](#footnote-30)

Consequently, ants are described as possessing, not virtue, but the “seeds” (*semina*) of virtues such as domestic discipline, justice, and friendship (ibid.). In the case of humans and the case of ants, the right way of acting consists in the right way of keeping affects under control; reason is only one such way to achieve this result and, in the best case, it can achieve what ants achieve using their non-rational powers. Moreover, both the non-rational powers of ants and the rational powers of humans are seen as deriving from a divine origin. This is why the authors of*Insectorum sive minimorum animalium theatrum* apply to ants the commonplace “Those who do not know their path can show us the way” (ibid., p. 243).[[31]](#footnote-31) And saying that ants *show* something valuable for human life is ascribing to them a symbolic function.

5. Some Comparative Considerations

5.1. The Question of Animal Fables

Turning now to the most significant history of animals of the early modern Catholic world, the one written by Ulisse Aldrovandi, it would be easy (and highly repetitive) to document the presence of very similar moral interpretations of species such as storks and ants. What may be more interesting, however, than pointing out these parallels is highlighting some differences. Not all differences seem to be connected with the dynamics of confessionalization. This holds for a difference in thematic scope. Both Gesner and Aldrovandi pursue encyclopedic projects, but Aldrovandi regularly devotes considerable space to considerations concerning the etymology of animal names, the meaning of hieroglyphs that depict animals, the insights expressed in proverbs that mention animals, and the Christian interpretation of animal fables and fabulous animals from pagan antiquity (for instance, the interpretation of the phoenix as a symbol of resurrection; see Aldrovandi 1610, p. 410).

Concerning the latter, Aldrovandi explains that “fables, even if they are for the most part fictitious and invented according to the liking of the author, nevertheless sometimes contain a bit of truth under disguise” (Aldrovandi 1610, 42).[[32]](#footnote-32) In particular, he holds that under the surface of fables, something that belongs to moral philosophy can be hidden, which is why he takes fables to function as allegories (ibid., 141). From this perspective, it is understandable that he offers interpretations of dozens of animal fables. By contrast, Gesner affirms that he is not interested in questions of language and fiction: “Whatever belongs to philology or grammar, poetry, proverbs, similarities, fables, superstitious, superfluous, doubtful, false, obscure and contradictory matters and whatever is of this kind shall be omitted (Gesner 1555, [sig. a5v]).[[33]](#footnote-33)

Does this restriction derive from Protestant hermeneutics? A negative answer is suggested by the fact that interpreting ancient fables and myths forms a part of the Protestant tradition. For instance, Heldelinus interprets Hesiod’s mythological figure of Pandora to indicate that the creator had “endowed little insects through his abundant benevolence with wonderful seeds of virtue” (Heldelinus 1533, pp. 24-25).[[34]](#footnote-34) Heldelinus also mentions the myth documented by Aelianus according to which there is an island where the Gods transform storks, as a reward for their piety, into humans (ibid., p. 73), as well as the myth that Aeneas, who took his father with him on all his journey, embodied the heritage of the storks from which he descended (ibid, p. 74). The authors of *Insectorum sive minimorum animalium theatrum* interpret the ancient myth of Jupiter transformed into an ant as signalizing that “people of ants is endowed with a kind of virtue and justice that does not require any king, as long as each of them controls its affects; or at least they require only the highest one whom all call Jupiter, who is rightly considered to be the unique source and author of both, the virtue of ants and virtue of humans” (Gesner, Penny and Moffett 1634, p. 243).[[35]](#footnote-35) Strikingly, they take this pagan myth to exemplify Saint Jerome’s insight that we can learn from ants many things that are profitable for body and soul (ibid.). The same passage also refers to the fable of the Myrmidons—refugees from Aegina, who built up a new life through their industriousness, parsimony, and virtuousness and therefore were taken to have originated from ants (ibid.; see 239). Presumably, engaging in interpreting myths and fables—as long as the meanings that were assigned to them were compatible with or even supportive of aspects of Christianity—was not seen as an illegitimate activity from a religious point of view.

Such elements are not even absent from Gesner’s history of animals, either. For instance, in the chapter on the donkey one finds considerations concerning the moral meaning of the fictional characters of the donkeys in Lucian’s *Ass* and Apuleius’s *Golden Ass*; and Gesner offers even some conjectures concerning the moral meaning of the donkey hieroglyph (Gesner 1551, p. 15). Similarly, one finds considerations concerning the etymology of the various ancient names for the stork—Gesner conjectures that the connotation of piety and beneficence are already built into the semantics of these names (Gessner 1555, p. 250)—as well as the occurrence of storks in a Greek proverb documented by Erasmus—again based on the idea that storks are symbols for the fulfilment of mutual duties (*officia*) (ibid., p. 254). From there, Gesner traces the meaning given to the stork in Aesop’s fable of the stork captured by a peasant, offers a conjecture concerning the stork hieroglyph, and notes that the Greek noun designating the virtue of the retribution of benefits (s) has taken its origin from the name of storks (ibid., p. 255). Possibly, then, Gesner’s predominant focus on the realm of what he took to be genuine facts concerning the physiology and the behavior of animals derived not so much from limits inherent in Protestant hermeneutics than from his understanding of the task of natural history.

5.2. Moral and Mystical Interpretations

There is, however, a difference between Protestant treatments of storks and Aldrovandi’s that may derive from differences in hermeneutic attitudes. What is absent from the chapters in which the Protestant thinkers considered so far use animals as moral exemplars are spiritual and prophetic interpretations. By contrast, Aldrovandi’s histories of animals are replete not only with moral interpretations but also with spiritual and prophetic interpretations. As far as I can see, Protestant natural historians do not offer any explanation for the absence of such mystical interpretations.

An explanation also cannot be found in Protestant attitudes toward mystical interpretation. Generally, the Protestants regarded such interpretations to be demanded for Christian interpretation of the books of the Old Testament. For instance, Luther takes the metaphor of the cedars of Lebanon to carry a message for Christians. As he argues, the prophets often use this metaphor to designate flourishing kingdoms. This metaphor, he conjectures, also has a prophetic meaning and designates “everything that is exalted in the world due to the richness of the reign of grace, where eternal justice, life, and well-being are conferred upon believers” (Luther [1532] 1860, p. 47).[[36]](#footnote-36) Oecolampadius holds that biblical allegories combine a historical-literal sense with a prophetic sense and a moral sense that guides toward the virtues of charity and mercy, both in the biblical past and in the present (Oecolampadius 1525, fol. 5v). He takes understanding the “mystery of allegories” to be one of the goals of interpreting prophetic texts (ibid, fol. 5r). At the same time, he accepts the view that events described by the prophets could be understood as “types”—prophetic anticipations—of events in the Christian age (ibid.). The absence of prophetic interpretations of biblical animals in Protestant natural histories thus cannot be explained by anything like a rejection of prophetic interpretations in Protestant hermeneutics.

Still, when Gesner says that he wants to exclude “contradictory matters,” he may have had in mind a problem arising from Catholic hermeneutics—a problem that Melanchthon was aware of when he spoke of “incoherent allegories.” One solution, of course, would be to restrict allegorical meanings to those meanings for which there is sufficient internal evidence in the text at hand. This solution, however, would exclude all Christological interpretations of things and events occurring in the Old Testament. To solve this problem, Zwingli offers the following methodological principle: “Whenever … we say that there is an allegory, we will prove it by certain arguments and signs” (ibid., p. 150).[[37]](#footnote-37) And more specifically: “Briefly, we must open the sense of allegories of scripture through the keys of scripture” (ibid., p. 152).[[38]](#footnote-38) Note, however, that this textualist precept does not imply that all of the relevant textual evidence has to be internal to the text at hand. Rather, the evidence can derive from other parts of the Bible: “[I]t is not legitimate to say: this passage can have another meaning, but rather: Now I weave out of this passage an allegory, which does not necessarily derive from the sense of this passage, but from other places of the scriptures brought into connection with this one” (ibid., 152).[[39]](#footnote-39) Still, Zwingli sees a difference between his hermeneutic practice and that of the patristic tradition: “Although I do not think that one never should allegorize unless the author himself used an allegory, I nevertheless desire dexterity in these matters” (ibid., p. 151).[[40]](#footnote-40)

Did Catholic exegesis lack the dexterity desired by Zwingli? The difference can be only a difference of degree since Zwingli allows for the assignment of mystical meanings that are not those intended by biblical authors. Still, he may have seen a problem that has left traces in Aldrovandi’s histories of animals. The mystical interpretations mentioned by Aldrovandi are not arbitrary in the sense that would not use any textual support. However, they show how problematic basing allegorical interpretations on biblical co-texts can be: The more co-texts one uses, the more, and potentially inconsistent, meanings can be ascribed to the same literary figure.

Consider the incompatibility between two mystical interpretations of the ox in *Isaiah* 1:3 adduced by Aldrovandi—the one developed by Eusebius of Cesarea (263-339) and the one developed by Gregory the Great. Eusebius establishes a connection between *Isaiah* 1:3 and 1 *Corinthians* 9:8-10, where Saint Paul refers to the Mosaic law that forbids “to muzzle an ox while it is treading out the grain” (*Deut*. 25:4). As Saint Paul comments, despite appearances this law is not concerned with animals but rather refers prophetically to the Christians “because whoever plows and threshes should be able to do so in the hope of sharing in the harvest.” Eusebius also adduces *Isaiah* 7:21-22, where it is said that in the days of Emanuel, humans will feed a cow, an ox, and two sheep and have an abundance of milk. According to Eusebius, this passage lends support for interpreting the ox in *Isaiah* 1:3 as a prophetic symbol of the apostles who teach the Christians how to perfect their spiritual lives (Aldrovandi 1621, p. 165; see Eusebius 1628, p. 323 [*De demonstratione evangelica*, 7]). By contrast, Gregory relates the figure of the ox in *Isaiah* 1:3 to *Isaiah* 9:7, where it is said that both the ox and the lion eat straw. Subsequently, he relates the figure of the straw to *Isaiah* 40:6, where it is said that “all flesh is grass.” In a further step, he relates the figure of grass to *Job* 40:15, where the enigmatic animal called “Behemoth” is said to eat grass like an ox. Finally, relying on an interpretation of Behemoth as a demonic monster, Gregory draws these passages together and conjectures that the ox in *Isaiah* 1:3 is to be understood as a symbol for the life of sinners who live a carnal life under the influence of the devil, or simply that the ox is a symbol of the devil (Aldrovandi 1621, p. 173; see Gregory the Great 1769, pp. 324-325 [*Moralia in Iob* 32:18-19]).

The ox in *Isaiah* 1:3 cannot be understood at the same time as a symbol of Christian self-perfection *and* as a symbol of sinful life under demonic influence. Adducing co-texts alone could not lead to a decision between these competing interpretations. The mystical interpretations of the ox documented by Aldrovandi show how allowing a too wide range of co-texts could obscure the use of animals as moral exemplars—namely, exactly when animals are used as symbols both for morally praiseworthy and for morally reprehensible individuals at the same time. Such interpretations are instances of the “incoherent allegories” that were rejected by Melanchthon and of the “incoherent matters” that Gesner explicitly excluded from the realm of natural history. This concern may explain why Gesner shied away from offering prophetic and spiritual interpretations of those animals to whom he assigned moral meanings.

5.3. Mystical Interpretation and Eschatology

A similar difference can be observed concerning the treatment of ants in Protestant and Catholic natural histories. While moral meanings of ants are accepted by Melanchthon, Wilde, and the authors of *Insectorum sive minimorum animalium theatrum*, what is missing from their writings is any consideration of the role that ants could play as symbols for aspects of Christian spirituality. And this is what sets their symbolic interpretations apart from those in the Catholic tradition. An interpretation of ants as moral exemplars can be found in Aldrovandi, too; but a large part of his symbolic interpretations of ants concerns the Christian conception of immortality. For instance, he follows Saint Basil in understanding the preparations that ants make for winter times as a symbol for the preparations that Christian should make for eternal life. In particular, they should avoid incurring a deficit in meritorious actions (Aldrovandi 1638, p. 525; Saint Basil 1523, fol. 25r [*Hexameron* 9]—a precept that involves not only the duty to perform such actions but also the duty not to lose previously acquired merit.

Very much as the ants try to prevent grains from putrefying by carrying them into the sunlight during serene weather, Christians should therefore prevent their meritorious actions from losing their spiritual value by taking precautions against arrogance (*superbia*), the striving for inert glory (*inanis gloria*) and vanity (*vanitas*)—in particular through penitence that restores previous merit (ibid.). Also, in Aldrovandi’s view, the serene weather that the ants use for collecting grains and preventing them from putrefying stands for the time of the grace of Christ (ibid., p. 526). These passages make it easy to see why a corresponding spiritual interpretation of ants is missing in the Protestant tradition: Aldrovandi’s interpretation is based on a conception of the role of meritorious action for eternal happiness that was unanimously rejected by reformed doctrines of justification (see Hamm 1986; Fink 2010). No wonder, then, that the Protestants did not interpret the preparation for winter times as an allegory for the preparation that Christians should take for eternal life. This, however, is not the outcome of any general rejection of allegorical meanings but rather the outcome of a specific tenet of Protestant theology.

6. Conclusion

The case studies presented here point to the conclusion that Protestant hermeneutics and its relation to Protestant natural history is a field that does not lend itself easily to generalizations, and even less so to generalizations that take the form of dichotomies. Protestant natural historians continued to assign moral meanings to natural particulars, as indicated by the usage of semantic concepts such as *exemplum*, *exemplar*, *imago*, *effigies*, *vestigium*, *signum*, and *repraesentatio*. As far as moral meanings of animals such as storks and ants go, different strands in the Lutheran tradition and different strands in the Reformed tradition show striking similarities. They converge on the idea that some properties of animals can function as symbols for human virtues because they are in a similar way naturally good in the lives of animals as virtues are naturally good in the lives of humans.

If moral meanings differ from literal meanings—as they were usually thought to do—then non-literal meanings continue to be present in Protestant natural histories. But this should not be surprising since the major figures of the Reformation continued to assign moral meanings to natural objects in their exegetical practice. In light of the textual observations presented here, one could conclude that the hermeneutics of the reformers does explain something about the development of early modern natural history; however, what it explains is the *persistence* of the assignment of moral meanings to animals rather than the *disappearance* of such meanings from natural history. Where such meanings disappeared from natural history, they seem to have disappeared *despite* their continued presence in exegetical writings, and therefore have to be explained differently.

 Yet, some specific differences between Protestant uses of moral meanings and the combination of moral and mystical meanings found in Catholic sources could be explained by characteristics of Protestant hermeneutics. Mystical (prophetic and spiritual) meanings that were assigned to natural particulars are typically cases of allegory. The Reformers had qualms about the extensive use of allegories for several reasons: Even if Luther accepted their presence in the biblical texts, he saw the risk that surmising allegorical meanings everywhere could convey moral insights that also could have been gained from pagan philosophers; Melanchthon was concerned about the contradictory nature of extensive allegorical interpretation; and Zwingli insisted on the necessity of finding textual clues that indicate that a particular allegory was either intended or at least retrospectively understood as a prophecy.

The necessity of a criterion to reduce the risk of ending up with contradictory interpretations can be seen when the influence that the patristics still had in early modern Catholic natural history is taken into consideration. As we have seen, Gregory the Great and Eusebius of Caesarea used series of co-texts to establish the meaning of a given allegory. This is exactly the problem that Protestant exegetes such as Zwingli and Melanchthon wanted to avoid. This aspect of Protestant hermeneutics may explain why Protestant natural historians did not combine their moral interpretations with mystical interpretations. Also, specific contents of Protestant theology such as the rejection of the doctrine of justification through meritorious works could explain why certain spiritual meanings of animals that are prominent in Aldrovandi cannot be found in the writings of his Protestant colleagues—for instance, those meanings that have to do with a specific view of the influence of meritorious actions on eternal life.

The differences between symbolic interpretations of animals in Protestant and Catholic natural histories thus turn out to have been more fine-grained than anything that could be captured by the dichotomy between literalism and symbolic interpretation. And even if Protestant hermeneutics may not explain the disappearance of symbolic meanings in many early modern natural histories, differences in hermeneutics and theology brought about by confessionalization may explain some of these more fine-grained differences between symbolic meanings assigned to animals in Protestant and Catholic natural histories.

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1. On Gesner, see Van de Velde 1952; Leu 1990; Friedrich 1995; Enenkel 2007, pp. 51-70; Ogilvie 2008, pp. 236-240; Egmond 2013; 2016; 2018; Kusukawa 2010; 2018; Egmond and Kusukawa 2016; Leu 2016; Leu and Peters 2019. [↑](#footnote-ref-1)
2. “Historiae autem tractatio potissima et prima esse debet, in qua videmus, quomodo divinitus defensi et adjuti pii, impii autem deserti et puniti sint. Haec ad nos sunt accommodanda, ut discamus eandem nostrum fortunam fore, nisi vitam emendaverimus … Debet igitur historia exemplar nostrum esse, quo doceamur bene vivere in fide et caritate.” [↑](#footnote-ref-2)
3. “Quid occupas tot domus, quas inhabitare non potes? Vel quur coemis tot agros, quos solus colere nequis? Hinc multa invidiae seminaria, superfluae curae, sumptus graves, & alia incommoda … O stultam ambitionem. Domini est terra, & eius solius est dominium: noster ususfructus duntaxat: & fieri non potest, ut non plus insumas, quam tuae parvitati sat est.” [↑](#footnote-ref-3)
4. “Quanta enim dementia et, eos expulsos velle, quos Deus nobiscum in terra locavit, & quibus haec communis sedes constituta est? … Sic enim Deus homines inter se coniunxit, ut alii aliorum opera & industria egeant: nec quisquam nisi insanus, alios homines, quasi sibi noxios aut inutiles reiicitat. Ambitionis vero sua gloria frui non possunt, nisi inter alios. Quam ergo caeci sunt, cum alios volunt abigere, & summovere quo soli regnent?” [↑](#footnote-ref-4)
5. “Deus vult mundum suis donis ad cultum suum allicere …” [↑](#footnote-ref-5)
6. “An non extrema est turpitudo, divina voce bovem et asinum non dico nobiscum conferri, sed omnino nobis praeferri, quod illi suum officium faciant erga possesorem suum, nos non faciamus erga Deum? Aperire igitur capita nostra coram bobus et asinis debebamus, tanquam coram magistris nostris, quos nobis divinitus propositos esse videamus, ut discamus eorum exemplo Deum nostrum revereri.” [↑](#footnote-ref-6)
7. For a further instance of Luther’s use of animals as moral exemplars, see Clough 2009, p. 56. [↑](#footnote-ref-7)
8. On the beginnings of this tradition in Origen’s *Homilies on Luke*, 2.13-16, see Nicklas 2015, p. 144. [↑](#footnote-ref-8)
9. “non tutum fuisse prophetae sic palam arguere totum populum stultitiae et impietatis.” [↑](#footnote-ref-9)
10. “Illae enim quamvis mente & ratione careant, sunt tamen dociles, ea saltem parte quod agnoscunt eos a quibus aluntur.” [↑](#footnote-ref-10)
11. “saepe enim bestiae naturae ordinem melius sequuntur, & plus humanitatis prae se ferunt, quam homines ipsi.” [↑](#footnote-ref-11)
12. “Loca pro temporis conditione solent illa mutare: non plus edunt, aut bibunt, quam sibi salubre sit, non diutius dormiunt, quam ratio valetudinis postulat: modum movendi, quiescendique servant; novit sua quodque medicamenta: vivit sua quodque sorte contentum …” [↑](#footnote-ref-12)
13. “prolixaque eorum praeceptio vacet, & iaceat, cum exempla desiderentur vitae praeceptoris & authoritas, quam qui respicit, facilius & movetur ad virtutem, & in officio tenetur.” [↑](#footnote-ref-13)
14. “At vero in contemplandis animalium moribus exempla suppetunt omnium officiorum & effigies offeruntur virtutum summa cum authoritate naturae omnium parentis, non simulatae, non commentitiae, non inconstantes & labiles: sed vere ingenuae atque perpetuae.” [↑](#footnote-ref-14)
15. “iustitia apum …, quae colligunt quidem ex iis, quibus aliquid dulcedinis inest, sed sine ullo fructuum detrimento” [↑](#footnote-ref-15)
16. “Quis enim tam perversa natura hostis sui generis est, quin emendetur, & mitigetur, cum nullum animal occidi a sui generis bestia videatur? Quis tam in parentes impius, ne cum ciconiae avis, aut meropis pietatem erga parentes intelligat, pientior efficiatur? Quis adeo inhumanus, illiberalisque est, quem ossifragae benignitas in pullos aquilae non faciat benigniorem? Quis tam piger, iners, & segnis est, quin excitetur ad vitae munera, cum formicarum, aut apum labores, atque industriam intuetur?” [↑](#footnote-ref-16)
17. “Adde utilitatem, quae in dicendi facultatem ex hac animalium ratione aferri potest. Comparationes enim, assimiliationesque illae, quas Graeci parabolas vocant, quae plurimum orationem exornant, auditoremque tenent, inde varie, copiose, aptissimeque accipi possunt …” [↑](#footnote-ref-17)
18. “Aliae autem ex iis sumendae, quae in manibus sunt; communique rerum usu familiariter versantur …” [↑](#footnote-ref-18)
19. “Videtis …, quantum natura apud ciconias, quo ad virtutem attendantur, studium deposuerit. Proinde Plutarchus quum aquatilibus propenso virtutis amore terrestria praestare animantia colligere vellet, Ciconiarum exemplo …, statim variantis sententiae nodos dissecans, comprobavit” (see Plutarch 1570, p. 611). [↑](#footnote-ref-19)
20. “tantum morum praecepta inde faciunt, quae aeque bene a gentilibus possunt tradi.” [↑](#footnote-ref-20)
21. On Melanchthon’s attitude toward the patristic tradition, see Wengert 1999; Hall 2014. [↑](#footnote-ref-21)
22. “plurimarum virtutum simulachra, quae nos officii nostri admonerent. Turpissimum est enim homini tam longe a sua natura degenerare, ut a bestiis etiam virtute superetur.” [↑](#footnote-ref-22)
23. On Melanchthon’s adoption of Aristotelian ethics; see Svensson 2019. [↑](#footnote-ref-23)
24. “[C]um sacrae literae mittant nos ad formicas, tanquam ad magistros, profecto significant hoc consilio a Deo fabrefactas et his ingenii dotibus instructas esse, ut docere nos utilia possent.” [↑](#footnote-ref-24)
25. “Voluit [deus] ut aliae aliis serviremus, sol nobis, alii aliis. Pecudes ut sint commodae nobis ad vestiendum, & alia, plantae ad remedia.” [↑](#footnote-ref-25)
26. “officium suum faciant singulae [creaturae], solus homo excidit ab hac obedientia.” [↑](#footnote-ref-26)
27. “Non hoc respicit Solomon, laborandum esse, ut paremus victum, sed hoc potius, quod ita conditi simus. Est enim mandatum dei, ut huic bestiolae est innatum. Non habet verbum, sed conditionem quondam, qua per verbum impellitur ut operetur, sequitur tantum verbum quo condita est.” [↑](#footnote-ref-27)
28. “Et ne quidem expectas naturale desiderium suavium rerum, sed antequam natura expetat eas, imples atque obruis te, edis priusquam esuris, bibis antequam sitis, condimenta varia ad irritandam famem excogitas …” [↑](#footnote-ref-28)
29. “Primum consyderandum est, quomodo natura nostra vitiata sit, bestiae parent illi sensui quem a Deo acceperunt, homines non parent, ita corrupta caro est per peccatum originale.” [↑](#footnote-ref-29)
30. “Figuram aedificii divinum hoc animalculum a coelo petiit …” [↑](#footnote-ref-30)
31. “Hi quum sibi semitam non sapiunt, alteri monstrant viam.” [↑](#footnote-ref-31)
32. “Fabulæ, etsi commentitiæ plerunque, & pro authoris libitu excogitatae sint, veritatis tamen nonnihil tanquam sub umbraculo in se quandoque continent.” [↑](#footnote-ref-32)
33. “Quicquid ad philologiam aut grammaticam facit, poetica, prouerbia, similia, fabulae, superstitiosa, superflua, dubia, falsa, obscura, pugnantia, & quicquid est huiusmodi omittantur.” [↑](#footnote-ref-33)
34. “adeo ut insecta quoque animalcula, benignitate sua illa uberrima, miris virtutum seminibus dotaverit.” [↑](#footnote-ref-34)
35. “Ea enim virtute ac justitia praedita Formicarum gens, ut nec rege opus sit aliquo, dum suos quisque regit affectus; vel saltem illo tantum supremo, quem invocant omnes Iovam; qui & Formicinae, & humanae omnis virtutis, unicus fons & author merito censetur.” [↑](#footnote-ref-35)
36. “quicquid est altum in mundo prae opulentia, quae est in regno gratiae, ubi conferuntur credentibus aeterna justitia, vita, salus etc.” [↑](#footnote-ref-36)
37. “Ubicunque … allegoriam esse dicemus, certis argumentis et notis probabimus.” On Zwingli’s attitude toward allegory, see Künzli 1959. [↑](#footnote-ref-37)
38. “Breviter, scripturae allegorias debemus scripturae clavibus reserare.” [↑](#footnote-ref-38)
39. “[N]on licebit dicere: Potest hic locus et alium habere intellectum, sed: Nunc vobis ex isto loco allegoriam concinnabo, quae quidem non est ex necessario huius loci sensu, sed ex aliis scripturae locis huc ascita.” [↑](#footnote-ref-39)
40. “Quamvis non sim in hac sententia, ut nusquam liceat , nisi ubi autor ipse allegoria utitur, sed dexteritatem in istis desidero.” [↑](#footnote-ref-40)