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Natural Final Causality at the University of Paris from 1250 – 1360

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Natural Final Causality at the University of Paris from 1250 – 1360

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There has not yet been a book-length examination of the significant medieval developments in doctrines of natural final causality at the University of Paris. The current study finds that, during this time, natural final causes cease to be recognized as unique metaphysical principles of causality. They are reduced to natural efficient causes that exhibit determined activities. The critique is subtle, however, because even though natural final causality is all but eliminated as a metaphysically unique cause of natural activity, natural directionality is never in doubt.

The Parisian conversation on natural final causality evidences an appropriation and critique of Aristotelian natural philosophy, aided by Avicenna’s and Averroes’ interpretation of him. The dissertation begins by noting Aristotle’s doctrine. He holds that natural final causality is recognizable in natural substances. Final causality has its own unique causal role in natural activities. He recognizes that natural agents also act for the sake of a first final cause, but provides a limited description of the way the first final cause causes.
Thomas Aquinas and John Duns Scotus essentially maintain the Aristotelian doctrine on the recognizability and causality of the natural final cause from Aristotle. However, Scotus plants the seed for a reduction of final causality to efficient causality through his distinction between nature (a determined cause) and will (a free rational cause). While Aristotle argues that natural final causality is evident through the causal similarities between natural and rational agency, Scotus’ distinction denies that a nature and a will are similar causal principles.

William of Ockham appropriates Scotus’ distinction between nature and will, criticizing Aristotle’s argumentation. For Ockham, final causality is proper to rational (free) causes and, for this reason, cannot be found in natural causes. Natural agents have a determined, internal, efficient principle of direction. To attribute final causality to natural agents is to confuse the rational and the natural.

John Buridan maintains Ockham’s affirmation that natural direction should be explained as the determination of natural efficient causality. However, he holds that any efficient cause that causes for the sake of itself can be called a final cause. While he reintroduces discussion of final causality in nature, he notes that many of the results we experience from natural causes may not be the proper results that the natural agents were directed to bring about. This limits our ability to discuss natural final causes outside of acknowledging that natural agents have them.
This dissertation by Jordan D. Watts fulfills the dissertation requirement for the doctoral degree in philosophy approved by Timothy B. Noone, Ph.D., as Director, and by Thérèse-Anne Druart, Ph.D. and Kevin White, Ph.D., as Readers.

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Dedication
I dedicate this dissertation to my loving parents, Mike and Sue, who have supported and encouraged me throughout my education. I also dedicate it to my beautiful wife, Maggie, without whose love and support this dissertation might have never been finished.
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Sigla and Abbreviations

Aristotle


Avicenna


Averroes


De substantia orbis De substantia orbis, in Aristotelis Opera cum Averrois Commentariis, Vol. IX photomechanical copy of text publised by Venetiis : Apud Junctas, 1562-1574 (Frankfurt am Main: Minerva, 1962)

Thomas Aquinas
De principiis  
*De principiis naturae*, in *Opera Omnia*, Commissio Leonina, bk. 43  
(Rome: Santa Sabina, 1976)

*De veritate*  
*De veritate*, in *Opera Omnia*, Commissio Leonina, bk. 22, 3 vols.  

**John Duns Scotus**  
*Quaest. s. l. metaph.*  

**Trac. de p. principio**  
*Traité du Premier Principe/ Tractatus de primo principio*, Latin edition  
with a French translation, ed. Wolfgang Kluxen  

**William of Ockham**  
*Op. phil. et theo.*  

**Expositio**  
*Expositio in libros Physicorum Aristotelis*, book II, chapter 12 in  

**Quaest. Phys.**  
*Questions on the Physics* in  

**Sum. Phys.**  

**Quodlibet 4**  
His fourth *Quodlibet* in  

**De fine**  
Fourth disputed question (*De fine*) from his  
*Reportatio*, in  

**John Buridan**  
*Physics*  
*Kommentar Zur Aristotelischen Physik*, Photomechanical copy of  
*Subtilissimae Quaestiones super octo Physicorum libris Aristotelis*, 1509.  

*Metaphysics*  
*Kommentar Zur Aristotelischen Metaphysik*, Photomechanical copy of  
*In Metaphysicen Aristotelis Questiones argutissimae*, 1588 (actually 1518).  
Overview

Medieval philosophy is well known for its lively and contentious debates springing from readings of Aristotelian texts, which had become widely available in the Latin West in the 13th century. Medieval thinkers consistently address the issue of natural final causality, an important element of the discussion of the philosophy of nature. The current historical study examines and compares the doctrines of natural final causality of selected thinkers influential at the University of Paris between 1250 and 1360 in order to trace the development and subsequent critique of the recognizability and causality of natural final causality during that time.

Natural final causes are sources of goal-directed activity. More specifically, a natural final cause refers to the interior or natural principles of direction within natural agents that order their activities for the sake of something. For example, one may ask whether the acorn that germinates is acting for the sake of an oak tree that may develop, or whether it acts for the sake of anything at all. One who asserts that an acorn acts for the sake of an oak takes the position that even non-rational agents act for the sake of something. A defense of this position must address important metaphysical concerns. For example, if an acorn germinates because it has an internal goal of bringing something about, how can the causal power of such an internal goal be explained? In addition, one must account for the extent to which such internal goals are evident in non-rational agents, as these types of agents clearly do not have the capacity to deliberate and order their actions for the sake of something as rational agents can. For the purposes of this dissertation, positions on the recognizability and causality of a natural final cause are the main elements of a doctrine of natural final causality.
Alternately, one might deny the presence of natural final causality, perhaps suggesting that a germinating acorn acts out of material necessity as it develops into an oak, not due to any internal direction. While this position negates the need to develop a doctrine of natural final causality, this reductionism gives rise to its own challenges. For example, a reductionist is challenged to provide satisfactory explanations of the ordered activities of complex natural wholes (e.g., acorns) that require the simultaneous coordination and direction of parts that no single material part can provide of itself.

Examination of significant medieval developments in doctrines of natural final causality is important for a number of reasons. It serves the history of philosophy by highlighting an important thread of medieval discussion. While not the primary focus, it also addresses the medieval roots of the relatively common denial of natural final causality by modern thinkers. Finally, the medieval discussion of natural final causality also stands to provide helpful insights to those interested in engaging in discussions of natural direction that are under the influence of material reductionism within any period of philosophy.

One can recognize unique doctrines of natural final causality as well as arguments related to a first final cause in the major thinkers at the University of Paris between 1250 and 1360. In fact, consideration of key thinkers’ texts reveals the development of a sophisticated doctrine of

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1 For example, René Descartes explains the activities of animals and many activities of the human body using material reductionism. He denies that animals act for the sake of anything on the level of the whole. They are nothing more than the sum of their parts, which act only in accord with the laws of physical motion. He sees any assignments of purposive activity on the level of the whole as, “designation[s] extrinsic to the thing[s] to which [they are] applied” (Meditations on First Philosophy, Meditation 6, in Discourse on Method and Meditations on First Philosophy, Fourth Edition, Trans. Donald Cress (Indianapolis: Hackett Publishing Co., 1998) 100).
natural final causality in the High Middle Ages, heavily influenced by Aristotle and his Arabic readers, as well as a subsequent criticism of both the recognizability and causality of natural final causes that is drawn from John Duns Scotus’s distinction between nature and will. While the critique develops from medieval principles, it becomes the likely basis for further criticism of natural final causality in modernity.

Significant differences among the prevailing doctrines of natural final causality at Paris during the thirteenth and fourteenth centuries appear to have arisen from other major currents of thought within the philosophy of nature and metaphysics at the time, including positions on efficient causality, divine providence, and the difference between natural and rational agents. This study is restricted to the most influential thinkers there during this period, with the full acknowledgment that Paris saw more great and influential thinkers between 1250 and 1360 than can be treated within the scope of this dissertation. I include those who shape the philosophical discussions behind the significant differing doctrines of natural final causality. The study is limited to those influential thinkers recognized as introducing or popularizing significant systematic philosophical developments in their thought, which were reflected in changes to doctrines of natural final causality.

The relationship between natural final causality and a divine first final cause (i.e. God, for the medieval thinkers) is also considered. For our thinkers, a complete explanation of natural final causality includes the first final cause, since nature’s order and direction are traced to divine activity. However, philosophy’s ability to recognize God’s role as a cause of nature’s activity for sake of something is characterized differently by different thinkers. God’s role as the director of nature becomes increasingly important for those who want to maintain that natural movers act
for the sake of something, yet see difficulties in recognizing a natural principle of final causality in nature.

While natural final causality is not a topic of heated debate for medieval thinkers, Latin thinkers typically took positions on this issue as part of the common practice of reading and interpreting the works of Aristotle, especially his *Physics*. Even though the medieval discussion of natural final causality considered here is primarily couched within interpretive texts, the medieval texts are not simply exercises in exegesis. The medieval thinkers established agreement or disagreement with Aristotle as a formality in the course of their own appropriations of natural final causality within their own teachings on natural philosophy.

Since Aristotle’s arguments on natural final causality play such an important role for medieval thinkers, the study begins by presenting Aristotle’s doctrine of natural final causality as a Parisian usually construed it. Using the Latin translation of Aristotle, the first chapter highlights important texts related to natural final causality and establishes a baseline doctrine of natural final causality that serves as a helpful point of comparison when examining medieval readers.

The primary touchstone for Aristotle’s doctrine of natural final causality is *Physics*, II, 8, wherein Aristotle argues that what acts in accord with nature acts for the sake of something since it could not be acting by chance. He makes his case in the context of examining the principles of natural things. Specifically, Aristotle rejects material reductionism and argues that the *per se* activity of natural things is for an end. That is, final causality is operative in what moves by nature. He argues that a non-rational agent’s ordered activities are done for the sake of the agent itself. Additionally, the consistent cyclicality of motion and generation apparent across the great
variety of non-rational agents is evidence of a mover in perfect cyclical motion that moves non-rational agents to imitate it to differing extents. Unfortunately, Aristotle does not explain the way this mover, the first final cause, causes motion or how such divine final causality is reconciled with natural final causality.

Aristotle relies on the intelligibility and explanatory power of rational final causes as the basis for recognizing and explaining natural final causes, an approach that not all of his Parisian readers will allow. Aristotle’s argumentation also depends, in part, on a dichotomy he establishes when considering any activity, namely, as either for the sake of something or by chance. Unfortunately, Aristotle is less clear on the way a final cause causes and on the way the first final cause acts as a final cause for non-rational agents. Nonetheless, the most plausible explanation of a natural final cause’s causal power is that it is an irreducible potency for form and perfection.

Aristotle also sees divine direction in nature’s regularity. Recognition of the first final cause’s existence represents the limit that knowledge of natural purposive activity can provide. That is, while Aristotle is sure that a first mover causes as a final cause, he does not clearly establish the way that the first final cause causes natural agents to act for its sake, which Aristotle’s later readers address in greater detail.

The first chapter also includes, in addition to an overview of the Latin Aristotle, the doctrines of Avicenna and Averroes upon the theme of natural final causality. These two non-Latin thinkers’ interpretations of Aristotle were received with Aristotle’s texts by Parisian thinkers. While both affirm that natural final causality can be recognized through philosophical investigation and explain the causality of natural final causes in a fashion similar to that of Aristotle, they provide additional considerations that impact the Parisian doctrines of natural
final causality. Most notably, they elaborate upon the causal connection between natural final
causal activity and the divine first final cause, which is not fully fleshed out in Aristotle. While
Aristotle’s first movers are neither providential nor sources of existence for the world, Avicenna
discusses natural final causality in a universe directed by the source of its being.

While Avicenna sees natural purposive activity as evidence of divine direction, his
conception of God as both the first final and first efficient cause of the world leads him to
explore another way of seeing the relationship between God and natural direction. Namely, he
explains God’s causal power over the world through efficient causality, explaining how it causes
as the bearer of God’s direction. This top-down approach addresses questions arising from
Aristotle’s position. First, an explanation of God’s causal activity through efficiency affirms and
clarifies God’s active role in causing nature. Avicenna’s explanation of God’s efficient and final
causality also explains how proper natural activities can be both for the sake of the natural agent,
as well as God. Avicenna thinks there are two ways to see God causing direction in the world.
The first way is as the most perfect being that is imitated by nature. The second is as the efficient
cause that brings about everything in its order. Even if one were to deny that natural direction
points to a divine ordering power, Avicenna would still argue that natural agents act for the sake
of something, based on what can be known about God outside of what natural final causality, of
itself, indicates.

While Averroes is more concerned with providing a faithful interpretation of Aristotle
than Avicenna is, his explanation of divine final causality, nonetheless, provides Parisian
thinkers with a model for reducing natural final causality to natural efficient causality. (Such a
reduction is an important element of the Parisian critique of natural final causality.) He accepts
that God is both the efficient and final cause of the world. He argues that God is the final cause of agents that knowingly imitate God. I.e., insofar as God is the object of rational desire in the heavens (or the rational desire of any other agents), God is the final cause of those agents. With this, he subsumes God’s efficiency under God’s final causality by positing that God is also an efficient cause insofar as the movers of the heavens move efficiently due to their desire to imitate God (as opposed to positing that God is an efficient cause in the way Avicenna does). The efficient ordering of nature that Averroes gives God credit for is actually carried out by those agents below God that have a rational desire to imitate God.

Averroes’ linkage of divine final causality to rational desire, as his way of addressing the causality of the first final cause, helps him avoid challenges associated with asserting that God is the final cause of nature in addition to an agent’s own natural final cause. He does not have to say that natural agents act, of themselves, for the sake of God. The direction of God comes to natural movers through the efficient motion of those heavenly rational agents that are moved by their desire for God. But even though God’s direction as the first final and efficient cause is much more indirect for Averroes than it was for Avicenna, the certainty of internal natural final causality is just as clear.

Chapter two considers doctrines of two Parisian thinkers who received and essentially appropriated the Aristotelian doctrine of natural final causality, Thomas Aquinas and John Duns Scotus. Aquinas’ position represents a sophisticated Parisian appropriation of the philosophical grounding for natural final causality from Aristotle. Aquinas recognizes natural final causality as a thing’s irreducible potency for form, describing it as a potency for form on the level of nature that has virtual existence and directs an agent toward some goal. Aquinas’ doctrine unites
Aristotle’s thought with Avicennian considerations of divine direction. He accepts God as both the efficient and final cause of the world, but works to avoid the determinism found in Avicenna.

Scotus’ relatively brief treatment of natural final causality is also presented. He is openly deferential to Aristotle and does not differ significantly from Aquinas on the issue of the causality of the natural final cause. However, Scotus does not see evidence of a divine first final cause in natural purposive activity of nature. For him, God’s final causal power is evidenced only through God’s pre-established efficient causality. While he recognizes internal natural purposive direction as well as God’s direction of nature, he denies that philosophical investigation into natural final causality itself reveals that nature is ordered for the sake of God. Through his rejection of natural desire as an indicator of divine direction, and his affirmation of divine direction of nature through divine efficient causality, Scotus provides a streamlined explanation of natural final causality in his description of both natural and divine final causality. Scotus fixes the way one must see a connection between natural direction and God’s causal power.

While he differs from Aquinas on the connections philosophy can draw between natural final causality and divine final causality, Scotus’ most significant contribution to the Parisian conversation is his distinction between nature and will. This distinction serves as the basis for the Parisian critique of the recognizability and causality of natural final causality.

Chapter three addresses William of Ockham’s doctrine of natural final causality, which represents a significant turning point in the Parisian approach to this topic. Ockham uses the Scotistic distinction between nature and will as a basis for denying that philosophy can recognize natural final causes; final causality, such as it is, Ockham sees as proper to rational agents. He
goes on to assert that internal natural direction must be attributed to natural efficient causality, a reduction that suits his parsimonious approach to metaphysical explanations. For Ockham, final causality is proper to rational agents alone, a clear break with Aristotle and his most influential Parisian readers up to that point.

Since Ockham requires rational activity as the basis for recognizing any final causality, argumentation through God’s rational efficient causality is not just important for recognizing divine direction of nature; such argumentation is the only feasible approach for one who wants to recognize any final causality in nature. This is an additional effect of his elimination of natural final causality. With Ockham, the relationship we first saw in Aristotle between natural activity for ends and divine direction is inverted (in the order of discovery, at least).

Ockham’s inclusion as a prominent Parisian thinker may seem suspect, as he has a strong association with Oxford and never taught at the University of Paris. However, his writings were brought to Paris, where they became lastingly influential.

Chapter four presents the doctrine of John Buridan, a renowned Master of Arts in Paris who was familiar with Aquinas, Scotus, and Ockham. He commented on a wide variety of Aristotle’s texts, as well. Unlike controversial Parisian appropriators of Ockham, such as John of Mirecourt, Buridan avoided scandal during his time in Paris. He had a lasting influence there and

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2 However, neither Ockham’s supporters, such as William Crathorn, Robert Holcot, and Adam Wodeham, nor his detractors, such as Walter Chatton, are included here.
elsewhere, having a number of high profile students, including Albert of Saxony, Marsilius of Inghen, and Nicholas Oresme.³

Buridan's position on natural final causality appropriates and refines Ockham’s main argumentation, built on the Scotistic distinction between will and nature. He explains not only natural final causality, but also rational final causality in terms of efficient causality, expanding Ockham’s reduction, but also recognizing activity for the sake of something in natural agents. However, he limits discussion of what things act for the sake of outside of themselves, inasmuch as philosophers have no access to any more specific natural goals behind natural activities than the natural entities that are the ends of such activities.

Similarly to Ockham, Buridan holds that natural agents do not, of themselves, act for the sake of God. However, he affirms God’s role as the first efficient cause and orderer of all. Even though the effects of natural agents do not provide evidence of what they act for the sake of, Buridan appeals to God’s efficiency in order to posit that the ultimate effects of natural agents are for the sake of something. As the conception of the extent of any given natural agent’s direction narrows, and many of the regularities we experience are seen as results of complex natural interactions, even the re-affirmation of (an impoverished notion of) natural final causality must still be accompanied by an appeal to God’s direction if the results of the complex natural interactions we experience are to be seen as for the sake of anything.

As mentioned above, in addressing the most significant moments in the development and criticism of the doctrine of natural final causality at the University of Paris between 1250 and

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1360 this study passes over important philosophers from this period. A number of these are strongly associated with the intellectual traditions represented by this study’s selected thinkers. For example, thinkers devoted to supporting Thomism and the Dominican intellectual tradition bear witness to the Angelic Doctor’s influence and intellectual appeal but are excluded from this study. These include Hervaeus Natalis, Godfrey of Fontaines and Peter of Auvergne. Even Thomists notable for having divergent positions from Aquinas in a number of areas are relevant here simply as evidence of Aquinas’ overall influence. For example, Durandus of St Pourçain, while controversial, adjusted to be more Aquinas-like, under pressure. Similarly those recognized as followers of Duns Scotus, such as Francis of Meyronnes, are excluded.

Additionally, thinkers from different schools of thought that were important in Paris during the time of this critique are excluded from this study. For example, since the change in natural final causality is traced through the reception and treatment of Aristotle, those identified as Augustinians are not considered here, even though they knew and used Aristotle. These include Bonaventure and his followers, such as Matthew of Aquasparta.

Nonetheless, the vocal but persecuted Radical Aristotelians (also called Latin Averroists) are excluded along with thinkers not focused on Aristotle. While they valued fidelity to Aristotle, this school does not represent stable progress in the medieval reception of Aristotle and the appropriation of the Aristotelian doctrine of natural final causality. Indeed, the main proponents of this school were embroiled in controversy and regularly had parts of their writings condemned. For this reason thinkers such as Boethius of Dacia, Siger of Brabant, and John of Jandun are excluded.
Also, since the significant criticism of natural final causality in Paris comes after Scotus and relies on the appropriation of his thought, prominent thinkers active between Aquinas and Scotus are excluded from this study, regardless of their intellectual traditions. Among renowned Parisian thinkers not included are Giles of Rome, who played an important role in the dissemination of Thomism, and Henry of Ghent, who is an important interlocutor with Scotus on the issue of natural desire. Neither appear to have significantly changed the doctrine of natural final causality in Paris, as Scotus’ position on the recognizability and causality of a natural final cause is not significantly different from Aquinas’. Likewise, Giles’ follower James of Viterbo as well as Dietrich of Frieberg, who may have studied under Henry of Ghent, are excluded.
Chapter 1: Latin Aristotle and His Non-Parisian Commentators

1.1 Introduction

Aristotle sees the world as full of goal-directed activities. Every natural agent acts for the sake of something and the arguments he uses to make the case for this are the basis for the Parisian discussion of natural final causality. The recognition of goal directed activities comes through the recognition of regularity in natural agents. The determination of an agent’s motive power comes about through a unique type of determining causality that is distinct from the motive power that brings about the agent’s results. I will argue that Aristotle holds a natural final cause to be an irreducible potency for form. For Aristotle, natural final causality (as recognized through natural regularity) is evidence of a perfect first final cause that causes in its own unique and mysterious way.

Avicenna provides three important twists to Aristotelian thoughts on natural final causality that are passed on to Paris with Aristotle’s thought. First, he identifies the first final cause as the first efficient cause, which Aristotle did not do. Secondly, he holds that an efficient cause is not just a moving cause, but a cause of being, which also was not in Aristotle. Thirdly, he strongly allies final cause with efficient cause. This not in disagreement with Aristotle, but in Avicenna’s conception of efficient causality, the door is opened for the reduction of finality to efficiency.

Averroes, in his attempt to be faithful to Aristotle’s original description of the causality of the first final cause, yet concluding that this first mover must be both final and efficient, gives
an account of the final causal power of the first mover as an efficient cause, as well. He
effectively provides a template for limiting final causality to rational agency and, ultimately
provides the inspiration for Parisian thinkers to reduce even rational final causality to efficient
causality.

1.2 The Latin Aristotle on Final Causality

This presentation of Aristotle provides important groundwork for the Latin discussion of
final causality, which is drawn from his thought. This section relies on the texts of the *Aristoteles
Latinus* editions, which will be treated as the definitive editions of Aristotle’s texts into Latin for
one who is interested in examining Aristotle’s own position as it might have been received by a
Latin reader. My treatment of Aristotle has four sections. The first is a summary of Aristotle’s doctrine
of the recognizeability of natural final causality. We will look at how Aristotle argues that we
can recognize that natural things act for the sake of something. Then we will consider the
irreducibility of final causality, how a final cause causes, and briefly address the final causal
power of the first mover before moving on to Avicenna and Averroes’ receptions and treatments
of Aristotle’s doctrine.

4 *Arist. Lat.*

5 Current secondary literature dealing with Aristotle’s doctrine of final causality typically focuses on Greek
translations of his texts. Such sources are helpful for this overview insofar as their interpretive assertions
corroborate with the Latin texts.
1.3 Recognizeability of Natural Final Causality in Aristotle

In *Physics* II, 8, Aristotle provides his most extensive treatment of natural final causality.\(^6\) It is not exhaustive, but is the *locus classicus* for one approaching Aristotelian final causality. Aristotle argues that what acts in accord with nature acts for the sake of something since it could not be acting by chance. He makes his case in the context of examining the causes of natural things. Specifically, he argues that the *per se* activity of natural things is for an end. That is, final causality is operative in what moves by nature.

At the beginning of Book II, Aristotle defines a nature as a principle of motion and rest that directs the development of an individual and the continuation of the species.\(^7\) A nature is a source of regularity in what has it. Two things with the same nature will grow and reproduce in the same way. Their offspring will operate with the same regularity, so long as nothing prevents them. Aristotle’s stated aim at the beginning of Ch. 8 is to show that nature acts for the sake of something. The general thrust of Aristotle’s argument in Ch. 8 is that what occurs with regularity (i.e. always or for the most part) must be for the sake of something since it cannot be by chance and is not so by necessity.

\(^6\) Aristotle’s treatment of final causality in *Parts of Animals* I, assumes that the reader has some knowledge of final causality already and accepts that it is worthwhile to investigate this cause. He maintains the parallels between ends in nature and ends in art, but does not argue that natural things act for ends so much as that final causality is the most important of the causes to investigate when looking into animals. I will not address that text in detail. I think that giving too much weight to it can be problematic for one making a general account of Aristotelian final causality (or at least I think that is a problem with Allan Gotthelf’s account (see the third part of this section, below)).

\(^7\) “quod est natura principium alicuius et causa movendi et quiescendi in quo est primum per se et non secundum accidens” (*Arist. Phys.*, 43, [192b21-25]).
I am interpreting the kind of necessity Aristotle refers to as material necessity.\footnote{I am following Allain Gotthelf on this point. See Allan Gotthelf, “Aristotle’s conception of final causality,” in Philosophical Issues in Aristotle’s Biology, ed. Allan Gotthelf and James Lennox (Cambridge University Press: Cambridge, 1987), 204-242.} This kind of necessity, which attributes outcomes or activities of complex wholes to the activities of the less complex parts that make them up, is sometimes given status as the primary cause of some given outcomes, leading to the marginalization of any explanation that is in terms of what is for the sake of something on the level of the whole that is made up of those less complex parts. Even though material necessity does have an important role in Aristotle’s \textit{Physics}, as his consideration of this topic in Book II, 9 indicates, there are activities that material necessity cannot fully account for.

At the beginning of Ch. 8, Aristotle first entertains objections which suggest that final causality is not present in natural activities. One might suggest that natural things act as they do because the constituent parts of natural things are simply determined to act in a certain way (i.e. act out of necessity). For example, one might object that the rain does not appear to fall for the sake of anything, since rain can both water crops growing in the field and destroy a harvest by soaking and ruining corn that is already cut.\footnote{“Habet autem oppositionem quid prohibeat naturam non propter hoc facere neque quia potius est, sed sicut pluit lupiter non ut frumentum augmantet, sed ex necessitate ; sursum enim ductam gelari oportet et gelatam aquam factam deorsum venire ; augeri autem cum hoc fiat accidit frumentum ; similiter autem si aliquo perditur frumentum in area, non huius causa pluit ut perdatur, sed hoc accidit.” \textit{Arist. Phys.}, 82-83.} It is not apparent that the rain falls for the sake of watering the plants or for the sake of destroying a crop. According to the objection, there is no explanation required beyond the necessity of water, from its place in the sky, being inclined to move toward its place on earth. Indeed, what had been heated and drawn up to the sky had then cooled and become water, which then fell because it was necessary that water in such a place
should fall. When it does rain, either growth or destruction surely can follow; but these things are not an explanation or motivation for the rain’s falling. Whatever results comes about by chance, not because a given result is a purpose. The results are certainly not causes.

The objection continues. Perhaps a similar case holds with regard to how the elements come together in the body of an animal. Why should it be insisted that the elements which came together to form sharp teeth had the purpose of forming parts that could tear flesh? Just as the rain might end up nourishing a plant, it could very well come about that the elements combine to form something that turns out to be good for tearing flesh. Just the same, they might combine in some other way and fail to form something useful for tearing flesh. That is, they form by chance. The results, for good or ill, are not directly connected to what comes before them. The elements might just happen to be in a situation where they form teeth, or not. But just as there is nothing directing the rain to nourish or destroy, so too is there nothing directing the elements to come together as teeth. They just happen to join together on some occasions.

Aristotle, of course, thinks it is impossible that animals should develop by chance. As far as he can tell, natural things come about and develop in their own unique ways. And while

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10 “Quare quid prohibet sic et partes se habere in natura, ut dentes ex necessitate oriri, hos quidem anteriores acutos, aptos ad dividendum, maxillares autem latos et utiles ad conterendum cibum, quoniam non propter hoc fieri, sed contingere ? Similiter autem est et de aliis partibus in quibus videtur esse quod propter aliquid. Ubicumque quidem omnia accidunt sicut et si propter hoc fiant, hec quidem salvata sunt ab eo quod per se vanum est constantia apte ; quecumque vero non sic sunt, perdita sunt et perduntur” (Arist. Phys., 83-84, [198b23-32]).

11 So, it would not need to be problematic that we do not encounter creatures like wolves without sharp teeth, which chance would have to make. Creatures having such an unfortunate state of affairs (no sharp teeth) would likely not survive. Our objector would suggest that it is not that such creatures could not or do not come about, they can and do, but just do not live for long.

12 Sarah Waterlow points out that Aristotle’s characterization of the materialist rejection to his position could be taken as not entirely fair to the materialist position (Nature, Change, and Agency in Aristotle’s Physics (New York: Oxford University Press, 1982) 75-82). Nonetheless, she finds that Aristotle is not setting up a straw man for himself.
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different natural things might come about in different ways, each type of natural thing remains consistent in its own way of coming about. Those things that do not come about in regular ways are said to happen by chance or spontaneity. So nature, not chance, causes the regularities of those complex wholes that we observe.\textsuperscript{13}

Aristotle returns to the example of rain. When it rains frequently during the wet season every year, one does not suggest that it happened by chance. This is because there is rain on a regular basis during this time. However, if there is an extended period of rain during the dry season, one would take it as a chance occurrence. But rain either falls with regularity and, thus, for the sake of something, or it does not, and is attributed to chance.\textsuperscript{14} It is clear that there are regularities with regard to even the weather, so our objector’s example has been turned to Aristotle’s advantage and he has made his point that chance cannot, by what it is as chance, be a source of regularity.

But eliminating chance as an actual cause does not address the issue of material necessity that came with the objection. One might suggest that the elements have natures and their activity of combining into complex wholes is fully explainable by the natures of those simple components. So, even if chance is eliminated as a cause, more needs to be said to address the possibility of a reductionistic approach.

\textsuperscript{13} “Si igitur a casu videntur aut propter hoc esse, si non possibile est hec esse neque a casu neque a per se vano, propter aliquid utique erunt. Sed tamen natura sunt eiusmodi omnia, quemadmodum et ipsi firmabunt hec dicentes” (\textit{Arist. Phys.}, 85, [199\textsuperscript{3}-6]).

\textsuperscript{14} “Hec quidem enim et omnia que sunt natura aut semper sic fiunt aut sicut frequenter, sed eorum que sunt a fortuna et a per se vano nichil est ; neque enim a fortuna neque a casu videtur pluere multotiens hieme, sed forte sub cane ; neque cauma sub cane, sed forte hieme” (\textit{Arist. Phys.}, 84-85, [198\textsuperscript{3}-199\textsuperscript{3}]).
Aristotle’s next line of argumentation does, however, address this issue. He first claims that if something achieves its end, the steps that brought about the end were done for the sake of achieving that purpose.15 What he wants to say is that in order to explain the development of a complex organism, one cannot simply give an account of the steps leading to it as though they just happened to result in a complex organism (whether by chance or by the natures of what become the parts). What these steps are leading towards is somehow guided by the results towards which they tend.

He supports this claim by pointing out the strong parallels between human productive activity and the activity of other animals that results in things like artifacts.16 Human activity, a type of natural activity, is for the sake of some end. We know that we have purposes in mind when we act. We also know that our actions are ordered so that we can bring about the purposes we have in mind. For example, a person does some activity $A$ so that end $B$ will come about. $A$ is done for the sake of $B$. $A$ is not merely a precursor to $B$. It is clear to Aristotle that if humans act in accord with ends and take steps for the sake of ends, and yet act with less regularity than animals and other natural agents do, non-rational natural substances, which neither deliberate nor question their ends, yet display regularities in their behavior, must act for ends.17 So, because of the regularities of natural activity, what is done by nature must be for a purpose and those steps that bring about a result must be for the sake of that result (which makes the result an end).

15 “Amplius in quibuscumque finis aliquid est, huius causa agitur quod prius et quod consequenter” (Arist. Phys., 85, [1999-10]).
16 “Ergo sicut agitur sic aptum natum est, et sicut aptum natum est, si non utique aliiquid inpediat, sic agitur unumquodque” (Arist. Phys., 85, [19910-11]).
17 For example, a bird makes its nest and a spider makes its web in regular ways.
Aristotle believes any of the things humans make by choice would be made in the same way by nature if nature had them as ends. (This, of course, would go both ways. If a person chose to make something that is normally done by nature, the person would have to make that something in the same way that nature does.) We are aware that there is a direct connection between what we do and the end we are trying to bring about. Whether we make something that is not found in nature or whether we imitate what another animal produces, we know that our activities are directed toward an end as we act. What is important to note here is that our steps toward an end are done for the sake of that end. For example, whether a person (somehow) makes a spider web or a spider makes a spider web, it must be the case that a spider web is the end of the activities that result in a spider web.

But if animals, lacking the intelligence to know their ends, still act for some purpose, Aristotle thinks we can see that plants, more clearly lacking intelligence, also belong to that group of things that act for ends. We would hopefully accept, based on the above comparison between human craft and animal production, that an animal such as a swallow, makes what it does (e.g. a nest) for the sake of something. It seems, likewise, that a plant, which apparently grows leaves to shade the fruit and sends its roots down to get nutrients, acts for the sake of

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18 For example, I can imagine a man needing to gather and weave sticks like a bird if he wanted to make a nest.
19 Aristotle does not, nonetheless, attribute rational powers to animals, or to plants. Cynthia Freeland highlights that Aristotle’s notion of teleology does not require rationality. She sees the abilities of animals being sufficient to recognize and respond to what is good or bad for them. I would certainly agree with this. “Aristotle on Perception, Appetition, and Self-Motion,” in Self-motion, ed. M. Gill and J. Lennox (Princeton, NJ: Princeton University Press, 1994), 35-63. See especially p. 41-48 of this article.
Aristotle is explicitly including plant activity with animal activity as being for ends as he makes his case that all things that act by nature act for the sake of something.

Also, note that the end is manifesting itself in different ways in the animal and plant examples. The plant is not making something outside of itself, which the animal (swallow making a nest) is. In the plant example, the organization of the plant itself is directed towards its end. Surely this kind of organizational activity is found in animals, so we can understand Aristotle as seeing the organization of animals’ parts as being for ends, as well.

In the examples of the bird that builds by nature and the plant that grows roots by nature, the activities of both agents were done for the sake of the nature itself. The sparrow makes a nest so that it can live and reproduce as a sparrow. The protection of the fruit by leaves helps to ensure that the seeds of a plant are able to mature without being scorched. These activities allow the individuals to thrive as the types of things they are, as well as reproduce. So, not only is nature directed towards an end, the nature is both the end and the form by which the end is achieved.

Aristotle readily admits that not every end is achieved in every instance of a nature. Just as it is possible for a mason to improperly place a stone, so could a sparrow make a mistake building a nest or a plant develop misshapen leaves. And just as a mistake in building does not imply that there was no purpose at all for building (or some purpose for building other than a well-built structure), so the existence of a deformed plant should not be taken as evidence of a

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20 “Quare si naturaque faciunt et propter hoc yrundo nidum et aranea telam et plante folia gratia fructuum et radices non sursum sed deorsum causa vegetandi, manifestum est quod causa huiusmodi est in his que natura fiunt et sunt” (Arist. Phys., 87, [199’26-29]).
lack of ends. Both mislaid bricks and misshapen leaves point to a failure to attain the end, but the
failure is in the attempt to achieve it, not with the end, itself.\footnote{\textit{Peccatum autem fit et in his que sunt secundum artem ; scripsit enim non recte gramaticus, et potavit medicus non recte potionem ; quare manifestum est quod contingat esse et in his que sunt secundum naturam. Si igitur sunt quedam secundum artem in quibus quod recte fit propter aliquid fit, in quibus autem peccatur alcuibus quidem gratia esse argumentatur sed fallit, similiter utique et in phisicis, et monstra sunt peccata illius quod propter aliquid est} (Arist. \textit{Phys.}, 87-88, [199\textsuperscript{3}-199\textsuperscript{5}]).}

It is also possible for some activity to bring about some end outside of the purpose of the
activity itself. That is, an end could come about by chance. Even though what happens ‘always
or for the most part’ is \textit{always} for an end, what happens by chance or spontaneity can still be for
an end. Aristotle finds an example in human agency, where the means for achieving ends are
deliberated upon and chosen. He uses a scenario in which a ransom is paid by a visitor who did
not go out with the purpose of paying a ransom. Perhaps the person was planning to pay the
ransom later or perhaps the person did not know ahead of time that a ransom was demanded.
That does not matter. What matters is that such activity is not evidence that natures act only by
chance. The visitor who paid the ransom surely was stopping by for a different purpose, which
was the end of the visit and so was acting in accord with an end. That something else might have
come from it does not change that our man was acting for an end before chance led him to do
something else.

Of course, there is a significant difference between freely chosen production done by
humans and the productive activities of natural substances. When a man produces something, he
is aware of his purpose and deliberates on the means of achieving it before acting. Animals do
not inquire or deliberate before they act or produce. But because animals and plants do not deliberate does not mean that they do not act for the sake of something.

Aristotle maintains throughout that the activities of non-rational substances are comparable to skills in rational agents. In fact, he points out the limits of deliberation with regard to a skill. He says that in a rational agent, a skill does not deliberate. I understand this to mean that one who has a skill knows which steps to take to make a certain product. A person will deliberate on whether or not to use a skill that he has, but the end of the skill itself is fixed. So, as Aristotle says, if the skill to build a ship were somehow in wood itself, the wood would naturally shape itself into a ship by its own activity as it has no ability to choose to do otherwise. The lumber would have no awareness or power to deliberate on whether or not to make itself into a ship, but the built-in skill would have a built-in end that the wood would be acting for the sake of. So, if a skill, which does not deliberate, has a purpose and is directed towards an end in a particular way, so must nature, which manifests different ‘skills’ in different creatures, also be directed towards an end. All the steps in nature that regularly lead to some results are directed by nature towards the end (i.e. for the sake of itself) in the same way that what a skill does is directed towards the end of that skill.

22 But since they appear to act for the sake of something, and the most evident activity for the sake of something is human activity, which is based on knowledge of an end, it is no surprise that people wonder whether or not the lower animals have some sort of intelligence. “Maxime autem manifestum est in animalibus aliis, que neque arte neque quesitura neque deliberatura faciunt ; unde dubitant quidam utrum intellectu aut quodam alio operentur araneeque et formice et huiusmodi” (Arist. Phys., 86-87, [199a20-23]).
23 “Inconveniens autem est non opinari propter aliquid fieri, nisi videant movens deliberaturum. Et tamen ars non deliberat ; et namque si inesset in ligno navifactiva, similiter utique natura fecisset.” Arist. Phys., 90-91, [199b27-30]).
24 I refer one whose sensibilities are offended at the assertion that skill does not deliberate to David Sedley’s article, “Teleology, Aristotelian and Platonic” (in Being, Nature, and Life in Aristotle (Cambridge: Cambridge University Press, 2010), 5-29). He tries to distil the important point of what Aristotle means there. “[Aristotle’s]
Aristotle is confident that insofar as a skill has an end, so does nature. The purposiveness of the activity of nature is like the purposiveness of a doctor working on himself. A doctor who has the art of medicine has the skills to enable himself to become healthy. The built-in end of the art of medicine is health. If a doctor uses this skill on himself, he will be working towards his own health because that is what the end of medicine dictates. A doctor practicing medicine on himself (acting as both agent and patient) is implementing a skill he has, which, because of its end (to bring health to the patient) is now for the sake of himself. In a similar way, the parts of a plant develop for the sake of the plant. The sparrow builds a nest not by chance, but for a purpose, and not for just any purpose, but for the sake of itself as a sparrow. A nature is the principle of motion that works for the good of what has it. It directs the activities of what has it towards an end and that end is the thing’s nature itself.\footnote{Quare si in arte inest propter aliquid, et in natura inest. Maxime autem manifestum est, cum aliquis medicatus fuerit ipse se ipsum; huic enim comparatur natura (Arist. Phys., 91, [199\textsuperscript{b}30-33]).}

In *Physics* II, 8, Aristotle has addressed the presence of final causality in complex things, such as animals and plants. The pieces that come together to form a plant or animal must have come together for the sake of that plant or animal. Formation of such things is not explained by only those elements that come together. Also, the natural activities of such natural things once they are formed is for the sake of something. They are for the sake of the whole that has the nature that is acting.
It is clear that Aristotle does not accept a materialist reduction of animals and plants. He sees ends in their physical development and other activities that are best explained by their natures as animals and plants, not merely as collections of smaller parts. But how far does Aristotle’s account of teleology reach? Do non-self-movers such as rocks and the elements that go into complex wholes also have ends? Aristotle does not provide examples to support this in Ch. 8 and he does not address it in Ch. 9 of book II. But if we are to believe him that activities of nature are activities for ends, then even inanimate things, since they move and are moved in accord with their natures, are in motion for the sake of something. That is, they have their own final causes.

In *Physics* VIII, 4, Aristotle gives an account of the motion of inanimate things that indicates that final causality is indeed operative in their activities. In this chapter, Aristotle is explicitly arguing that what is in motion is moved by something else. He begins by distinguishing two different kinds of motion, accidental (*secundum accidens*) and of itself (*per se*). Here, Aristotle concerns himself with what moves and is moved in its own right (*per se*). He distinguishes two groups of things that move in their own right. One group is made of those that get their motion from themselves and one is made up of those that get their motion from something else. Self-motion, found in plants, animals, and the heavens, is natural; although

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26 A motion is caused or undergone by something ‘in its own right’ if the motion is not caused or undergone because the something is a part of something else or what caused it was a part of it. So, basically, when motion (done or suffered) is attributed to the whole, then that motion is done or undergone by the thing in its own right. But if some motion (done or suffered) is attributed to only a part, then it is accidental.

27 “Eorum autem que per se alia quidem a se ipso alia vero ab alio, et alia quidem natura alia autem violentia et extra naturam” (*Arist. Phys.*, 291, [254b13-14]).
things that move themselves naturally can be moved unnaturally by outside forces. There is no difficulty in distinguishing the mover and moved while observing the unnatural movement of self-movers. And while it is clear that motion comes from somewhere when a self-mover moves naturally, it is difficult to distinguish what is moved from what the mover is.

Aristotle’s desired conclusion (that what is in motion is moved by another) is most readily supported through consideration of unnatural movement, because unnatural movement clearly comes from outside of the thing that is in motion. This is true for not only the unnatural movement of self-movers but the unnatural movement of non-self-movers, as well. It is difficult to recognize the mover in the instances where things move by nature that cannot move themselves (more difficult than recognizing what moves a self-mover). Yet Aristotle’s discussion of this kind of motion is most helpful to us; it supports our case that final causality is operative in the motion of elements.

Aristotle exemplifies the unnatural movement of non-self-movers with the upward movement of earthly things and the downward movement of fire. Aristotle thinks it is clear that the motion of such things does not come from themselves. (Living things can move themselves.)

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29 “Quodque enim ipsum a se ipso movetur natura movetur, ut quodlibet animalium ; movetur enim animal ipsum a se ipso, quorumcumque autem principium in ipsis motus est, hec natura dicimus moveri ; unde animal quidem totum natura ipsum se ipsum movet, corpus autem secundum quod est corpus contingit et natura et extra naturam moveri ; differt autem secundumque qualem motum quod movetur eveniat et ex quali elemento constet” (*Arist. Phys.*, 291-292, [254b14-20]). For example, if someone were to pick up a dog so that it could not walk and then carry it to its destination, that would be unnatural movement that the dog would be undergoing.

20 Aristotle thinks it is best to see the whole mover as causing its own motion.

30 For example, in cases where a dog is picked up so that it may not walk, it is obvious that the dog (which is being moved), is in motion because of an outside cause. So, one can see that motion is caused by something other than what is moving in this case.

31 For example, if one were to throw a rock upwards, it is clear that its motion was caused by something outside of the rock.

32 “Et eorum que moventur ab alio alia quidem natura moventur alia autem extra naturam, extra naturam quidem ut terrena sursum et ignis deorsum” (*Arist. Phys.*, 292, [254b20-23]).
Rocks and fire cannot. Also, since rocks and fire are not made of heterogeneous parts, which are required for self-motion, they could not be self-movers.

Aristotle is quite clear that non-self-movers do move naturally, even though they do not move themselves. But I contend that if they do act by nature, they must be acting for an end. One can recognize this end by observing the motion of these natural things, (even though it comes from an external mover). So, if we want to see the ends of the elements, let us consider how such things are moved.

Just as Aristotle saw fit to distinguish natural movement (e.g. a rock moving downward or perhaps a dog walking) from unnatural movement (e.g. a rock moving upward or a dog being carried), Aristotle distinguishes natural and unnatural causes, as well in Book VIII, 4. Aristotle exemplifies the unnatural cause with a lever, which, as a rod or beam, could not of its own accord move something like a cauldron. But when someone puts it in the proper place and pushes it in the right way, it easily does so. Aristotle proposes something that is hot as his example of a natural cause. Because of what it is, it can warm the things around it that can be warmed.

Something is naturally moveable in a certain way when it has the potency of itself to move in a given way. But a rock has the potency to be thrown, as well as to drop; so Aristotle distinguishes potency for natural movement from potency for unnatural movement. This allows us to distinguish proper activities of inanimate things from violent activities. (i.e., we would say that a rock’s potency to be thrown is a potency for unnatural movement or violence, while its potency to fall is a potency for natural movement or its proper activity.) Since things such as
rocks and fire are non-self-moving, we are not concerned with finding a proper principle of motion within them, but a proper potency to receive a certain kind of motion.

Aristotle uses the example of knowing a science. A person who is learning but does not yet know a science is in potency to know the science, but in a remote potency. This potency to know can be distinguished from the potency to know a science in a person who has learned the science already, but is not thinking about it at the moment. The person who does not yet know the science cannot exercise knowledge of it until the teacher has taught him. After he has learned it, he can think about it so long as nothing prevents him from doing so.

Aristotle sees these two kinds of potencies active in inanimate bodies. What is cold is potentially fire. But what is cold does not become fire without first becoming warm. Just as the student does not know until he has received the science, so the thing that is potentially fire must receive warmth before it can become fire. The same with what is heavy and what is light. Air is generated from water. Water will not, of itself, move up through air (unless it is thrown into the air unnaturally). However, when water is turned into air (i.e. when heavy is made light), it will move to its proper place because of its natural tendency unless something stops it. But, again one can point out the two kinds of potency with regard to moving up. The liquid water is like the student who is in potency to know, but cannot know until he is taught. Water that is changed to air is like the student who has already been taught and is in potency to know, but who can still be hindered in his actual knowledge. (Perhaps one could distract him, preventing actualization of knowledge.) And, similarly, one could block the water-turned-air from rising, thus keeping it in potency to rise, although it is a different potency from the kind the liquid water has.
If one were to remove a distraction that was keeping a knowledgeable person from thinking, the removal would only be an accidental cause of knowledge. Likewise, removal of an obstruction blocking the upward motion of air or the downward motion of water is only an accidental cause of the air’s upwards motion or water’s downward motion.

The mover analogous to the teacher is the *per se* mover of water (a heavy body) that is in the air. So, heavy bodies such as water droplets do not move themselves down. The air is caused to condense and form water, which, being heavier than air, will fall unless it is prevented. The cause of the water falling is whatever made the air condense into water. What makes a heavy or light body is the proper cause of its motion up or down. Nothing is ‘pushing’ the rain towards the earth.

But it is not possible for rain to make itself (or to make more of itself, as animals and plants do). Water cannot make itself into air and air cannot condense itself into water. They are in potency to become those things but there must be something else that moves their potencies to acts. There must be an external efficient cause that acts in a parallel way to the teacher, making water that will fall to the ground, so long as nothing keeps it from falling. The efficient causality occurs before the water drops. It occurs when the water condenses.

In *Physics* VIII, 4, Aristotle is not directly discussing final causality in inanimate things. He discusses their natural movements as he explains that they must be moved by something. (In this case, as distinct from self-movers, the elements are moved by something that is different
from themselves in kind.) Their movement is clearly natural, so we are justified in looking for ends, which are found in what moves by nature.

So, for what sake is the natural activity of non-self-movers? The answer is the same as what is for self-movers; their motion is for their own sake. The movement of water through air to its proper place happens because water is naturally heavier than air and will move down through air when not obstructed.

So, we can return to the example used to object to the existence of purposes in nature at the beginning of Physics II, 8. Does the rain fall for the sake of nourishing or spoiling a crop? It does not. Rain has the nature of water. As rain, it naturally moves downward through the air. It moves to its proper place in the world; that is what its purpose is. Whether it would nourish or destroy as it makes contact with obstructions on its way down is accidental to its natural movement to its proper place. In fact, landing on the leaves of living plants or harvested corn keeps the rain from moving to its proper place, (temporarily) frustrating its end as water.

There is one last instance of natural movement where Aristotle sees evidence of final causality. As far as Aristotle can tell, the very heavens themselves move with regularity. They have their own natural movement, and so they must have ends. We observe them in a limited way, but it is apparent that the heavenly bodies move in repeating circular patterns. They do not

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33 Joseph Owens notes, “Though it is not made explicit in regard to nonliving bodies, where the vivid illustration of permanence through progeny is lacking, the overall teleology is apparent in the way they imitate circular motion by changing into one another until they complete the circle” (“Teleology of Nature in Aristotle,” The Monist, v.52, n.2, April, 1968, 167).

34 The regularity of rainy seasons, however, is not attributable to the water itself, but, ultimately, to the first efficient mover that is responsible for moving the elements of the earth.

35 “Vedemus autem preter uniuersi simplicem lationem, quam mouere dicimus primam substantiam et immobilem, alias lationes existentes planetarum sempiternas. Sempiternum enim et instabile circulare corpus ; ostensum est autem in Phisicus de hiis” (Arist. Metph., 260, [1073a29-33]).
reproduce and they do not stop moving, as we observe other natural things doing. But that gives no reason not to accept that the motions of heavenly bodies, as is the case with other natural movers, are for the sake of the heavenly bodies themselves.

In *Physics* VIII, 5, Aristotle concludes that there must be a first efficient mover. There must be some source of motion that keeps the cycles going that we observe. This mover is not seen, but surety of its existence comes as a result of scientific inquiry. Because everything that moves is moved by something else, there must be a first efficient mover that moves without, itself, being efficiently moved.\(^{36}\) This first efficient mover moves circularly and moves what it moves in a circular fashion.\(^{37}\) This mover’s end is to continue its motion, which moves everything else that is in motion. This includes those non-self-movers, which require such an external efficient cause. Inanimate things are moved by the first mover (a sphere) which moves things by locomotion. This first efficient mover, even though its activity is tied to the motion of the elements, does not move for the sake of the elements. (It does not move so that the elements might move.) It moves for its own sake, maintaining its cyclical motion because that is the most perfect motion possible.

But then is there any finality in the regularities of the changing seasons? Water has its own purpose (to drop to its proper place) and the first efficient mover has its own purpose (circular motion), but what about the regularity that is seen in the coming and going of the seasons? If we want to continue to hold that where there is regularity, there is nature, and where

\(^{36}\) I am not looking to delve deeply into his argumentation on this point. Aristotle does posit a first efficient mover, whether his case is sound or not

\(^{37}\) He argues that locomotion is the primary kind of motion (i.e. the kind of motion that befits the first mover) in *Physics* VIII, 7-9.
there is nature, there is finality, there needs to be some accounting for the regular coming and
going of the rainy season, which the nature of water does not explain and the first efficient cause
does not act for the sake of, even though it is a cause of the seasons in an important way (as the
ultimate efficient cause).

According to Aristotle, the first efficient mover is one of many efficient movers.
However, the first efficient mover moves other movers, causing their own circular motions to be
compounded with the motion of the first efficient mover. There are a number of these movers
moved by the first efficient mover and each other. The earth is affected by all of them. The
regularity of motion that we call “seasons” is the result of the compounding of all the motion
effected by the movers of the heavens and their movers. Just as the motion of the heavenly
bodies is for the sake of themselves, so is it for the seasons.

So, just as there are spheres moving the planets on their courses, there must be a sphere
that moves the elements. This sphere moves in a regular cyclical fashion. The results of its
motion are not as uniform as the results of the heavenly mover precisely because it is under the
influence of the movers above it (the heavenly movers). So, the efficient mover that condenses
water into rain is able to act with regularity because that is the sort of efficient mover it is (as we
can be sure of from experiential regularities of the seasons), but this regularity is, itself, affected
by the regularities of the other movers above it.

So, then, what is the final cause of the seasons? (By ‘seasons’, in this case we mean the
regularity of certain kinds of precipitation.) The final cause of whatever directly moves the
elements would be itself. The seasons change whether crops are planted or not. The rainy season
comes regardless of any need for rain. The movers of the elements move as cyclically as they are
able to do (as the heavenly bodies do), because circular motion is best. Seasonal weather changes
do not repeat with the same accuracy as the regularities of planetary motion, but this is because
of the influences on the movers of the elements from the movers above.

So, final causality factors into the movement of everything we observe moving with
regularity, from the elements, to plants, animals, and the heavenly bodies. Even the first
efficient mover, which is known through scientific inquiry, not direct experience, moves for the
sake of something.

1.4 Irreducibility of Final Causality in Aristotle

Having confidence that things move for the sake of something because they move with
regularity by nature, raises more questions than it answers. I will briefly address two such
questions in the next two sections. First, I will point out whether or not Aristotle held that ‘that
for the sake of which’ was its own cause. Then I will address just how a final cause causes.

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38 Friedrich Solmsen notes the independence which Aristotle attributes to nature in its activities for ends. “Nature is now capable of working toward ends and achieving them by making the best use of its material. In Aristotle’s biological studies it is always nature - and never mind – which is recited with such procedure. Aristotle has full confidence in its capacity” (Aristotle’s System of the Physical World (Ithaca, NY: Cornell University Press, 1960), 112).

39 But, again, to say that the first mover moves for the sake of something is not to say that the first mover is trying to bring about everything that occurs as a consequence of the first mover’s motion. Of course everything that happens is caused, but not everything that happens is the per se effect of an agent. (That is, not every effect is caused by a nature that is acting for the sake of said effect.) David Sedley, on the other hand, argues that there is evidence for a global nature, in addition to the individual natures addressed above. He bases his case on a text in the Physics (198’5-13) where he takes Aristotle to understand lucky or fortuituous events as the fulfillment of pre-existing goals, which, to be goals, much have per se causes. Hence there must be a nature that is behind these goals (Teleology, Aristotelian and Platonic, 18-21). At the very least, Aristotle’s texts do not require such a reading, and can be seen to not be arguing for a ‘global nature’ as the per se cause of what we would say was by luck. This is how I have read Aristotle. (Despite the difference between Sedley’s and my readings, I must admit that his reading of Aristotle puts him in esteemed company. Indeed, Avicenna, who argues for the per se direction of all results, bases his account on Aristotle’s Physics.)
Aristotle consistently includes final causality as one of the four primary causes in his account of motion. It is contested today as to whether or not Aristotle’s texts call for the reduction of final causality to any other kind of causality, but I do not find a good basis for reducing final causality to any other causes in Aristotle for two simple reasons.40

First, it is hard to accept that Aristotle would have given final causality the attention he did if a final cause was really another kind of cause (i.e. efficient or material) and not itself a principle. Aristotle is very clear that the final cause should be named and investigated along with the material, efficient, and formal causes when giving a causal explanation of something. Evidence is found in *Physics* II, 3. Here, Aristotle lays out four ways that one can answer the question, “Why?” when addressing natural change.41 In Chapter 7, he notes that one must

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41 “Uno quidem igitur modo causa dicitur ex quo fit aliquid cum insit, sicut es statue et argentum phiale et horum genera; alio autem species et paradigma, hoc autem est ratio ipsius quod aliquid erat esse et eius genera, ut eius que est diapason duod ad unum et omnio numerus, et partes in diffinitione. Amplius unde principium mutationis primum aut quietis, ut deliberans causa et pater filii et omnio faciens facti et cummutans commutati. Adhuc quemadmodum finis ; hec autem est cuius causa fit, ut ambulandi sanitas ; propter quid enim ambulat 7 Dicimus : << ut sanetur>>, et dicentes sic opinamur assignare causam” (*Arist. Phys.*, 56-57, [194b24-35]). Also, the importance of giving an explanation of the composition of animals in terms of final causality is stressed in the *Parts of Animals*, Bk I, Ch. 1. As Aristotle sees final causality operative in more than just animals, investigation of the final cause of animals is only one area of many where final causality should be investigated. His treatment in *Physics* addresses natural change more broadly.
investigate all four ways to give a proper explanation of change. Aristotle acknowledges that the formal, efficient, and material causes are usually given priority in causal explanations; however, final causality must not be left out.

I realize that distinguishing final causality, however many times Aristotle may do it, may not in itself convince us that the phenomena which final causality explains cannot be fully explained by other principles. If numerous references to texts where final causality is distinguished from the other causes are not convincing, a more strongly worded differentiation of final causality from the other causes should be. One is found in *Metaphysics* I, 7. As Aristotle distinguishes his approach to causal explanations from those that came before him, he points out that ‘the good’ is put forth as a cause by some; but it is put forth by his predecessors as an efficient cause, not as that for the sake of which something is (i.e. not as a final cause).

According to Aristotle, the good causes as that-for-the-sake-of which. He is not suggesting merely that the language of final causality is missing from his predecessors. Aristotle is not

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42 “Quod quidem igitur causa he et tot sint, manifestum est; quoniam autem cause quatuor sunt, de omnibus erit phisici cognoscere, et in omnes inducens propter quid demonstrabit phisice, materiam, speciem, moventem, et quod est cuius causa fit” (*Arist. Phys.*, 79, [198a21-25]). Rich Cameron and David Balme point this out, as well.
43 “Et penitus reddendum est propter quid, ut quoniam ex hoc est, necesse est hoc esse” (*Arist. Phys.*, 81, [198b5-6]).
44 “Cuius vero causa actus et transmutationes et motus modo quodam dicunt causam, ita uero non dicunt neque quod uere naturam est. Nam intellectum quidem dicentes aut amicitiam ut bonum quidem has ponunt causas; non tamen ut ‘gratia horum’ aut existens aut factum aliquid entium, sed ut ab his horum esse motus dicunt. Similiter autem et unum aut ens dicentes esse talem naturam substantie quidem ‘causam dicunt’ esse, non tamen huius causa aut esse aut fieri. Quare dicere et non dicere aliqualiter accidit eis bonum causam; non enim simpliciter sed secundum accidens dicunt” (*Arist. Metph.*, 30-31, [988b6-15]).
45 Rich Cameron highlights this text in his “The Ontology of Aristotle’s Final Cause.” Cameron’s article has been a guide for me as I articulate the non-irreducibility of final causality in Aristotle. He addresses attempts to reduce final causality to mental activity, the formal cause, the material cause, and the efficient cause, finding them all lacking. I am convinced by his argument overall. He does not claim his argumentation is an indubitable proof. He simply finds that there is much more straight-forward evidence to support this position, combined with scant evidence to support other positions, which seem to be dependent on attempts to ‘help’ Aristotle make sense to a modern reader. Unfortunately, he does not address difficulties that arise because of this position in Aristotle.
saying that it is merely helpful to describe the good as a final cause. Indeed, those who came before him were failing to name a particular kind of causality, thereby failing to give fully causal accounts.

These arguments do not offer a satisfactory explanation of final causality or of how one might come to accept final causality as a principle of motion. I mention these here to make it clear that I see no intention in Aristotle to explain what final causality is and then explain how it is really something else. It seems to me that Aristotle wants those who would reduce it to something else to recognize that it needs to be given proper attention itself. Final causality has its own explanation because a final cause is, itself, a principle and needs to be accounted for in order to provide a complete explanation of natural change.

1.5 How a Final Cause Causes in Aristotle

If one accepts that natural final causality is evident and irreducible for Aristotle, the next question to ask is how a final cause actually causes. How does such a principle cause and just what is happening or being caused when a natural final cause is doing what it does? In *Physics* II, 8, Aristotle does not explain these things. We know that a natural final cause is what activities of nature happen for the sake of. Aristotle pointed out that a thing’s final cause is one with its nature. In short, a final cause causes by directing a thing towards a certain goal, and it was already pointed out that the final cause of a natural thing is the nature itself. One might ask more precisely just how it directs and how that direction is different from the other kinds of causality that a nature expresses. In *Physics* II, 7, Aristotle claims that the efficient, formal, and final
causes of something often coincide with its nature. I will point out the way in which a nature is a final cause by distinguishing it as final cause from the other causes that coincide with a nature.

First, I will address the nature as efficient cause. Aristotle points out that the efficient cause can be the same in form as what is being caused. No individual can be its own efficient cause. And once a substance is brought into existence (with a particular nature), it cannot be caused further in an efficient way with regard to its nature. If a substance happens to be a plant or animal, it can be an efficient cause of other individuals of the same species (i.e. its offspring) when it reaches maturity. So, the efficient cause and the nature of what is being caused coincide when something with a particular nature produces something else with the same nature. The self-motion found in living natural movers (e.g. animals) is also explained in terms of efficient causality (providing now a second way to see natural agents as efficient causes). But Aristotle limited his characterization of efficient self-motion to self-locomotion. Natural agents are causes of their activities when they move themselves from one place to another, but Aristotle does not think that nature is the efficient cause of the agent’s natural characteristics. For example, nature is not the efficient cause of a self-moving individual’s natural growth and

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46 "Veniunt autem tres in unam multotiens ; que quidem enim aliquid est et que est cuius causa fit una est, que vero est unde est motus primum specie eadem est his" (Arist. Phys., 79-80, [198^25-27]).

47 An efficient cause of a substance is an external cause that brings a substance about. The sameness of form of an efficient cause and its effect refers to animals and plants being the same species as their offspring.

48 An efficient cause may be able to change a substance into a different substance, but once X exists as X, nothing else can bring about X’s existence as X. It is already done.

49 Since what brings about the condensation of air to water is not water, but an external mover, it is clear that the efficient cause of water and other such elements is not one in form with its effects. (i.e. It is not the same type of thing.)

development (e.g. digestion and circulation of blood) even though nature is their source.\textsuperscript{51}

Essentially, Aristotle does not see nature as a ‘cause’ distinct from the natural characteristics of a natural things. But those natural things that move themselves are not simply manifesting their natural characteristics. They are causes that can be distinguished, as causes, from the motion that they bring about (and which they are able to bring about because of their natural characteristics).

This distinction gives Aristotle the basis for distinguishing living things from non-living things through their ability to cause themselves to move.

If we accept the claim that living beings are capable of self-motion, we must note a problem that arises for Aristotle. Namely, if only living things are able to move themselves, what causal explanation should be given for the motion of non-living things, such as rocks, which begin to move downward when they are released from a height? Aristotle’s answer is that such non-self-movers do not cause themselves to move downward (as a bird might swoop down from a branch). Their natures are not efficient causes, putting them in motion. For non-self-movers, the nature is not efficient with regard to itself.\textsuperscript{52} Non-self-movers require an external efficient mover to actualize their potencies.\textsuperscript{53}

It is worth noting that this problem is not treated uniformly by his interpreters. Avicenna and Averroes take the un-Aristotelian position that nature is like an efficient cause in natural

\textsuperscript{51} Weisheipl brings the distinction between principle and cause to bear on his explanation. Digestion and circulation find their starting point in nature, which is their principle. Nature is “that from which anything flows”. Nature as a principle of natural characteristics is distinguished from nature as a cause, where a cause is taken as what produces some effect distinct from itself (“The Specter,” 103 – 104).

\textsuperscript{52} See Physics VIII, 4. Weisheipl says, “At no time does Aristotle consider the substantial nature itself to be the efficient cause of natural inanimate motion or rest, even though every nature is a principle of natural motion and rest” (“The Specter,” 103).

\textsuperscript{53} “Quod quidem igitur nichil horum ipsum moveat se ipsum, manifestum est ; sed motus habent principium, non movendi neque faciendi, sed patiendi” (Arist. Phys., 295-296, [255\textsuperscript{b}29-31]).
agents, giving efficiency a priority in the causal explanation of nature (and natural characteristics) that Aristotle did not. Their interpretations, in turn, open the door for Duns Scotus to characterize nature (wherever nature is found) as an efficient cause that is determined of itself, making room for the reduction of natural final causality into natural efficient causality.

While that is an indication of the reduction of natural final causality that is to come, let us return to Aristotle, for whom nature’s role as efficient cause is distinct from its role as final cause. For him, something is acting as an efficient cause only insofar as it acts as an external mover. With regard to itself, as a whole, nothing can be its own efficient cause. Each individual must be made by one (or two) before it.

Aristotle points out how a nature is formal in Physics II, 1. The form is the actualization of what a thing is. Aristotle asserts that what-a-thing-is is more fittingly called nature than the matter of a thing.\textsuperscript{54} Understood as form, as the reality of something that is grasped by the definition of the type of thing it is, nature is understood as the shape that something has, as it is. Aristotle distinguishes the nature-as-form from matter. As something has its form, it grows in accord with that form, not the matter that went into it. (E.g. Something with a human form will act like a human being, not like water, which every person is for the most part made up of.) So, the way something is actualized impacts the activities of motion and rest that come from it.

While nature, considered as form, directs one to consider what something is, nature considered as final cause, directs one to consider what that something, actualized in its particular

\textsuperscript{54} “Sicut enim ars dicitur quod est secundum artem et artificiosum, sic et natura quod secundum naturam dicitur et quod natura est; neque autem illud adhuc dicimus utique habere secundum artem nichil, si potentia tantum est lectulus, nondum autem habet speciem lectuli, neque esse artem, neque in his que natura subsistent ; potentia enim caro aut os neque habet adhuc sui ipsius naturam, priusquam accipiat speciem secundum rationem, qua diffinitiones dicimus quid est caro aut os, neque natura est” (Arist. Phys., 47-48) [193\textsuperscript{3}32-193\textsuperscript{3}3}).
way, is for the sake of. Insofar as a nature is responsible for what a substance will become (without hindrance), it is causing as final cause. Insofar as the nature guides the make-up of a substance and directs changes that it undergoes during growth into a mature instance of whatever kind of thing it is, the nature is exercising final causality, as none of those intermediate steps between initial formation and complete maturation can be explained unless there is an end for which they are done. The nature has the ‘conclusion’ (developed substance) in view as it goes through the ‘premises’ (steps along the way). These would not be steps of any kind if there was no end for the sake of which they were done. So, the final cause and the formal cause are understood differently and play different but intertwined roles in the activities of nature.

But then how does a final cause exist as final cause? To be a cause it must exist, and yet, it must not exist if it is also an unactualized goal. Allan Gotthelf asserts that for Aristotle a

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55 One can distinguish the ends of growth of the parts of natural things from the ends of the parts after the organism is completely formed. While sustained existence is different from development, the end is the same, a healthy individual, able to reproduce.

56 William Wallace notes the distinct formal, efficient, and final aspects found in a single nature, “But the form or soul is strictly speaking a formal cause, and so we have to be careful in labelling it an efficient cause. The reason for this is that the natural form does not produce any activity directly; rather it does so through the powers that, ontologically speaking, are its proper accidents. The form acts, but only through the natural powers with which it is endowed, and it is in this way that agency can be attributed to it. And when it acts in this way, it acts for ends that are consonant with its nature, and so can also be seen as a final cause” (“Is Finality Included in Aristotle’s Definition of Nature?,” Final Causality in Nature and Human Affairs, ed. Richard Hassing (Washington, DC: The Catholic University of America Press, 1997), 69).

57 An explanation through form without reference to finality does not pose the same problems. One can describe the form of an egg without reference to the chicken it will develop into. This would surely be an incomplete description, but it would still be evident, by looking at the egg, that it had some structure. But how could the chicken-to-be exist as a cause in the egg? Waterlow articulates the problem clearly, “This is perhaps the main difficulty surrounding the Aristotelian concept of ‘form’, which in a living thing at any rate is supposed somehow to comprise both efficient and final causes of the substance’s natural behaviour. How can what something is to be, which it necessarily is not yet, be what brings about the present process towards what is to be?” (Nature, Change, and Agency, 65).
natural final cause is an irreducible potency for form. He finds the most fruitful approach is seeing final causality as a response to reductionism in the explanation of living things.

Gotthelf finds support in *Generation of Animals*, where Aristotle points out that a person is not generated from fire alone, because fire cannot direct the formation of the different parts of man. Man must be generated from man. If there was nothing that had the form of man, it would not be possible for the human form to be transmitted to anything. One can distinguish the form of man from the forms of other things because the human form directs what it informs to become a grown man. The final cause that is one with the form is a special kind of potency because it is irreducible to other potencies.

This formulation is very attractive, but I see an important drawback to his position. Gotthelf limits final causality to human action and living things only, which does not do justice

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59 “The semen’s ‘motion’ is to be defined by its outcome: it is the fulfillment of the potential to generate an animal of a certain form or *logos*, qua potential; the form or *logos* is an inescapable part of its very definition.” Gotthelf, 1986, 217.
60 “If this is so, then the ‘potential’ which is manifested in the semen’s motion also is to be identified by reference to the form being transmitted: it is, essentially, a potential for form, a potential distinct from and not reducible to any sum of qualitative and locomotive potentials.” Gotthelf, 1986, 217.
61 Cameron argues that Gotthelf’s position is “paradigmatically reductionist” because it is an explanation through potency. Appeal to even a non-reducible potency must be seen as a reduction to matter in Aristotle (Cameron, 172-176). In the course of his reduction, Cameron sees Gotthelf as explaining teleology in non-teleological terms. He sees a problematic ambiguity with asserting that a final cause is potency for form as a potency for form could point to the end of a thing or it could point to a thing’s potential to be actualized in a different way from its end. “But here we have a slip: every potentiality is a potentiality for some actuality, but the ‘for’ in this employment carries no teleological connotations. ‘For’ is ambiguous between teleological and nonteleological uses. From the fact that a potentiality is the potentiality it is with reference to a specific actualization we can draw no conclusions about teleology” (Cameron, 175).

I would reply to the ‘ambiguity’ objection by agreeing that not all irreducible potencies for form should be taken as final causes. Insofar as we can distinguish what the excellence of an agent should be or is from an agent’s other possible actualization, we can recognize the potency in question here.
to the support Aristotle puts behind his conclusions in *Physics* II, 8 that what acts by nature acts for an end. I have taken Aristotle to mean that where there is order and regularity, there must be ends (i.e. final causes). But humans and animals exist in an order greater than themselves. The seasons change and the stars move with regularity. So, it must be that even the elements and the heavens move in accord with some end. Indeed, Aristotle’s counter example to the objection he presents in *Physics* II, 8 that rain falls by chance to ruin or nourish crops, cites the regularity of the seasons. Since the regularity of a rainy season each year is not by chance, it must be for an end. Gotthelf does not apply his language of final causality to the elements (non-living things), but living things only.  

Gotthelf’s account of final cause as irreducible potency requires that an attempt at reduction be possible where final causality is found. Of course, with the elements, there is no further reduction to consider. They are not complex and can neither be broken down further nor be given a reductive explanation based on constitutive parts. Setting up final causality as Aristotle’s response to material reductionism has kept Gotthelf from recognizing that Aristotle sees activity for ends in even the basic elements that are combined in complex things. The elements act according to their own natures, so they must have ends. An important issue for me, 

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To the objection that Gotthelf’s position is reductionist, I can only re-affirm what Cameron holds in his conclusion, that the final cause in Aristotle must have its own causal power, but that accepting this, “raises a host of problems and questions” (176). It is quite difficult to describe just how a possible future actualization can be a cause for Aristotle. I would concede that Gotthelf’s account is not perfect, but it does a good job of turning the mind toward what such a cause might have had to look like for Aristotle.

62 “In almost every passage in which Aristotle introduces, discusses, or argues for the existence of final causality, his attention is focused on the generation and development of a living organism. In line with this, then, we ought to direct our attention to organic development and ask...: what, precisely, does Aristotle mean when he asserts that the coming-to-be (or any stage in the coming-to-be) of a living organism is *for the sake of* the mature, functioning organism which results?” (Gotthelf, “Aristotle’s Conception,” (229-30). According to Gotthelf, the elements are determined to move (234-35), but he does not categorize such determination as an irreducible potency for form.
as one who wants to adopt Gotthelf’s understanding of Aristotelian final causality and expand its scope, is whether or not the irreducible potential account breaks down when extended to those non-self-movers that cannot be broken down into parts.

I have already asserted that for Aristotle final causality is not limited to plants and animals. We can ask why rain falls and fire rises and why there are seasons. If Gotthelf’s account of Aristotle is correct, we cannot have a complete causal account of these things, at least not in terms of final causality. But it is clear that Aristotle thought he could give an answer.

The spheres have the potency to not move cyclically. Of course, they do not stop. They are always moving as perfectly as they can. The end is achieved and continues to be achieved with every cycle they travel. One might contend that the spheres have no final cause because they have no potency (since they are always doing everything they can). However, if the spheres are in potency to cease cyclical movement, even though they continue, they naturally have a potency for cyclical movement that is being continually actualized.

The regularities of planetary and seasonal change can be seen year after year. Despite this, it is difficult to ascribe final causality to them. Water and earth are not self-movers. They move as they are moved by external movers; so the regularity of motion of earth and water comes from the regularity of the spheres’ motions. This does not mean that an element, such as water, does not have its own end, even though it is efficiently caused by something different in species from itself and cannot be explained with a reductionistic account. I agree with Gotthelf

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63 In *Physics* II, 5, Aristotle argues that the first efficient mover is not moved by anything outside itself and is immoveable. He notes in the second half of the chapter that any true self-mover has to have a part that moves and a part that is moved. If one part is moved by another, it is possible for that one part not to be moved by the other, even if, in fact, it is always moved. The spheres are self-movers, so their circular self-motion is in potency for stopping.
that a final cause for Aristotle is an irreducible potency, but it will be a potency even in the elements. The potency for elements to be in their places are the final causes of the elements. Such a final cause is a potency for an accidental change and might seem trivial; but it is not. The potency that water has, to go from being light to being heavy, is the potency of water that is its final cause. One would grant that the end of a chick is development into a mature chicken because a chick has an irreducible potency to be a mature chicken. That change from chick to mature chicken is accidental, as well. (I grant that they differ greatly in complexity.) The elements have their own forms with their own potencies for form that can be explained only by what they are, even though these potencies are actualized by outside movers.

1.6 First Mover as Final Cause in Aristotle

An apparent difficulty for this position arises, however, when one introduces Aristotle’s argumentation regarding the first mover in *Metaphysics*, XII. Here Aristotle argues that there must be a first mover in perfect motion that causes the rest of the world as a final cause. Of course, an account of natural final causality as natural potency would appear woefully inadequate and quite misguided if the primary instance and model of final causality was this first mover, existing separately from all that it moves and being always complete, regardless of the motion it caused as a final cause. Needless to say, I do not think Aristotle posits the first mover as a starting point for the discussion of final causality (and the model of final causality), but as a conclusion of his inquiry up to that point.

In *Metaphysics* XII, 6, Aristotle argues that there must be a first cause of what exists. The cycles of generation and corruption that Aristotle observes in living and non-living things must
be brought about somehow. Only a partial explanation can be found in *Physics*. Heavenly bodies, through the interaction of their regular cyclical motions, cause a variety of changes on the earth. The circularity of heavenly motion and the apparent concatenation of the motion of heavenly spheres with each other is sufficient to account for the varieties of motion we observe. The question that Aristotle wants to address here is, why does this variety of cycles keep repeating? The observable perpetuity (i.e. the regularity) of the regularities we observe is not explained by the source of variety (efficient movers).

The perpetual cycles of generation and corruption that we observe must be caused by both what is acting with variety and what is acting eternally. Aristotle thinks that the heavenly bodies are eternal, but he holds that their eternal motion is caused by something other than themselves. This ‘something else’ is a first mover, existing separately from the efficient movers in the heavens. Aristotle argues that there must be such a first cause of eternal movement that is pure act, or else nothing else could exist. This first mover must be in unchanging activity so that it can cause the regularity of those things below which act in different ways (which a cycle of change requires). This first mover is posited as the cause of eternal movement.

This first mover could not be the first efficient mover of the *Physics* and the cause of eternal motion, as well. The heavens, although they have no outside cause that brought them into being (i.e. no efficient cause of their being), are still in potency to not move. Even though they move as perfectly as they are able, they are not completely perfect. The first mover here (i.e. the

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64 "Si itaque idem semper periodo, oportet aliquid semper manere similiter agens. Si autem debeat fore generatio et corruptio, aliquid oportet agens esse aliter et aliter" (*Arist. Metph.*, 256, [1072\(a\) 9-12]).

65 If the first mover had potency, it could not act. If it could not act, then it could not exist. If the first mover could not exist, nothing could have existed. Cf. *Metaphysics* XII, 6, 1071\(b\) 20.
cause of eternal motion) must be completely perfect and not in potency at all. It cannot be otherwise in any way, and must not be in potency to be less than it is. Aristotle’s description of the activity of the first mover is not merely the description of yet another instance of motion in the world. He is describing what must be the source of all of it. This is the non-efficient eternal and perfect cause that all moving things imitate. For Aristotle this perfect cause causes as an end.

However, Aristotle distinguishes two kinds of ends in *Metaphysics* XII, 7. “That that for the sake of which is found among the unmovables is shown by making a distinction; for that for the sake of which is both that *for* which and that *towards* which, and of these the one is unmovable and the other is not. Thus it produces motion by being loved, and it moves the other moving things.” The first kind (“for which”) is what we have understood natural final causality to be up to this point; it is something not yet existing that is to be brought about. For example, a tadpole exists for the sake of becoming a frog. Ends that cause like this are final causes understood as irreducible natural potencies.

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66 It is active as good, and will have as much a chance of being otherwise as goodness has of including ‘imperfection’ in its definition.

67 “Quare sempiternum utique erit primum celum. Est igitur aliquid et quod mouet. Quoniam autem quod mouetur et mouens et medium, igitur est aliquid quod non motum mouet, sempiternum et substantia et actus ens. Mouet autem sic appetibile et intelligibile; mouent non mota. Horum autem prima eadem” (*Arist. Metph.*, 256-57, [1072a23-28]). This first mover is the final cause of all things. Yet, strangely enough, discussion of the final causal power of the first mover does not factor into his account of finality in natural substances in the *Physics* or *Parts of Animals*. This does not need to be problematic. In those two works, Aristotle was giving an account of ends in nature as was apparent to him. He was asking if nature acts for an end and what that end is. So, in *Parts of Animals*, he was noting the order of the different parts of animals and that they fit together for a purpose. In *Physics*, Aristotle is discussing the activities of nature more generally and noting that final causality is operating wherever nature is operating. In *Metaphysics*, XII, Aristotle is considering being as being, and so is addressing the source of all regularities in those things that have them. It is a different question: Why does nature act for an end?

The first mover is an end of the other type. This means that the first mover, as a final cause, moves by being loved. It does not push anything. Instead, it is a cause of motion of the spheres insofar as they love the first mover and move themselves to be like the first mover. The heavens are moved as by the object of thought or the object of desire (i.e. truth & goodness, respectively), which move without being moved.Positing the first mover as this kind of end seems to be the only way to have a mover that is unaffected by what it causes.

The first mover will need to be this way because it must have the perfection that everything else is imitating. Nonetheless, this is an indirect way for the world to be caused by the first mover and an unconventional way for the first cause to be the first cause.

The first mover is the ultimate source of the final causality that seems to be pervading all natural things, not just the heavens. With the first mover, Aristotle is providing a source of the regularity across many natural things. The first mover must exist as what all final causes are trying to imitate in their continual natural cycles of growth and decay. Aristotle saw an order among natural final causes that called for its own explanation. He saw the continuing cyclical patterns in the natural activities of animals, plants, and non-living things. The cycles of non-

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69 Cf. Lloyd Gerson, “Causality, Univocity, and First Philosophy in Metaphysics ii,” Ancient Philosophy 11, 1991, 331-349. Gerson argues that the first cause for Aristotle cannot be an efficient cause because it would diminish its position as the primary example of being (i.e. as an independent, separate form).

70 Joseph Owens sees the final causality of the first cause as an improvement on the Platonic explanation of being through participation. Owens thinks that, through his account of the first mover as a final cause, Aristotle incorporates change or ‘becoming’ and ‘non-being’ into his explanation of existence. (It is not something outside of being, but a part of each natural agent’s attempts to be like the most perfect thing. Even if the final causality of the first mover seems strange, it is not unimportant.) “Final causality accomplishes what participation or any other Platonic explanation was unable to do. The sensible thing, in striving after the permanence of separate Entity, imitates and expresses the permanence, the being of the separate Entities themselves. That is the Being which is derived to sensible things. That is the Being which they express, and which is expressed even by ‘becoming’ and ‘not-Being’” (The Doctrine of Being in the Aristotelian Metaphysics, 2nd edition (Toronto: Pontifical Institute of Mediaeval Studies, 1963), 464).
living and living appear to be similar, if only in that they perpetually move with regularity and order. The directedness of all natural things must itself be directed by something that is ordered towards nothing else. This is the metaphysical requirement that the first mover satisfies.

When an end acts as a final cause ‘towards which,’ the end already exits. As was mentioned above, there is a desire in the one who is not perfect that way to imitate it. It is a desire for something outside of the one desiring. The one desiring has an existing model to follow or imitate.

One can ask, however, whether this divine final causality (towards which) or internal biological finality (for which) is the primary instance and proper model of final causality. It is clear that the first mover of *Metaphysics*, XII is the most important and most perfect being. And so the first mover should be taken as the most important instance of final causality, being the ultimate cause of all natural activities. However, since the first mover is most perfect, it is difficult to identify the final causal activity of an external first mover with “final causation as potential in nature.”

That being said, it seems to me that ‘for which’ (biological) finality is the primary model. The first mover is Aristotle’s active version of Plato’s form of the good. It is what all things imitate, insofar as they are able, as limited by their natures. The first mover is active and primary, but as a final cause it is evident only because there is a consistent push for continuous existence in the natural things Aristotle sees. All of these natural things, with their own particular limitations, in trying to survive and reproduce (or just find their place in relation to the other components of the earth), are making a consistent larger pattern of purposiveness evident that must have some source. This source must be simple enough to account for all purposive activity
and it must, indeed, exist. Just how exactly it causes as a final cause is not clarified in a satisfactory way. It appears to me, though, that the final causal activity of the first mover is best taken as analogous to the final causal activity that is observed in natural things. So, it should not be alarming that Aristotle’s biological model of final causality breaks down when he comes to divine finality. It makes sense that he would need to use special terminology when discussing the first cause, which is outside of experience, but not outside of our knowledge.

That he would use final causality and not efficient causality to characterize the causal power of the first mover also makes sense. The natural desires that are present in so many things and seem to direct all these different things to grow, survive, and reproduce must have a source in something that is, itself, perfect and eternal. This perfect being (which is the ultimate cause of growth, survival, and reproduction) would not be an efficient cause itself, or else it would be less than completely perfect. (It would be in potency to make something or stop making something.) As a final cause only, moving other things by being desired by them, the first mover has no such limitations.

As the conclusion of his scientific inquiry into being, knowledge of the existence and causal power of a first final cause is both a solution and a puzzle. Aristotle is sure that such a first being must exist or else the perpetual regularities in the world could not be fully explained. But as he is reaching the limits of what he can recognize in just pointing this being out, he needs to limit the speculative claims he makes on just how this being does what it does, even though he can recognize that it must cause in its own special way.
1.7 Aristotle: Conclusion

Aristotle recognizes activity for ends in all natural agents and finds a corresponding principle of that direction even in natural agents that do not have reason. Such principles can be recognized through natural regularity. I agree with Allan Gotthelf that this principle must be an irreducible potency for form in natural agents.

His cosmological and metaphysical considerations lead him to conclude that there is a first cause of the world that causes as a final cause. This cause moves everything in the world to try to imitate it, but does not change as it causes, since it causes as an object that is loved, not as an efficient (i.e. pushing) cause. This first final cause cannot cause in the same way that a natural end is a final cause in a nature.

At this point it is important to note an important problem that comes from Aristotle’s position that will help us better consider what later thinkers who take up final causality through Aristotle’s Physics are struggling with. First, based on how the first final cause causes, a final cause can cause without acting of itself on an object. The first mover, which is a cause of the world without acting on the world, should seem like a strange sort of being even to Aristotelians. One agent’s activity on another typically manifests itself through the efficient causality that comes from an agent’s motion affecting some patient. Aristotle’s medieval interpreters will gladly accept the existence of a most perfect mover that all are imitating, but they will explain the causality of the first final cause as bringing about effects outside of its own perfect motion. The first final cause will be seen to cause as an efficient cause, which will affect subsequent conceptions of final causality in nature.
1.8 Avicenna: Introduction

The first important thinker who affected the medieval Parisians’ doctrines of natural final causality was Avicenna. His treatment of finality in two locations of his *Sufficientia* (*The Healing*) provides a suitable account of his own doctrine of natural final causality, as influenced by Aristotle. While he is not commenting directly on Aristotle’s texts, Avicenna’s treatment of chance and finality in Chapters 13 and 14 of his *Tractatus primus de causis et principiis naturalium* (*Physics*) follows the discussion of chance and finality in Bk II of Aristotle’s *Physics*. Likewise, Avicenna’s treatment of the first cause as a final cause in his *Philosophia Prima* (*Metaphysics*), Book VI, Ch. 5, describes a cause whose activity as first final cause can be compared with that of the first mover in Aristotle’s *Metaphysics*.

Like Aristotle, Avicenna recognizes that nature acts for the sake of ends. But Avicenna sees *all* that happens in the world as being for the sake of something, since all is ultimately brought about by necessary causes. (Aristotle, on the other hand, affirms that all natural activities are done for the sake of something, but does not think that all that happens in nature should be said to be for the sake of something. Aristotle left room for chance in the unplanned interactions of natural agents acting for their own ends.) Avicenna does not leave room for chance as Aristotle did. He sees all results as necessary, even those that other people attribute to chance.

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71 Abbreviated as *L. prim. nat.* when cited.
72 Abbreviated as *L. de phil. prima*. When cited.
73 Friedrich Solmsen notes that Aristotle’s placement of chance in his physics as accidental, not essential, allows him to keep discussion of results that do not appear to be for the sake of ends without having to posit causes of such results that are not acting for the sake of ends. “Aristotle can absorb ‘chance’ into his system, yet the ‘accidental’ can surely never become a mainstay of it nor can it form a valid principle of physical explanation. The causes which Aristotle’s physics seeks to determine must be in the nature (physis) of things. ... In the place where [chance] has come to rest it can do no harm” (*Aristotle’s Physical World*, 106-107).
We will begin by laying out Avicenna’s doctrine of natural final causality from his *Physics*. We will consider his evidence for the recognition of natural final causality. His arguments have a lot in common with Aristotle’s. Like Aristotle, Avicenna argues that natural final causality is present in the things around us because chance (which gets a detailed treatment in chapter 13 of his *Physics*) and matter cannot fully account for the regularities of nature. And, following Aristotle, Avicenna points out that even though non-rational natural agents cannot understand the ends they act for the sake of, the similarities between non-rational natural agency and rational human agency (which is done with understanding of the end) support his position. That is, rational agents act for their own sakes (i.e. for the good of the whole self) and non-rational agents appear to do the same. Since rational activity for the sake of oneself is end-driven activity, so must non-rational activity for the sake of the self be end-driven. Indeed, Avicenna finds that all natural things act for an end.

His position as a determinist is bolstered through his discussion of chance and finality. This is evident in the close relationship he sees between finality and efficiency. As far as Avicenna is concerned, whatever effect results from an efficient cause is, ultimately, the final cause of that efficient cause. Whatever motion takes place happens for the sake of something since all that happens is by nature, and thus, by necessity, even if what happens is unexpected from our point of view.

Even though Avicenna emphasizes the priority of rational intentions as the paradigmatic instance of final causality in his *Metaphysics*, he retains a position on the causal power of final
causes in natural things that is similar to Aristotle’s (i.e. irreducible potency for form). However, final causality is closely allied with efficient causality (not just nature), becoming a cause of determination for an efficient cause. He provides an account of the causality of a final cause that can be applied to all instances of final causality, whether natural or divine. Additionally, the close complementary relationship he sees between final causality and efficient causality does not allow the reduction of finality to efficiency.

Finally, we will see that the first final cause must also be an efficient cause. Avicenna’s notion of efficient causality is not the same as Aristotle’s, which keeps the attribution of efficient causality (which must come with final causality) to the first being from being tantamount to the attribution of imperfection. More importantly, it provides a way to talk about God as final cause without having to posit a strange kind of causality that has no object.

1.9 Recognizability of Natural Final Causality in Avicenna

As far as Avicenna is concerned, we can recognize natural finality using natural reason. In chapters 13 and 14 of his *Tractatus Primus (Physics)*, Avicenna distinguishes chance from finality and argues that we can see final causality in all natural things. Avicenna is clearly supporting his position with Aristotle’s *Physics*, but we will see that his attribution of finality to *all* that happens in nature goes beyond Aristotle’s position, which made room for chance in the interaction of natural agents. In chapter 13 Avicenna is primarily concerned with describing chance and laying out whether or not it is a cause. Examining his arguments here regarding the

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74 It might be better labeled an irreducible potency for ‘existence’ since we will see that the final cause already has a reality/ ‘thing-ness’, but lacks existence, yet the built-in irreducibility to exist as a certain kind of thing is there.
causal power of chance allows us to see the extent to which chance can be a cause of any particular action. It also becomes clear that chance is not a cause on the level of the whole world (where we find numerous agents’ activities bringing about what appear to be unified effects). We also begin to see his understanding of final causes as intention-like, which will be considered in more detail where I address the causality of the final cause for Avicenna.

In chapter 13 of his *Physics*, Avicenna addresses a position that denies the causality of both chance and finality, and affirms that an explanation through efficient causality is sufficient to explain the unexpected activities of both rational and non-rational agents.\(^75\) Avicenna begins his response by distinguishing what is by chance from what is by necessity (which will be identified with finality) and introducing nature as the source of necessity. Essentially, he posits that there are some things that are not said to be by chance. Such things are necessary. These things happen always or for the most part and we recognize that these things must have some cause of their regularity. They come from nature. So, what is not by chance is necessary and, thus, comes from natural activity. Clearly, these arguments follow Aristotelian, but, again, Avicenna’s conclusions about the necessity of all that happens in nature is not found in Aristotle.

Avicenna, under the influence of Aristotle’s *Physics*, asserts that those things that always happen (*semper*) are natural activities that are never obstructed. What usually happens (*saepe*) are natural activities that can be obstructed. But if the obstructions are removed, what happened

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\(^75\) The argument is, essentially, that neither chance nor finality are needed for an explanation because anything can be explained in terms of the efficient causes that brought them about. The efficient causes are what brought about what happened, so they explain “Why?” There is simply no need for any other explanation. It does not matter whether one is talking about an eclipse or a person unexpectedly meeting a debtor in the market and doing business with him. The efficient causes explain what happens.
‘usually’ would happen always. Even what is willed by voluntary agents can be viewed as necessary. If a will is steady and perfect and the body is not obstructed or prevented from following the will, the willing is necessary.

These things, which are by necessity (because of nature), are not thought to be ‘by chance’ because of the regularity with which they act or occur. But what about rare occurrences and acts of free will that do not come from a steady disposition? Does a philosopher need to appeal to chance to explain such occurrences? Does he need to posit a proper cause of ‘rarity’? Avicenna thinks not. He points out that it is useful to say that what is unexpected happens by fate or by chance, but it is important to recognize that chance does not cause something like an eclipse of the moon. An eclipse of the moon, while rare, can be traced to the natural (necessary) motion of the heavenly bodies. Chance is not the cause of rare occurrences. The causes of rare events are natural causes.

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76 “Unde sequitur ut quod est saepe, condicione removendi contraria et prohibentia, fiat necessarium. Et hoc in < rebus > naturalibus manifestum est” (Avicenna, L. prim. nat., 111).
77 “Et in rebus voluntariis, quia voluntas, cum firma fuerit et perfecta et membra fuerint apta motui et oboedientia, et non fuerit ibi causa quae prohibeat nec causa quae minuat velle, et fuerit illud quod appetitur possibile ut ad illud perveniatur, tunc clarum est impossible esse non pervenire ad illud” (Avicenna, L. prim. nat., 111).
78 “Et declarabimus iudicium huius sententiae paucis verbis, hoc est, quia una et eadem res aliquando ex uno respectu est saepe, sed necessaria, et alio respectu est utrumlibet, sed rare ; quando perfecte considerata fuerit et assignatae fuerint omnes eius dispositiones, fiet necessaria” (Avicenna, L. prim. nat., 112). Catarina Belo, whose Chance and Determinism in Avicenna and Averroes (Leiden: E. J. Brill, 2007) provides helpful analysis, notes that, for Avicenna, “chance is an accidental final cause and happens only when the outcome is unexpected” (33). Rare occurrences are supposed to happen when they happen since the causes that lead to the rare results necessarily lead to them. The results are the end.
79 “Ad summam autem, cum res fuerit in se nec sperata nec formidata, quia non est semper nec saepe, tunc est conveniens dicere quod causa quae ducit ad esse sit casus vel fatum. Et hoc fit cum possibile est ex ea evenire quod non solet ex ea evenire nec semper nec saepe; sed, cum non potuerit ex ea evenire nec debuerit esse ex illa, sicut ex praeasentia alicuius eclipsis lunaee, tunc non debet dici quod praeasentia illius casus accidit ut esset causa eclipsis lunaee, sed potest dici quod casu accidit ut essent simul. Ergo praeasentia illius non erit causa eclipsis lunaee, sed causa accidentaliter essendi praeasentem eclipsi, quia esse simul cum eclipsi non est eclipsis” (Avicenna, L. prim. nat., 114).
But in the same breath with which he denies that chance is the proper cause of rare events, Avicenna finds that chance can be the accidental cause of a person’s experience of a given eclipse (and of whatever effects might accrue to an eclipse by being watched, which I do not believe is a fruitful line of inquiry). While all activities that lead to the occurrence of any eclipse can be traced to natural sources, there is nothing left for chance to do than to explain what is simply unexpected insofar as it was unexpected (nec sperata nec formidata) by someone. For Avicenna, chance would be an accidental cause of one’s experience of an eclipse (or the accidental cause of the simultaneity of the eclipse and the one watching the eclipse) if the watcher was not planning on seeing it. But, again, chance did not bring about the eclipse. It is not right to say that the event, itself, was by chance, since its causes are ultimately necessary. And chance did not bring the eclipse-watcher to look at the heavens. So, when one says that chance is the cause of an event, one is essentially saying that their experience of the event was not anticipated.

Chance events, themselves, are causes insofar as they are efficient causes of someone’s awareness of an unexpected event. While every attribution of chance is an expression of ignorance of what was about to be caused, every experience of an unexpected event is an

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80 See the last sentence of the above note.
81 He notes further ahead in Ch. 14 that the end (finis) is affected by what is expected (which is affected by what is known). If a man goes to the market expecting to find his debtor, he does not say they met by chance when they cross paths. “Nonne enim vides quod positio in uno facit rem saepius, in alio, raro, quia qui suspicatur quod suus debitor in via est, in exit ad illum capiendum, unde hoc sic est saepe capit” (Avicenna, L. prim. nat., 121). We should not let our own surprise keep us from grasping the regularity and necessity of worldly motion.
82 After all, the one who experiences something as a chance occurrence lacks the knowledge of what was going to necessarily happen. When a person encounters what was not expected, the event causes the awareness of itself in the one who was not expecting it. This awareness does not bring about the event, of course.
opportunity for awareness of some effect that was not anticipated. In other words, even though the attribution of chance stems from ignorance, an unexpected (chance) event is an accidental cause of awareness in the one who acts for the sake of something. Essentially, people say things are by chance that they did not expect. If they had expected those same things to happen when they did, they would not say they happened by chance. Chance can be given the role of cause, but it is the cause only of awareness of events that were previously unexpected.

Avicenna’s important point here is that even what is said to be by chance is actually for the sake of something, since what happens by chance happens by necessity. Since a nature will act in its particular way (i.e. a necessary way) if there is no obstruction, Avicenna has no difficulty ascribing finality (a goal driven quality) to natural activity. In other words, natural activity, in its necessity, is for an end. What is done by necessity must have some end built-in, otherwise there could be nothing necessary about it. Because of this, Avicenna finds it sufficient to argue for a necessity-filled world to satisfy objections to an end-filled world.

In sum, Avicenna is saying in chapter 13 of his Physics that chance is the essential cause of nothing. Everything, even rare or unexpected occurrences can be traced back to necessary (natural) causes that are either acting or else being hindered by other necessary causes. Chance is a cause, but only accidentally and insofar as an event that happened that was unexpected is the cause of knowledge in the ones who did not expect the given event to happen. The way chance occurrences affect those experiencing them makes it clear that what is ‘by chance’ is what is not expected. But if what is expected is caused by something necessary or natural, what is not

83 “Unde manifestum est ex hoc quod causae casuales sunt cum sunt propter aliquid, sed sunt causae efficiences eorum per accidens” (Avicenna, L. prim. nat., 115).
expected must also be caused by what is necessary or natural. What happens always or for the
most part (i.e. what is natural), according to Avicenna, is for an end.

In Chapter 14, Avicenna uses additional examples from Aristotle’s Physics II, 8, and
introduces an important one of his own to show that there are final causes in even complex
wholes, i.e. complex wholes have their own natures. In chapter 13 Avicenna argues that
everything is determined. But even an atomist might agree and assert that this necessity is only
on the atomic level; the only ends in the world are found in the activities of the smallest particles,
no matter what is comprised of them. In Ch. 14, Avicenna argues against such an atomistic
position. He makes his case that the complex wholes in the world have their own proper ends. As
with Ch. 13, his arguments against material reduction and in support of proper ends in complex
natural wholes follow Aristotle, but Avicenna continues to make assertions beyond Aristotle
insofar as he continues to argue that all that happens in nature is determined.

Avicenna considers three atomistic objections and responds to all three. The first two are
set up as coming from Democritus and Empedocles, who would posit that the world came about
by chance. Of course such a position is a far cry from Avicenna’s, which sees something that is
said to be ‘by chance’ as something unexpected, not as somehow brought about by chance. If the
world had come about by chance, there would certainly be no finality in the complex wholes that
we experience. These would be merely complex groupings of atoms with no nature or ends in
themselves. They would simply have happened to be joined as they were; nothing more need be
said.

The first objection sees a simple atomistic reduction of the world. According to
Avicenna, Democritus would assert that the atoms move and join with each other by chance and
do not comprise anything greater than merely a collection of atoms, which can be dispersed and recombined in different ways. The atoms always move merely as atoms, not as parts of some greater whole. Combinations of atoms are by chance and not for the sake of anything.\textsuperscript{84}

Even as he lays out the objection, Avicenna points out that, if the atoms can be combined in many different ways, there must be some explanation for what holds them together in the particular way that they are held together, especially if the atoms themselves are indifferent to which combinations they find themselves in. If it does not matter to the atoms that there are recurring stable configurations of atoms, there must be something else to which it does matter.

His longer response to this first formulation elaborates on this preliminary reply. Essentially he argues that the form of a complex thing dictates its end. If complex wholes are nothing more than the results of the motion of smaller bodies Avicenna wonders what directs things like wheat and barley to grow as they do, which happens in the same way always or for the most part.\textsuperscript{85} Such natural complex things are not simply the results of the motion of less complex matter. They act because they are directed towards something, as complex natural things. What a complex natural thing strives for and achieves always or for the most part, barring

\textsuperscript{84}“Quamvis corpora de quibus dicit et videt quod sunt dura et convenientia in substantia, sed diversa in figuris, et videt quod sunt mobilia ex seipsa per inane quae, cum coniunguntur sibi et contingunt se, sed secundum impsum, non est aliquid, vis neque forma, nisi figura tantum, coniunctio eorum et figurae eorum non consolidant ea inter se quin possibile sit illa dispergi, ita ut semper sint in suo motu quem habent ex seipsis: debent ergo ex sua essentia semper illa moveri et dividi, ita ut non maneat in eis continuatio” (Avicenna, \textit{L. prim. nat.}, 122).

\textsuperscript{85}“Conversa est res scilicet quod necessitas noviter advenit materiae ex formatore qui attribuit ei illam formam et movet eam ad illam formam: ille etenim semper aut saepe hoc facit” (Avicenna, \textit{L. prim. nat.}, 127).
impediments, is its natural end.\textsuperscript{86} Avicenna sees regularity and necessity on the complex level. There must be nature aiming at an end on that level.

Complex natural things grow differently from each other not primarily because of the less complex things they are made of, but because the complex things themselves have different natures and, so, different powers. While matter is important, it is not what directs a seed to do what it does. The seed itself has the power to grow into what develops. The seed appropriates the matter and puts it where it is needed. Matter has a different nature when it is a part of a plant than when it is on its own. The matter that goes into a plant (or complex natural thing) is informed by what it goes into. If it were not limited by such a form, matter would simply move to its natural position, depending on its heaviness. And as we can see when a plant dies, the matter does not continue to act as a plant, but breaks down and acts again as matter. Complex things act with their own forms. Matter is not simply lumped together; it acts in a different way in what is composed of it.\textsuperscript{87}

Natural ends are goods for things that have a given nature. Avicenna points out that, because of this, we wonder why things happen that are bad for the whole. If what happens naturally happens for the sake of something good, what about the withering of a plant or a miscarriage? These seem to be natural (necessary) in some way, but are certainly not good for the plant or woman. Avicenna explains that these things are, indeed, natural, but occur through

\textsuperscript{86} “Opus est quod venit ex ipsa re tendente ad illud, aut semper quando non habuerit impedimentum, aut saepe quando habuerit impedimentum. Et hoc est quod intelligimus cum dicimus finem in rebus naturalibus” (Avicenna, \textit{L. prim. nat.}, 127).

\textsuperscript{87} “Si autem partes fuerint diversae, tunc, propter similitudinem quae est inter virtutem quae est in grano et inter illam materiam, granum attrahit materiam ipsam et attrahit eam ad partem propria, semper aut saepe, ubi attribuitur ei aliqua forma. Erit igitur etiam virtus quae est in grano movens per se hanc materiam ad illam formam substantiae et qualitatis et figurae et ubi, et non erit hoc necessitate materiae, quamvis necessarium est materiam esse eiusmodi ut moveatur ad hanc formam” (Avicenna, \textit{L. prim. nat.}, 127).
the nature of the matter, not the nature of the plant or person. When the ends of the matter of complex wholes are not attained, this corresponds to a defect in or even the corruption of the whole that the matter was a part of.

Frustrated ends aside, Avicenna points out actions done on the level of complex wholes in nature which are properly recognized as end driven. For example, the activities of those animals that do things like nest building are for an end. Such activity is for the good of the animal itself. It does not serve the matter that makes up a bird when a nest is built. The idea of matter needing a nest seems a bit preposterous. And this construction is not done by chance, but is for the sake of something. We recognize this because we, humans, can imitate nature, and when we do we have some end in mind. So, these activities must be for ends because when we copy them we are acting for ends. We build a nest because we are trying to build a nest. We are acting for the sake of making a nest. Animals who build a nest must be doing the same.

If the formation of plants, the movements of animals, and all human actions happened by chance, there should be some wheat seeds that grow into barley or some trees that produce both figs and olives. Bees would make comb one day and candles the next. Humans would sometimes try to act in accord with their cognized purposes and sometimes not. Instead, we see that each species produces more of its own and continues as it is with regularity. Activity done

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88 “Et quandoquidem sic est, tunc matura movetur propter bonitatem et non est hoc in ipso animali tantum aut vegetabilii tantum, sed etiam in motibus corporum simplicium et suorum operum quae fluunt ab eis naturaliter, quia illa semper tendunt ad fines interim dum non impeditur suus motus ab ordine proprio nec transgrediuntur illum nisi causa repugnante” (Avicenna, L. prim. nat., 128).
90 “Si autem res casu accidunt, cur de grano triticeo non nascitur ordeum? Et cur non nascitur arbor composita de ficulnea et oliva, sicut apud eos accidit casu hircocervus, et cur non redeunt illa extranea, sed remanent species servatae saepius” (Avicenna, L. prim. nat., 129).
for the good of the complex whole and regularity on the complex level are signs of ends on the complex level. Suggesting that complex wholes are only chance combinations of matter alone cannot account for these. There must be a form of the complex whole that accounts for these.

The second objection is seen as coming from Empedocles. According to Avicenna, Empedocles posited a mixture of chance and necessity. Matter is disposed by chance and the resulting form comes from the necessity of the matter that happened to be formed as it was. There is no purposive activity in the different combinations of matter, however. For example, teeth are not sharp for the purpose of chewing; teeth are sharp because they are made by matter that took the particular form of teeth. There is no end to the formation of teeth, however. The objection continues, if nature acts for a purpose in these things, death and deformities should not occur. But if one wants to insist that complex wholes act for ends, one must assert that death and deformity are sometimes the ends of nature. Nature does not expect death and deformity to happen. These things happen by chance, just like all other activities of nature. They follow the disposition of matter. Our objector would assert that all useful and natural things are formed in this way.

Avicenna challenges himself to consider the rain as a good illustration of our objector’s position. Perhaps rain is generated by the necessity of the matter that it is composed of. Water vapor rises and then cools and condenses because of the sun. It falls because it must fall when it condenses and becomes heavy. Rain does not fall for the sake of watering plants. It just happens to do so. Regularity and necessity on a large scale is explainable by regularity and necessity on the micro level.
Avicenna replies to Empedocles in two ways. First, at the beginning of his responses to all three of these objections he mentions Empedocles as he makes a general response to the objections. He does this by returning briefly to the topic of the formation of teeth to point out a slight agreement with Empedocles. Namely, he agrees that the matter that teeth are made from must have the form of teeth. From here, Avicenna’s position diverges. He stresses the priority of form over matter, very much not in the spirit of his Empedocles. Matter is not the type of stuff to form itself. Avicenna holds that teeth are not good for cutting because the matter of the teeth came together in such a way, but they are good for cutting because the form went into the matter and gave it such a configuration. The form is what determines the matter. What a builder wants to build determines what matter is used.91 The matter does not determine what will be made from it.

Evidence of forms and activity for the sake of something in complex wholes (even made from matter that has its own necessities) can be seen by again considering the planting of wheat and barley seeds. As experience tells us and was just highlighted, when wheat seeds are planted, wheat sprouts up. Likewise, when barley seeds are planted, barley sprouts up. The material that goes into the sprouts does not explain their formation as what they are. The movement of water, as understood by the materialists, and the movement of earth do not explain the growth of wheat or barley. If water moves as the materialists claim, there is no way it could make wheat sprouts

91 “In domo etenim non subsedit lapis in imo et trabes in summo eo quod hic est gravior et illa levior, sed quia hoc est opus artificis cui placuit magis ut coniunctio lignorum ex suo opere esset tali modo et ideo coniunxit ea sic” (Avicenna, L. prim. nat., 126).
of its own accord. There must be some power in the seeds themselves that makes use of the surrounding matter. Of course the proper material conditions must be present for plants to grow, but if the same soil and moisture conditions lead to both wheat and barley, it cannot be the matter that makes the plants do what they do. So, even if one recognizes form in natural things, but wants to limit them to the basic constituents of complex wholes, denying that complex wholes have their own forms, Avicenna argues that such a position is an untenable as the position that there are no forms at all (i.e. that all combinations are by chance). This general response, that an explanation through matter alone without any ends on the level of the complex whole cannot provide a full explanation of what we experience, touches both reductionist objections we have looked at here and could be directed towards the third as well.

A more specific argument against the second objection comes from knowledge of activities people do for the sake of their entire selves. One can see that people use skills to overcome obstacles or make up for what nature is not doing. One knows that people have ends in view when they do this. In the same way, nature does what it can to move a natural thing towards health and towards a good result. Even though nature does not deliberate, that does not mean

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92 “Et inconveniens est ut dicatur quod partes terrae et aquae moveantur per se et diffundantur in substantia grani et augmentent, quia postea declarabitur quod motus eorum ex locis suis non est ex seipsis, quia motus quos habent ex seipsis iam cogniti sunt” (Avicenna, L. prim. nat., 126).
93 “Sed, si id quod est aptum utrique eorum est una pars, tunc iam remota est necessitas comparata materiae” (Avicenna, L. prim. nat., 127).
94 “Res naturales sunt propter finem, hoc est quod, quando sentimus imperdiri aut debilitari naturam, adiuvamus eam arte, sicut physicus facit qui scit quod, quando removetur contrarium aut adiuvatur virtus, natura proficit ad sanitatem et ad bonum quia, quamvis natura careat discretione, non tamen idcirco debet iudicari quod opus quod ex ea procedit non tendat ad finem, quia discretio non est ut efficat opus habere finem, sed ut assignet opus quod potius debeat eligi inter cetera opera ex quibus possibile est illud eligi, unumquodque quorum habet finem proprium sibi ipsi. Ergo discretio est propter designandum opus, non propter faciendum illi habere finem; et, si anima esset immunis ab omnibus affectionibus diversis et a sucedentibus desideriis, non procederet ex ea nisi una
that nature does not have an end. Deliberation is not the source of an end. Deliberation assigns what will be done to bring about an end that is already determined. We act with an end in mind to do what is good for us. We know we have an end (finis). Experience shows us that natural things act for what is good for them. So, each must also have an end (finis).

Avicenna takes this opportunity to clarify how he can so easily attribute purposive activity, which we know we have by our cognition of our deliberative activity, to those things which do not deliberate. The difference between being able to deliberate and not being able to deliberate is not the difference between ‘being able to have an end’ and ‘not having an end.’ Rather it is the difference between being able to choose and not being able to choose how to bring about the end. A natural thing that does not deliberate will not be able to choose, and will always act in a uniform way to bring about its end. An end does not need to be deliberated upon or held in a mind to be an end, according to this account.

Avicenna has no doubt that willing is for the sake of an end, so whatever skill an agent decides to use is certainly for an end. However, the actual execution of a skill to bring about an end, once it is decided upon, will not come about by constant deliberation, but will have to be by habit. He uses the example of a musician, deciding to play a song on the lute. He can deliberate on whether or not to play the instrument, but as soon as he picks it up and starts to play, he will do so from habit. If our musician were to try to deliberate on each note, he would not give a good performance.95 So, desire and decision affect deliberation, but deliberation does not affect the execution of a skill as it happens. Other animals do not have the options that human beings do,
but even when we execute a task for an end, it is after deliberation and from habit. Animals act for an end; they simply do not deliberate beforehand.\textsuperscript{96}

Even agents capable of deliberative action act for ends without having deliberated. Avicenna points out the movements people make to catch themselves if they are falling, or the movements a person makes in the absent-minded scratching of an itch.\textsuperscript{97} The body seems to be moving of its own power, without forethought, but for an end that can be found after reflection. Activities are done for the good of the complex whole by complex wholes. This is indicative of end-based activity, whether the activity is done after deliberation or is done by agents not even capable of deliberation.

The third objection Avicenna considers makes use of the necessity that he has been defending all along. After all, if the necessary activity of a natural composite is for an end, should he not include the last necessary activity of any living thing we experience? One must acknowledge that those things that are generated also are corrupted by necessity. So if we see the order of generation as having a purpose, we should see corruption as also having a purpose. Corruption happens by necessity, so things must exist to be corrupted. Just as a fever exists for the purpose of corrupting the body, then tuberculosis must be for the sake of death\textsuperscript{98} since generation is necessarily followed by corruption for those things that can be corrupted. But if

\textsuperscript{96} Keeping Avicenna’s musician example in mind, I am reminded that a bird does not choose which song to sing.
\textsuperscript{97} “Similiter est cum aliquis labens subito adhaeret ad aliquud ne cadat, et velociter recurrens manus ad scal paddum mem brum pruriens sine cogitatu et deliberatione, ita quod formam eius quod agit non prius habuerit in imaginatione” (Avicenna, \textit{L. pri m. nat.}, 130).
\textsuperscript{98} “Et dixerunt quod accidit in hoc tractatu aliud, scilicet quod ordo inventus in generatione rerum naturalium et earum processus est ad id ad quod debet necessitas quae est in materiis. Sed non est id quod debeamus appretiari quia, si adhuc concesserimus quod vegetabilitas et generatio habent ordinem, similiter deteriorari et ire ad corruptionem suum habent ordinem non inferiorem illo, qui est sicut ordo eticae febris a suo principio usque ad finem eius, contrarius ordini vegetabilitatis. Ergo propter hoc deberent etiam putare quod etica \textit{propter aliquid} est quod est mors” (Avicenna, \textit{L. prim. nat.}, 124 – 125).
nature acts for the sake of what follows by necessity from it, it is still unclear why it started to do anything at all since corruption comes from generation. That is, why would anything be generated at all if it is generated only to be corrupted into the simple parts from which such beings are generated? Attributing ends to complex wholes does not explain anything. We should avoid ascribing them to complex things and look instead to material necessity. Nature acts differently on different occasions because of differences on the level of matter. Just as heat can either soften (e.g. wax) or harden (e.g. an egg) depending on the matter that it is applied to. Heat does not act for the sake of hardening an egg, it acts as heat and because of the matter it encounters, is a cause by the necessity of that matter.

Avicenna responds to the objection from the necessity of death by distinguishing accidental ends from essential ends, which allows us to distinguish what the ends are of complex wholes. He will ultimately conclude that even though neither death nor deformity are the proper ends of human beings or any creature; these unwelcome things arise from actions for ends and are, like all necessary activities, for the sake of something.

Deformities can come from a number of sources. They could arise from the hindrance of the natural course of things. They could also come from difficulties with matter. As was mentioned in his response to the first objection above, deformities can result from matter acting as matter when it should be acting as another form directs it. In this case, the matter is not acting for the sake of the deformity; the matter is acting in such a way as to move towards its natural location. That is its proper end. Even death is end governed, as it results from a defect of the body’s ability to replace matter that has moved out of it.
Lest one suggest that the final cause of matter is death or that heat acts for the sake of tuberculosis, Avicenna points out that while heat is a cause of consumption, it is only accidentally a cause of consumption. Heat does not act (warm a body) for the sake of the disease, even though heat does allow for it and is, in fact required for it. The proper end of heat is that it move and change water vapor, which carries nutrients.\(^9\)

Even the complete human body does not act for the sake of tuberculosis. The body exists for the sake of itself,\(^10\) and only accidentally is it a cause of such an illness. The matter that the body takes in as nourishment is also not for the sake of illness, but is an accidental cause of it where tuberculosis is contracted.

Lest we think that whatever way a natural thing happens to be configured is how it was supposed to be configured (i.e. lest we think a six fingered hand is what that particular hand was trying to become), Avicenna points out that every natural thing acts towards its end, but other things happen that are not for the sake of that end.\(^11\) The end of a complex whole is what something is \textit{trying} to do, and does not necessarily coincide with what the natural thing \textit{actually} does.

Nevertheless, the results that occur that were not sought (i.e. death and decay) are still ends in the scheme of the whole universe. All results are ends when considered in the big picture. Even though death and decay are not the proper ends of an individual plant or animal, the


\(^{10}\) "\textit{Naturae autem quae est in corpore finis est conservare corpus quamdiu possibile fuerit cum nutrimento post nutrimentum}" (Avicenna, \textit{L. prim. nat.}, 132).

\(^{11}\) "\textit{Nos autem non concessimus quod, quaecumque dispositio fuerit in rebus naturalibus, debeat esse finis naturae quae est in ipsa, sed diximus quod omnis natura agit suum opus propter finem quem habet; sed opus alterius potest esse non propter finem quem habeat}" (Avicenna, \textit{L. prim. nat.}, 132).
occurrences of death and decay are necessary to the cause of the world. Even what is said to be by chance to us is caused by and for the sake of the First Cause. Even if one does not want to accept this, Avicenna would at least call attention to the fact that disabilities and malformations result from purposive activity.\textsuperscript{102}

The rising and heating of water and its cooling and descent cause many different good ends in nature. But something as seemingly natural as rain dropping from the sky when evaporated water condenses is not fully accounted for by the necessity of matter. Avicenna sees the need to appeal to a source outside of the water (matter) to explain its motion. One can easily pick up water and watch it run through one’s fingers back into a basin. It appears to move down on its own, but requires some outside mover to raise it up. This outside mover is divine and the divine mover is what moves matter towards its end. There is a divine effort behind the motion of rain.\textsuperscript{103}

Also, the singular necessary motion of water does not account for the variety of good ends that result from water falling. There must be something other than the necessity of water (matter) to explain why a variety of things grow out of the ground after rain has fallen on a field that is fairly uniform in composition.

Matter can be appropriated for many different ends, but a moving cause in nature seeks matter to appropriate and inform it, which will harness the necessity of the matter to service the end of the form, which is the end of desire. It is the same in the arts. Matter is appropriated for an

\textsuperscript{102} “Sed superfluitates sunt etiam generatae propter aliquam finem, quia materia, quando fuerit superabundans, movebit eam natura et duce t eam ad formam ad quam debet ex ea aptitudine quae est in illa, non enim permittit eam otiari” (Avicenna, \textit{L. prim. nat.}, 132 – 133).

\textsuperscript{103} “Ergo non sufficit ad hoc necessitas materiae, sed est hoc opus divinum quod facit materiam pervenire ad suam necessitatem ac per hoc consequitur eam finis” (Avicenna, \textit{L. prim. nat.}, 133).
end. This means that matter of itself is not the source of the diversity of results that come from material things. Such diversity comes from the variety of forms that use matter for their own ends. Avicenna ends the chapter with a helpful illustration of the difference between the essential and accidental ends of heat. One expects heat to burn. The end of heat is burning. The end is not that it burn ‘this thing’. It burns any given thing by accident. Fire does not exist for the sake of burning Jones’ clothes, but it exists to burn. In the same way, matter is for the sake of form. Matter can receive form and form acts on matter. The matter does not make the form to be what it is, even though matter is needed for form to enter into it.\textsuperscript{104}

The parts of animals and plants are clearly for the sake of something. We recognize vegetables are supposed to grow in vegetable patches. We do not expect the weeds to turn into vegetables. We expect them to continue to be weeds, because of the forms they have. His arguments and positions on this follow Aristotle.

As far as Avicenna is concerned, all motion can be explained in terms of necessary motion, which is regular motion, which is for the sake of something, we can know this kind of motion is for the sake of something because of our own regular motions that are for the sake of something. We can see the similarity between our action for cognized ends and the actions of other things which are for their own good. Even when an agent does not have a choice, as humans do, and must always act in the same way when it acts, one should still see that it acts for an end because deliberation (and the subsequent variety of possible actions) does not set an end.

Indeed, all things that act by nature act for ends. And all activities can be traced to agents acting by necessity. So, all activities, whether of matter, plants, animals, humans, or even the

\textsuperscript{104} Fire is analogous to matter and the clothes are analogous to form.
heavenly bodies are for the sake of something. But also, death, car crashes, and deformities are for ends. These kinds of things could certainly be seen as the results of agents with two different ends coming together, but insofar as the results are necessary, the ultimate source of the motion of those agents caused that meeting and put those movers into motion for the sake of their eventual interaction even if it is only an accidental end for those who do interact. Except for the very fact of its end directedness, awareness of ends on this largest of scales eludes Avicenna.

His overall agreement with Aristotle on the recognition of ends in nature is broken by Avicenna’s certainty that all that happens is for the sake of something. Aristotle does not claim that results such as deformities and unintended disasters are for the sake of an end in any way. Aristotle does not think that all results are determined to happen as they do, even though the causes that bring about any given result are determined of themselves to some result. Where Aristotle was content to note the teleological activities that lead to unexpected results, but let such results be considered as chance occurrences, Avicenna sees the results as being necessary, since they are caused by necessary causes, and, thus, as being for the sake of something. Even though Avicenna grounds his denial of chance and affirmation of ends in nature on Aristotelian principles, he does not come to a position entirely shared by Aristotle.

1.10 Irreducibility of Final Cause for Avicenna

Like Aristotle, Avicenna gives final causality a distinct role in nature, keeping it from being reduced to another type of cause. The pressure Avicenna is dealing with, though, is to give the final cause a proper effect (i.e. to give it its own proper activity), not to explain final causality in terms of efficiency (i.e. not to reduce finality to efficiency). The following section will address
the way a final cause causes in natural things for Avicenna. The section after addresses the implications of having a First Cause that is both final and efficient. It should become clear that Avicenna’s position does not abide a reduction of final causality to efficient or any other kind of causality. I have not come across attempts in the secondary literature to read him as a reductionist in this way, so perhaps this should not be surprising.

1.11 How a Final Cause Causes

Avicenna deals more directly with what an end is and how it causes than Aristotle does. His analysis, though, at least as far as created things are concerned, gives him a position I have construed as similar to Aristotle’s (i.e. a natural final cause is an irreducible potency for form). In Book 6, Chapter 5 of the *Metaphysics of The Healing*, it is clear that the primary instance of final causality for Avicenna is rational voluntary action. As we will see below, Avicenna distinguishes three principles of a voluntary act, indicating that the end (*finis*) is what is desired through the cognition or imagination of the one acting. Consideration of what is happening when a voluntary agent achieves what he desires, when contrasted with what is happening when he does not, allows Avicenna to reemphasize that an end is the converse of chance (which is attributed to what was not expected). Namely, what happens for an end is what was planned or at least expected. Avicenna then argues that ends, while clearly in rational agents are also found in non-rational things in a similar way. Final causes will cause in the same way in both rational and non-rational agents.

105 However, there are significant differences between Avicenna’s and Aristotle’s treatments of the first mover/First Cause which has an impact on others’ conceptions of final causality, as shall be seen in Averroes.
I will note here, though, that while Avicenna and Aristotle both rely on similarities between natural, non-rational action and rational voluntary action in their arguments establishing the recognizability of final causality in natural activities, Avicenna’s explanation of the causality of natural final causes gives priority to rational final causality that Aristotle’s explanation does not.

For Aristotle, rational voluntary action for the sake of something is actually a kind of natural action for the sake of something. Rational voluntary activity is the kind of natural activity that uses deliberation and choice to fix the means to the end. Non-rational activity does not use deliberation and choice. So, even though a philosopher has easier access to his own rational activity when considering activities for ends, and even though he uses his experiences of acting in accord with rational purposes to better understand the directedness of nature, Aristotle takes the position that rational purposes, when seen in the larger context of the world’s motion, are more precisely described as nature-like in their directedness. Talking about natural finality as intention-like is helpful for the philosopher of nature since rational voluntary action is the most accessible instance of final causality, but natural finality is ultimately prior for Aristotle since rational activity is a kind of natural activity.

Avicenna, on the other hand, flips the Aristotelian paradigm around. He does not subsume rational finality under natural finality; he subsumes natural finality under rational finality. For Avicenna, it is not merely helpful in the order of investigation to say that natural final causes are intention-like. Indeed he sees a better reason for this comparison. For Avicenna,

\[\text{106} \text{ Rational voluntary activity is accepted by both as clearly being for the sake of something.}\]
\[\text{107} \text{ Clearly, the distinction between rational and natural that would make this position impossible for Duns Scotus is not here.}\]
non-rational actions for ends (even from non-rational agents) are ultimately an expression of rational voluntary action. So, rational ends are not a type of natural end. Natural ends are more precisely seen as intention-like, even in agents that do not have reason. Here, rational agency is not only the *most accessible* instance of final causality to a philosopher, it is the *primary* instance of final causality that non-rational finality must mirror.

In his explanation of final causality through rational activity, Avicenna distinguishes three principles in a voluntary act, a proximate principle (the efficient cause/motive power), a remote principle (the appetite to act), and a more remote principle (the imagination or cogitation of what the appetite desires).\(^{108}\) The more remote principle is what moves the efficient cause to do as it does.\(^{109}\)

Sometimes the motive power or efficient cause brings about what is imagined and desired, sometimes it does not, but it is always motivated by what the appetites desire. For an agent acting in accord with a rational desire, the final cause that is cogitated is the end of the activity. In this way the end of an activity is prior to the activity, is real, indeed is a cause. It is real as an intention and causes as an intention.\(^{110}\)

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\(^{108}\) “Oportet ut scias quod omnis motus voluntarius habet principium propinquum et principium longinquum. Principium autem propinquum est virtus movens quae est in musculis membra, et principium quod hoc praecedat est concursus virtutis desideratiae; principium vero longinquum est imaginatio vel cogitatio” (Avicenna, *L. de phil. prima*, 327).

\(^{109}\) “Cum enim in imaginatione vel in cogitatione rationali fuerit impressa forma aliqua, et mota fuerit virtus desiderativa ad concurrendum, statim serviet ei virtus movens quae est in membris; aliquando vero ipsa forma impressa in imaginatione vel in cogitatione erit ipsemet finis ad quem pervenit motus” (Avicenna, *L. de phil. prima*, 327).

\(^{110}\) “Ex hoc clarescet tibi aliquantulum quod finis ad quem pervenit motus in omni dispositione, inquantum est finis motus, est finis primus verus virtuti efficienti motum quae est in membris” (Avicenna, *L. de phil. prima*, 328). Clearly, final causality is distinct from efficient causality for Avicenna.

The important active role Avicenna gives to what-is-imagined in rational agency is emphasized by Averroes in his own description of the way a rational agent moves for the sake of something. Indeed, Averroes
Rational agents act for their own ends that are imagined or cognized. Of course it is possible that the imagined or cognized end is not achieved. In other words, the end of a thing’s desire can differ from the end of the efficient cause. To achieve an end, a thing must be able to move and have some desire (and both of these are by necessity). Imagination and cognition, however, are not by necessity. It is not that they must achieve their end. If we match our imagination or cognition with what is necessary, then the results will be the end of all three. (Otherwise, it is just the end of two of three principles.) Ends are thwarted when what is intended does not happen. Again, for what has cognition the end is simply the cognized thing that is desired. What is necessary (i.e. what does have to happen) is what the efficient cause brings about. So, even when what is not intended happens, the results are still for an end, they were just not intended by the one acting. When what we imagine matches our desires and motive powers, we think the resulting effects are purposive. When what we imagine does not match up, we do not.

Nature and imagination can be a source of ends that are not achieved or that are not thought about before they are attempted. Even what does not deliberate still acts for ends. Such things are said to be acting normally, which comes from the combination of imagination and nature.\footnote{“Si vero imaginatio fuerit cum natura, sicut suspiratio, vocabitur illa actio consuetudo” (Avicenna, \textit{L. de phil. prima}, 330).} Even what does not happen ‘as expected’ has an end. Avicenna uses the example of human activities that occur without previous deliberation. He considers a man twiddling with his beard. Our man is not thinking about this act, but is doing it by habit, without cognition.
Avicenna says the man must have some imaginative desire, which his muscles act in accord
with. The man’s motive power is acting in accord with a non-cognized desire to bring about
what the desire calls for. And even though there is no cogitative end, there is still an end to the
man’s twiddling. The man is acting for his own good. It is pleasurable to move away from what
is boring, which is what twiddling the beard, in its own way, is an attempt to do. So, even non-
cognized activities are like cognized activities.

Upon reflection, Avicenna found an end to the non-cognized activities done by humans.
What is done without reason by humans still has an end. It is done for the sake of the one acting.
Similarly, animals, which have imaginations and motive powers, but no ability to recognize a
rational good as humans can, must also do what they do for their own sake when they act from
their natural appetites.

Here we can see Avicenna’s paradigm shift from Aristotle in his explanation of natural
final causality. I mentioned above that Aristotle did not try to establish the priority of final
causality in deliberative activities over the final causality of non-deliberative activities. But it is
clear that Avicenna gives priority to rational agency as the proper model of activity for ends as
he is arguing here that animals are like non-cognitive humans, as opposed to Aristotle’s position
that humans are best seen as animals with the ability to deliberate. For both, it is still clear that
natural things without reason still have ends.113

112 “Non oportet autem putari hoc provenire non ex desiderio imaginabili ullo modo. Omnis enim actio animalis fit
postquam non fuit, hic igitur est desiderium aliquod sine dubio et inquisitio animalis. Hoc autem est cum
imaginatione aliqua” (Avicenna, L. de phil. prima, 332).
113 I believe Avicenna’s shift from Aristotle on the priority of rational final causality over natural final causality is a
consequence of Avicenna seeing the causality of the first cause as both the final and efficient. Since the rational,
At this point in the *Metaphysics*, Avicenna fleshes out what the end is of natures. He draws a distinction between the nature considered as particular and the nature considered as universal and delves into the ends for nature considered each way.

Based on his argumentation here, one might think that individuals of a particular nature have a two-fold end, one when considered as an individual substance and one when considered as an individual instance of a repeatable common nature. When considered as individuals, they are achieving their end when they are doing what is good for themselves as individuals. The end of a nature when considered as particular, is realized in the individual. However, when one considers this individual as having a nature that is shared with other individuals, the end is a continuation of their type, perpetuation of individuals of that nature.

I think it is safe to assert, however, that even reproduction, when done by an individual is done for the individual’s sake. It is the ‘intention’ of the individual. If we consider the nature, in itself, it has its own end as a nature, namely to keep itself in existence. Individuals do not have this as their end. Reproduction is done from the desire of the individual, with no notion of the good of the nature.

Avicenna’s arguments surrounding the ends of nature considered as universal are primarily concerned with showing that natures can achieve their ends and not be eternally frustrated. In themselves, these arguments are not important for this study. More important is his

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114 “Item individuum quod inducit ad aliud individuum et deinde ad tertium et quartum, non est ipsum finis naturae universalis, sed naturae particularis. Postquam autem haec sunt finis naturae partituri, tunc post illum nihil aliud praeter illum erit intentio et finis illi naturae particulari quae sunt eius finis” (Avicenna, *L. de phil. prima*, 335).

115 “Prima igitur intentio naturae est ut preremanet natura humana et alia huiusmodi vel individuum perpetuum non designatum, et illa intentio est causa perfectiva actionis naturae universalis” (Avicenna, *L. de phil. prima*, 334).
articulation of the ends of nature considered as particular, which dovetails with his account of ends from his *Physics* that describes ends as being for the good of whatever nature has that end.\footnote{I made an effort to connect the end of the nature considered as universal to the end of the nature considered as particular so it would not look like Avicenna was trying to ascribe two different ends to the same nature. His understanding of the way common natures exist allows him to give them different ends depending on whether they be considered as individual or universal. Cf. Avicenna, *L. de phil. prima*, 335.}

Up to this point, we have seen Avicenna argue that the ends of both rational and non-rational agents cause in basically the same way, like an intention in an agent that is imagining what its appetite will desire. But we can still ask how an intention can be the cause of anything. The best answer from Avicenna comes when he addresses how the final cause can be prior to the other causes even though it is the effect of the other causes. A cause must be real and we know Avicenna holds that the final cause is a thing (res) and is real (ens).\footnote{“Finis ponitur res et ponitur ens” (Avicenna, *L. de phil. prima*, 336).} Avicenna must tell us how it is real.

According to him, what is real can be real as a thought, to the extent that it is present in the mind of the thinker. But this kind of reality is distinct from the reality of what has actual existence (esse) extramentally. The final cause has reality like a conceived object, but does not have reality as an extramentally existing object would have. For what is only conceived (i.e. a final cause) to have this kind of existence (esse), it must be caused to be by the other causes (efficient, formal, and material). But in being caused in its existence, the final cause directs the causal activity of those bringing it about.\footnote{“Omnis autem causa, inquantum est ipsa causa, habet certitudinem et causalitatem; causa vero finalis, inquantum ipsa est causa, causa est ut ceterae causae sint causae in effectu. Igitur causalitas causae finalis est causa esse aliarum. Igitur esse aliarum causatum est a causalitate illius” (Avicenna, *L. de phil. prima*, 336 – 337).}
Wisnovsky elaborates on what it means to be a ‘thing’ but not an existing thing for Avicenna in his article, “Notes on Avicenna’s concept of thingness (shay'iyya),” and addresses specific implications for final causes in his “Final and efficient causality in Avicenna’s cosmology and theology.” This helpful study shines a light on how a final cause can cause an efficient cause and yet an efficient cause can be said to be the cause of the final cause.

Wisnovsky sees an explanation when Avicenna’s distinction between essence and existence is brought to bear. Essentially, the efficient cause is prior insofar as a thing is considered as actually existing. The final cause is prior insofar as a thing is considered in its thing-ness. So, for Avicenna, these two causes explain two different aspects of existence.

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121 “Avicenna held that the efficient cause is the explanans of an explanandum insofar as the explanandum is viewed in light of its existence in an absolute sense...or in light of its affirmative existence.... That is, the efficient cause is the primary explanans when the explanandum is viewed as an existent.... The final cause, by contrast, is the explanans of that very same explanandum insofar as that explanandum is now viewed in light of its essence...or thingness. That is, the final cause is the primary explanans when the explanandum is now viewed as having one type of existence as opposed to another..., as being one thing...in contrast to another thing” (Wisnovsky, “Final and efficient causality,” 106).

122 “Sed, cum consideratur inquantum est causa finalis, est causa ceterarum causarum, scilicet ad ipsas essendum causas ita ut sit causa agens et causa recipiens et causa formalis, non ut sint in effectu et habeant esse in seipsis, Quod igitur per essentiam est causae finali inquantum est causa finalis, hoc est scilicet ut sit causa ceterarum causarum, sed, ex modo quo eius intentio iam habet esse in effectu, accidit ei ut sit causata ex hoc modo” (Avicenna, L. de phil. prima, 338 – 339). Jon McGinnis’ interpretation corroborates Wisnovsky’s analysis in his Avicenna ((Oxford: Oxford University Press, 2010), 58-59). Thérèse-Anne Druart notes that portions of the Latin text consistently misrepresent the Arabic, using the term for causality (causalitas) where the term for thing (res/reitas) would have been truer to Avicenna’s meaning (“Ibn Sina (Avicenna) and Duns Scotus,” in Duns Scotus, Philosopher. ed.by Mary Ingham and Oleg Bychkov, Archa Verbi, Subsidia 3 (Munster: Aschendorff, 2010), 13-27). Druart sees that this textual discrepancy provides challenges to readers of Avicenna in Latin, as an important distinction between the way the final cause and efficient cause are causes is obscured. Avicenna would have us see that the final cause is a cause under the respect of “thingness,” while the efficient causes causes under the respect of “existence” (19-23) Instead, the Latin translation available to medieval Parisians emphasizes the importance of the priority of the final cause over the efficient cause (24). She provides parallel texts of Avicenna’s L. de phil. prima, VI, 5 in Latin, translated into English from Arabic, and translated into English from Latin (25-27).
For Avicenna, then, a natural final cause is a non-existing (i.e. without \textit{esse}) but real cause of thing-ness in what has it. This seems, to me, to be a different formulation of final causality as irreducible potency for form that we saw in Aristotle. Even though Aristotle does not distinguish essence from existence,\textsuperscript{123} his account of the way a final cause exists and causes has strong similarities to Avicenna’s. For both, the final cause is real as the director or determiner of the moving causes that will bring about what it directs them towards. Final causality is not merely a helpful tool for thinking about what we experience, but is the cause of causes. That Avicenna would give the final cause “reality” without giving it “existence” points to the difficulties that come with describing the way a final cause, of itself, is (as a distant goal that is responsible for bringing itself about). Avicenna’s distinction between essence and existence does not ease the tension between the dual (and conflicting) certainties that final causes must be directing agents in the world, yet those agents are directed to act for the sake of what does not yet exist. His distinction simply allows Avicenna to say more about it. Avicenna notes that a final cause is not a cause unless it is realized as a concept in the soul (or what acts like the soul).\textsuperscript{124} Thinking of a final cause as a concept is, a very helpful way to consider how a final cause can be real. Yet, through consideration of the non-existence of the content of a concept, it is easy to grasp that a final cause directs toward what does not yet exist.

\textsuperscript{123} The efficient cause for Aristotle is a pushing cause. It moves through locomotion. The world was not brought into being. Of course, for Avicenna, the world is created. There is a mover (God) that is eternal that created this world. God’s creation of the world required not moving around what already existed, but giving existence to even the stuff that would be made into the world. For Avicenna, efficient causality is a conferral of existence, not merely locomotion.

\textsuperscript{124} “Eius atuem causalitas non est causa esse earum, nisi prius sit imaginata in anima vel in alio consimili” (Avicenna, \textit{L. de phil. prima}, 337).
However, Avicenna does not see the same independence of natural motion for ends in nature that Aristotle saw. The intention-like direction of nature does not simply come from nature, as Aristotle held. The direction found in nature needs to have a source. The intention-like directing causes in nature must be caused by something other than what is moved by such a cause (i.e. has a given final cause as its end). In other words, the ‘thing-ness’ of a final cause (the content of the concept) must come from something outside of what has the final cause. All final causality must be traced back to the First Final Cause, the cause of all final causes and all existence.

1.12 First Cause as Final Cause in Avicenna

Avicenna said much more about the first cause of the world than Aristotle did. As was mentioned above, the first mover for Aristotle is a being that we can be sure exists because we make a scientific argument where the reality of such a being is the conclusion. This conclusion is arrived at after considerable experience and thought of the regularities of the things we experience. This first final mover must be the most perfect being in the world and, to be the most perfect, it must not be mixed in with the corporeal, corrupt things (or physically moving things) whose regularities led him to conclude the first final cause existed. Since Aristotle did not clarify just how this first final cause was able to be a remote final cause, it is a question that those who came after Aristotle had to figure out on their own. Not only does the vacuum left by Aristotle’s lack of an account of how the first final cause causes put pressure to find one, Avicenna’s (and

125 “Non est autem causa causae finali in sua causalitate, nisi causa alia praeter causam quae movetur ad eam vel ad quam ipsa per se movetur” (Avicenna, L. de phil. prima, 337).
others’) position that the world’s very existence (esse), not merely its organization, needs a causal explanation puts pressure on those contemplating Aristotle’s first mover to provide a philosophically coherent account of a first cause that acts both as what the world is for the sake of and as an agent that causes the world’s existence. This is why an efficient cause is not just a pushing cause, but a cause that confers existence. (Avicenna argues for a first cause that causes the world’s existence.\textsuperscript{126})

While it would have diminished Aristotle’s first final mover if it has been an efficient mover, Avicenna’s First Cause has a perfection beyond anything in the world, as the necessary and perfect source of being that, while an efficient cause, is not limited by matter. In the First Cause (God), the final cause is being. It is not brought about by anything. It has the fullness of actuality. Clearly final causality cannot work within God in the same way it causes in created things. In fact, the First Cause moves as the first final cause of all things through its efficient causality.

Avicenna attempts a ‘top-down’ explanation of the effects of such a cause. It is not merely that the world calls for the First Cause to be such. For Avicenna, there must be such a necessary First Cause and the way that this mover must bring the world about can be described. A complete account of Avicenna’s emanationist doctrine is beyond the scope of this study, but I will provide a few notes on the impact of his doctrine of creation on his understanding of natural final causes.

\textsuperscript{126} Michael Marmura provides a helpful analysis of Avicenna’s challenging argumentation for God’s existence in his, “Avicenna’s proof from Contingency for God’s Existence in the Metaphysics of the Shifa’,” Mediaeval Studies, 42 (1980): 337-52.
The world emanated from God because of God’s love for God’s self. Even finality has a priority for the causal activities of God. Efficient causality comes from God’s love of Himself. Emanated things, in turn, love (have a desire fixed on) God, leading to their further activity. Some created things are not capable of an informed love or love with knowledge of what is loved, but they have appetites of some sort. Everything desires God to the extent that it is able. It is this love of God that makes them move as they do. Efficient causality of and in the world is an effect of the desire of God for God’s self (i.e. final causality).

Ultimately, the activities of the first final cause as the first efficient cause of being give all subsequent efficient causes the ‘intentionality’ they need in order to be for the sake of something. All causal activity comes from a cause that directs all towards itself. God is the necessary being that all is directed towards because it is what all is directed by. Nothing moves (or exists) unless caused by a most effective and loved (desired) God. God’s causal power over the whole universe comes with God’s position as the necessary being and makes it clear that all results, everything that happens, is for an end. God is the one for the sake of which all things happen and the one who ultimately causes all things.

Avicenna’s understanding of the First Cause, as both efficient and final, further explains how all results are ultimately for ends. The First Cause causes all it holds in existence to be for

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127 “Et quod ab ista scientia fluit esse secundum ordinem quem intelligit, scilicet ordinem rectum, et quoniam ipse diligit seipsum qui est princiium totius ordinis bonitatis, inquantum ipse est sic, fit ideo quod ordo bonitatis est dilectus ab eo accidentaliter, sed non movetur ad eum dilectione: ipse enim non patitur ab eo nec concupiscit aliquid nec inquirit. Haec igitur est voluntas eius quae est exprs imperfectionis et immensis a desiderio et ab angustia intelligendi aliquid” (Avicenna, L. de phil. prima, 424) [Book VIII, ch. 7].

128 His explanation of the emanation and return of the world in book IX is too lengthy for this study. Belo’s chapter, “Avicenna on Celestial Causation and Providence” in Chance and Determinism (91-120), provides a lucid account. Also, see McGinnis’ Avicenna. He lays out the connection between the necessarily existing First Cause and the natural desire each thing has to be as ‘necessary’ as it can be under their limitations. In other words, all natural movers imitate the First Cause through their activities (169-170).
the sake of Itself. The objects of the will of such a cause must come to be. All of existence is so dependent on the First Cause that nothing could come to be without the First Cause causing it. The necessities that Avicenna sees in nature point to an overarching necessity.

So, the first Final Cause must exist for Avicenna, as well as for Aristotle. But, for Avicenna, this highest cause must have the power to bring about what the final cause causes. Avicenna’s First Cause takes an active role in the activities that it is the final cause of, as the source of those beings’ existence. Aristotle does not think the activity of the final cause could be so strongly tied to the world’s activities. Aristotle did not think he could know just how the first final mover caused. His achievement was in recognizing that there must be such a mover. Of course this mover is simply the greatest being in the world, but did would not rightly be considered an efficient cause, let alone the source of the world’s existence. For Avicenna, the First Final (and efficient) Cause is not just imitated by natural agents, it is the creator of the world.

1.13 Avicenna: Conclusion

Avicenna is quite clear that final causality can be seen in our everyday experiences. He accepts Aristotle’s argumentation that natural agents, acting with regularity, must be acting for the sake of ends. Avicenna trades in “regularity”, though, for “necessity”, and finds that whether what happens as the result of a single natural agent or as the result of an interaction of a number of natural agents is necessary and, thus, for the sake of an end. This eliminates the possibility for “chance” as Aristotle saw it, as all that happens, whatever it may be, since it is caused by
necessary causes, is, itself, necessary, and, thus, for the sake of something. (Even eclipses happen with regularity, or necessity, when the necessary causes of eclipses converge.)

If we saw Aristotle as arguing against the reduction of natural agency to the material constitution of natural agents, we can see Avicenna taking up Aristotle’s non-reductive argumentation but applying it to all of the results of natural agency, as well. It is not just that natural agents cannot be reduced to their material parts, the regularities (i.e. necessities) of the interactions of natural agents cannot be reduced to the natural agents that brought them about. But Avicenna does not posit that such results are natural wholes. (E.g. He does not posit “eclipse natures” or the like.) He appeals, instead, to the first cause as a directing cause of all nature, which, as the cause of the existence of all natural agents, is the ultimate cause and director of what those agents bring about on their own and through their interactions with other agents.

Avicenna distinguishes essence from existence, and understands an efficient cause to be a cause of existence. With this understanding of efficiency, Avicenna is able to ascribe efficient causal power to the first final cause (i.e. the most perfect being) without impugning its perfection as it would have for Aristotle. Avicenna’s first final cause causes the world’s existence. The First Cause directs the world to itself so all things that happen are ultimately for the sake of the First Cause.

The distinction between essence and existence is also helpful for Avicenna’s description of the final cause’s causality. He thinks it is real, being a thing (res), even though it does not have existence (esse). It is most fitting to think of the final cause as causing like the concept of what does not exist, the contents of which can be understood to be something, and yet not existing. In this way a final cause is real without existing in what acts, even in those agents that
do not have the ability to hold concepts. In the same way that a concept guides a rational agent to bring about the existence of some result, so does a natural final cause direct a natural agent to bring about some result.

The way that Avicenna brings the distinction between essence and existence to bear on natural final causality, as well as the priority he puts on rational agency as the model of activity for ends highlights the difficulty in describing final causality, and does not strongly distinguish his position on natural final causality itself from Aristotle’s insofar as a natural final cause was understood as an irreducible potency for form. A natural final cause in Avicenna does the same things as it did for Aristotle. Avicenna has simply made room for the reality of the final cause without putting himself in danger of conflicting with his other positions. A similarly peculiar reality and causality of the natural final cause will be carried over to Thomas Aquinas and John Duns Scotus.

However, it will become a sticking point for Ockham and Buridan, who will put forth reductive causal explanations of the necessities of natural agents, the root of which can be seen here in Avicenna. As we saw, for Avicenna, final causality and efficient causality are strongly linked. The final cause causes the efficient cause to act as it does. It is not reductive in Avicenna, but when nature comes to be explained as an efficient cause in Scotus (and the peculiar reality of the natural final cause is seen as unintelligible), it is not hard to see how what is called the final cause here is nothing other than the determination of the efficient cause, and is properly understood as a part of the efficient cause, without which the efficient cause is not directed to any effect and so is not the cause of anything.
Additionally, the identification of regularity with necessity and, of necessity with activity for the sake of ends, will prove to be both appealing and problematic for the Parisian thinkers. They will want to hold, like Avicenna, that all results in nature are ultimately caused by God and for the sake of God. However, the extent to which natural reason can recognize what natural agents are acting for the sake of based only on the regular results of their interactions is not uniformly agreed upon. For example, Avicenna thinks that a bird acts for the sake of building a nest when it is gathering sticks. Even an eclipse, since it results from necessary causes, and so is necessary itself, must be for the sake of something. These regularities, even if necessary, will not be seen by Ockham and Buridan as evidence of just what birds or the planets are acting for the sake of.

1.14 Averroes: Introduction

The medieval Latin authors were also influenced by the Aristotelian commentaries of Averroes, who came after Avicenna. He was called 'The Commentator' by those readers who were introduced to Aristotle’s ideas with Averroes’ comments attached. As we will see, Averroes maintains that final causality is clearly operative in the natural things in the world. He also maintains the connection between final causality and natural activity on the level of the complex whole (although he goes further than Aristotle did in attributing ends to nature based on the interactions of natural agents, he does not go as far as Avicenna). Averroes also does not

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129 Although Averroes is ostensibly commenting on Aristotle in his Long Commentary on Aristotle’s Physics, it is clear that Averroes takes Aristotle’s writings as truth. Belo points out a number of places in Averroes’ work where he says as much (Chance and Determinism, (122, n.3). Averroes’ comments are not merely glosses on texts he happened to be reading; he sees them as clarifications and elaborations on the writings of a thinker who grasped the world as it truly was.
explicitly claim that a natural final cause is a potency. This is not a point of direct conflict with Aristotle, who never explicitly claimed it was a potency. It is a point of interpretation of the available texts. Indeed, Averroes treatment of natural final causality in his commentary on Aristotle’s *Physics* follows Aristotle’s own position on the most significant points.

We will see in his treatment of the causality of the first mover in Book XII (Lambda) of his *Commentary on Aristotle’s Metaphysics*\(^{130}\) that the first mover is a final cause. Unlike Aristotle, and like Avicenna, however, Averroes identifies the first final cause as the first efficient cause.\(^{131}\) Averroes needs to explain the final causality of the first mover of the *Metaphysics* in such a way as to show how this mover is also the first efficient mover, which leads to an explanation of purposive activity that appears decidedly efficient. (I.e., the first cause causes where it is apprehended as good and it is then an efficient cause.) Still, Averroes does not endorse a reduction of finality to efficiency in his *Long Commentary on the Physics*. It is possible to distinguish being moved by a rational end (comes from outside) from being moved by a natural end (comes from within). He unwittingly provides a template in his *Commentary on the Metaphysics* for later thinkers who are interested in making such a reduction.

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\(^{131}\) Averroes does not argue for this in exactly the same way Avicenna, though. Averroes argues that the first efficient mover of the *Physics* is the first final cause, while Avicenna distinguished the efficient mover that was proved through physical inquiry from the first final and efficient cause that can be known through metaphysical inquiry.
We will rely on Averroes Long Commentary on Aristotle’s Physics\textsuperscript{132} for his doctrine of natural final causality. In this commentary, Averroes addresses the texts from the Physics that we used to establish Aristotle’s position on natural final causality. We find a suitable account of Averroes’ clearly Aristotelian position in his fourth summary from Book 2, which asks whether or not all acting things act for the sake of an end.

He begins by pointing out that nature is a cause of what acts for the sake of something (\textit{propter aliquid}).\textsuperscript{133} His preliminary response addresses the arguments of the ancients, who, as Aristotle understands them, see activities of wholes as the results of the necessity of the matter that makes them up. They do not recognize ends on the level of the complex whole. Averroes highlights the examples Aristotle uses of non-teleological accounts of rain and tooth formation\textsuperscript{134} and the attempt of such examples to reduce complex wholes to the necessary activities of matter.\textsuperscript{135} Just as we saw when we considered Aristotle above, Averroes notes that the rain does not act by chance, because, even if it does not seem to fall in order that it water or spoil crops, it falls with regularity during the winter and it does not fall with regularity during the summer. Only if it were to do the opposite in either of those seasons would we say that the rain falls by

\textsuperscript{133} “Dicendum igitur primum quidem quod natura earum causarum est, quae sunt propter aliquid” (Averroes, \textit{De physicorum}, 75I).
\textsuperscript{134} “Si cuipiam perit frumentum in area, non huius gratia pluit, ut pereat, sed hoc accidit. Quare quod prohibit sic et partes se habere in natura, ut dentes ex necessitate oriri, antiores, quodem acuto, aptos ad dividendum, maxillares autem latos, et utiles ad terendum cibum, cum non propter hoc vecti sint, sed acciderit” (Averroes, \textit{De physicorum}, 76D – E).
\textsuperscript{135} “Verbi gratia quomodo dentes necesse est in hoc, ut animal salvetur, ut antiores sint acuti, ut sint apti ad incidendum cibum, et posteriores lati ad molendum cibum, sed non propter hoc fuerunt, sed accidit eis casu ex natura materiae” (Averroes, \textit{De physicorum}, 76K).
chance. Even the rain has regularities on some level. As he will argue, these and other regular activities must be recognized as being for the sake of something. Averroes agrees with Aristotle that regularities come from nature and are either by chance or they are for the sake of something. Here we find an argument for the presence of ends in complex wholes.

Following Aristotle, he argues that parts that are brought about by nature are made in their certain ways with their certain compositions always or for the most part. This is what people mean when they say that something happens by nature. There is some regularity to a given activity taking place or to the way a body is composed. What happens by nature, i.e. what happens with regularity (always or for the most part), can be distinguished from what happens by chance, which is what happens rarely (not always or for the most part). Since the arrangements of the parts of complex wholes happen with observable regularity, it is clear that complex wholes do not come into their arrangements by chance (which describes what happens neither always nor for the most part). So complex wholes are as they are for the sake of something. The health of an animal does not come about by chance, but is for the sake of the healthy animal as a whole,

136 “Neque non est a fortuna, neque a casu universaliter pluere saepe hyeme, sed si sub cane, neque caumata sub cane, sed si hyeme. Siigitur aut a casu videntur aut propter aliquid esse, si non possible est esse haec aut a fortuna, aut a casu propter aliquid utique erunt” (Averroes, De physicorum, 77C).
137 “Omnia qui generantur a natura, generantur in aliqua dispositione, aut semper, aut in maiori parte” (Averroes, De physicorum, 77F).
138 “Cum posuit quod ista membra generantur a natura, et quod allud, quod generatur a natura generatur in eadem dispositione, aut semper, aut in maiori parte, sequitur quod ista membra generantur in illa dispositione convenienti, in qua sunt, aut semper aut in maiori parte: et omne; quod sit casu, et ex se, non sit semper, neque in maiori parte, sed raro. Syllogismus igitur sit componitur. Convenientia, que est inter membra, aut est semper, aut in maiori parte: et quod est semper, aut in maiori parte non est casu: ergo ista convenientia non est casu. D.d. Si igitur ista, et cetera i. si igitur ista convenientia aut est casu, aut a natura propter salutem animalis, et iam apparuit ex sermonne praedicto quod non est casu, remanet ut sit propter aliquid, et est salus animalis” (Averroes, De physicorum, 77F – G).
because it comes from the nature of the animal, which can be recognized through observation of the regularities of an animal.\footnote{The Aristotelian continuity among regular activities, natural activities, and activities for the sake of something is maintained here by Averroes.}

Likewise, Averroes notes that rain’s end, while it is not watering crops, is connected to rain’s nature as water.\footnote{“Et hoc, quod pluvia est de necessitate materiae, non facit ut non sit propter aliquid. Et, si concesserimus quod non est propter messes, declarabitur quod est propter alium, et est aequalitas generationis in elementis: et, si non, corrupmeretur mundus” (Averroes, De physicorum, 771).} Since rain is the movement of large quantities of water, which are acting as water when rain falls, there is not a problem with claiming that it acts in accord with the necessity of matter. It is an element acting in accord with its nature as an element. He points out that this activity is still for the sake of something, even though it occurs by the necessity of matter. It moves so that the balance in the generation of the elements can be maintained and the earth not be corrupted.

With this account of the end of rain, Averroes has stepped beyond the end that Aristotle would have ascribed to it. For Aristotle, the end of rain is the end of water. It happens to fall because it is seeking its place in the world. Having been formed in the sky where it is heavier than its surroundings, it moves towards its proper place, without concern for whether or not it is playing a role in the maintenance of the harmony of the composition of the world. Averroes, by making the end of rain to be the maintenance of the balance of the elements, is attributing purposive activity on a more cosmic level and with further-reaching ends than the more modest end that Aristotle attributed to it. Of course Aristotle did not ascribe an end to rain in book two of his \textit{Physics}. He simply pointed out that the regularities of seasonal rain indicate that even rainfall is not by chance. Nonetheless, an explanation of the end of falling water was put together from
Aristotle’s explanation of heavy bodies in book VIII of the *Physics* (which is applicable to water) and his explanation of the regularities of the seasons through the motions of the heavenly spheres (one of which moves water as regularly as it is able, but as it is under the influence of the spheres above it, cannot move the water with the regularly of the spheres that move the stars in their constant and predictable paths).

Averroes draws his cue for the end of rain more heavily from the activity of the spheres, with an eye toward the regularities of the organizing principle of the whole world. The rain is moving not just for itself, but for the sake of the order of world, lest it fall into disarray. Averroes appears to be reading the *Physics* with an idea in mind of the direction of first mover. His account is different than Aristotle’s here because Aristotle observed the natural phenomena and concluded that there must be a first mover. His observations were evidence for the first mover. With Averroes, the activity of the first mover is being read back into the results of complex natural interactions, attributing ends to natural agents (e.g. water) that Aristotle did not.\(^1\)

Averroes’ interpretation, for the most part, though, is in line with Aristotle. As Averroes continues, he dutifully sees Aristotle arguing through the parallels between nature and skill, that one can see that the activities that are done by what has an end are done for the sake of that end.\(^2\) Indeed, if the activities of nature were done by chance, it would not be possible for us to use skill to aid nature with the regularity that we do. Averroes considers the skill of medicine,

\(^1\) Averroes attempts a top-down explanation of causes from the first mover to everything else. Although that is not his goal in the *Physics*, his explanation of rain is a small sign of this. Averroes needs to give an account of a First mover that can be the source of all the motion down here. (Aristotle’s first mover doesn’t come with a top-down explanation as will be mentioned again when the First mover is considered in more detail.)

\(^2\) “Quinque, quia manifestum est in arte, que illa, que sunt ante finem, sunt propter finem, et iam posuimus cum hoc aliam proponere, et est, sicut est dispositio in natura, et est qui illud, quod agit propter finem, sic est dispositio in arte, ut agat propter finem, apparat qui non est differentia in hoc inter artem et naturam” (Averroes, *De physicorum*, 78C).
which regularly aids health that is normally brought about by nature. Since skill is used to make up for the shortcomings of nature, and skill is for the sake of something, it must follow that nature is for the sake of something. And since we know from our activities that even the first actions done with a skill are for the sake of an end, so we can see that nature begins to act for the sake of an end.

Even those agents with natures that do not allow for cognition or intention still act for ends. Averroes elaborates on Aristotle’s inductive approach to final causality’s visibility in even plants. Aristotle first examines the activities of things with souls. It is possible to see they act for an end. The whole being acts as a whole to bring something about. After seeing that the whole acts for the sake of something, Aristotle considers the parts of that whole. It then becomes apparent that the parts came about for the sake of the end of the whole. Seeing that the parts of animals are for the sake of something, Averroes (following Aristotle) is confident that it is the same with the parts of plants, as well, even though they do not have the power to imagine an end in the way a person or other animal can.

Averroes sees that the natural end in generation is the form of what did the generating, since agents bring about others with the same form either always or for the most part. We can see regularity in the reproduction of natural things. Namely, natural things regularly generate

143 "Si sanitas proveniret a natura casu, tunc ars non compleret diminutionem naturae in hoc ita, quod sanitas fieret ab ei in maiori parte" (Averroes, De physicorum, 78G).
144 "Quia igitur ars quandoque est loco naturae, et ars agit propter aliquid, necesse est ut natura agat propter aliquid" (Averroes, De physicorum, 78H).
145 "Et intendit per prima, illa, quae sunt ante finem, et per postrema, ipsum finem" (Averroes, De physicorum, 78I).
146 "Si hoc consideraverit primo de actionibus habentium animas, et post de utilitatis membrorum, videbit quae natura natura generat haec membra propter utilitae existentes in suis naturis. Et hoc invenitur in plantis, nedum in animalibus" (Averroes, De physicorum, 79B).
147 "Et necesse est ut forma sit finis in generatione, quia sequitur ab agente, aut semper, aut in maiori parte" (Averroes, De physicorum, 79F).
more things of the same nature as themselves. This is how we can understand a nature to be both
form and an end. Averroes’ further consideration of animal reproduction (i.e. the priority and
causality of semen, which causes only the type of animal that made it) makes it clear that
generation is not by accident. There is similar evidence of direction in plant reproduction.
The seeds of a plant grow into only the same type of plant.

Such end-based activity of a natural thing can be distinguished from what happens by
chance. What happens by chance is what occurs that nature was not working to achieve.
Averroes appears here to be open to attributing some occurrences to chance that do not appear to
have been done for the sake of a nature. He is pointing out that not all results of the
interactions of natural things are what those natural things were working to bring about. What
happens that is outside the scope of the end of what is acting by a particular nature could be said
to be by chance. Of course Averroes agrees with Aristotle that what is by chance is caused. What
is brought about by chance is simply not what the natural thing was acting for the sake of. A
chance occurrence does not have the same principle of motion that something with a nature has.

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148 “Sperma igitur est prius naturaliter animali: est igitur causa eius per se” (Averroes, De physicorum, 80E).
149 If Empedocles’ ox-man actually happened, we should see many other such things, like grape vines giving off
olives. Animals are much more complicated than plants, so the less complex plant-life should show more
variations. But these things are not seen. They do not happen. The complex whole animals and plants are
continuing to produce complex wholes of the same type with similar parts.
150 Catarina Belo highlights an important difference between Avicenna and Averroes on the extent to which natural
activities are for an end. Namely, she points out that, for Averroes, there are natural activities that are not for the
sake of anything (Chance and Determinism, 139-140). She refers to 77H of Averroes long Physics commentary
where Averroes says explicitly that not all that comes from nature is for the sake of something. Avicenna would, of
course, disagree with this. This gets back to the distinction between what Aristotle and Avicenna would consider as
being chance and what is end-directed. Averroes is, in my mind, correctly pointing out that activities done for the
sake of something are the activities that something is trying to do for its own good.
151 To me, Averroes seems more in line with Aristotle than Avicenna does. Averroes is content to point out the
regularities that we can recognize, but is not compelled to assert that all results, because they are caused, are for
the sake of something.
Nothing acted for the sake of that chance event. Things with natures, while acting so as to bring about their proper ends, can be a cause of results that are not the end of their nature. These are by chance.

Averroes concludes his treatment of the question of whether or not all agents act for the sake of an end by addressing the difference between nature and skill. Some might object that only what acts with cognition can act with ends. Averroes already pointed out that plants and even non-living things act for ends, but he addresses this objection nonetheless. The most accessible instance of final causality for Averroes is purposive human action, the same as it was for Aristotle and for Avicenna. Activity for the sake of something can be clearly seen in those activities that are done by humans because it is easy to envision (and tell others about) such ends. Someone objecting to Averroes’ position might suggest we are going a step too far by attributing action for the sake of an end to things that have no capacity to intend an end.

Of course, Averroes does not think so. We already saw that he recognizes a close similarity between action for the sake of an end that comes from a skilled worker and action for the sake of an end that comes from nature. The difference between them is that a skill acts externally while a nature acts internally. If one were to replace a nature with a skill, whatever was given the skill would act according to the skill instead of its previous nature, as Aristotle illustrated through his thought experiment of positing the skill of ship building in lumber.

Of course, a nature is not learned, as a skill must be, but that does not make a nature to be less for the sake of something than a skill is. The difference between what acts by skill and what

152 “Idem manifestum est quod non est differentia prima haec inter naturam, et artem, sed ars agit extra, et natura intra. Si igitur essemus imaginati quod ars est in re, tunc necessario contingeret agere, ac si esset extra” (Averroes, De physicorum, 81L).
acts by nature is where the ability came from.\textsuperscript{153} When determining whether or not an action is for the sake of something, whether an activity comes from skill or nature is not the important question to address. The important question is whether or not the activity is done always or for the most part. As has been his contention all along, regularity is the key to finality, not awareness.

For Averroes (as it was for Aristotle and Avicenna), final causality is found where nature is found. All natural things act for ends. Inanimate objects, plants, animals, human beings, even the heavenly bodies\textsuperscript{154} have recognizable natural ends. A natural end comes from nature and is the nature. I.e., natural things act for the sake of themselves. This can be recognized through observation of the cycles and regularities in the world around us. Those events that happen by chance are the products of activities for the sake of ends, but what is by chance occurs when activities that are for the sake of ends achieve something other than the end being sought.\textsuperscript{155} Again, this, for the most part, in line with Aristotle. Averroes does go further than Aristotle did in his attribution of ends to rain, but he leaves room for chance in the world as Aristotle did, which is seen in rare results.

\textsuperscript{153} “Sed qua notum est per seipsam agere, propter aliquid, siue sit extra, siue intra, manifestum est quod hoc est, secundum quod semper agit, aut in maiori parte. Ars igitur convenit in hac cum natura” (Averroes, \textit{De physicorum}, 81L-M).

\textsuperscript{154} Averroes does not talk about the heavenly bodies here, although they are quite important for him. Indeed he wrote an independent treatise on the heavenly bodies to fill in gaps that he perceived in Aristotle’s work. I am not able to elaborate on his cosmology here. The ends of the heavenly bodies are mentioned in he treatment of \textit{Metaphysics} XII. For more on Averroes treatment of the motion of the heavenly bodies and the effects their movements have on the world, see Ruth Glasner’s \textit{Averroes’ Physics}, Oxford: Oxford University Press, 2009.

\textsuperscript{155} I.e., we call something a chance occurrence when what happens always or for the most part does not actually happen.
1.16 How a Final Cause Causes for Averroes

We will consider how a natural final cause actually causes for Averroes. While it will not be an “irreducible potency for form”, a final cause does essentially the same things for Averroes as the final cause did for Aristotle. Where Avicenna connected the final cause most closely with the efficient cause, Averroes ties it to the formal cause. This points to the difference of positions between Averroes and Avicenna on the pervasiveness of final causality in all that happens in the world.

First, it is clear that the final cause of a natural thing directs that thing towards a goal. In a natural thing, it is the very nature itself of that thing that acts as final cause. Of course the nature acts as efficient and formal cause, as well, just as it does for Aristotle. Following Aristotle, Averroes thinks it is possible to distinguish these different ways that a nature causes. The nature is an efficient cause insofar as individuals of a particular nature cause the next generation of individuals of a given nature through reproduction. No individual is its own natural efficient cause. (i.e. No individual acts to give itself the kind of nature it has. This must be done by a different individual.) The nature is the formal cause of an individual insofar as the nature of a thing is what makes it to be the kind of thing that it is. For example, a collie is a collie because it has the nature it does, not because of outside activities.

A nature is a final cause insofar as a nature directs the activities of what has it towards some goal. Because of its nature, a poppy seed has in it in some way a full grown poppy, which

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is the only thing a poppy seed will try to be. Averroes (like Avicenna) gives an account of final causes as "intention-like". It is as though there are built-in intentions in natures.

Just as a would-be bather intends the baths, so does a would-be poppy (i.e. a poppy seed) "intend" the flower. Of course, while the baths are outside the one intending to go to them, a nature does not direct an individual to anything outside of what has the nature. (There is nothing outside of the one with the nature that is the end of the one acting, as the baths exist outside the bather.) The nature and the final cause are one. Final causality is what directs the nature to do what it does, like an intention.

We posited that natural final causality was an irreducible potency for form in Aristotle which acts as a guide by limiting what a nature does. Because potency does not exist, as far as Avicenna is concerned, a final cause could not be a potency. He recognizes the importance of maintaining an account of this kind of causality and he categorizes it as a kind of formal cause. Averroes’ account of natural final causality continues Avicenna’s stress on the intention-like aspects of it, but he emphasizes the connection between the final causality of nature and the nature itself. Effects that cannot be traced back to what some nature was “trying” to do are considered to be by chance.

The fact that Averroes ties activity for ends most closely with nature leaves room for him to hold that some results are by chance. This points to a split with the pervasiveness of final causality in Avicenna’s account of natural activities. For Avicenna, efficient and final causality have a lock-step relationship with each other. What is moved efficiently is moved in accord with
an end.\textsuperscript{157} Surely we recognize that natural ends can be frustrated insofar as an individual of a particular nature may not achieve the end it was seeking.\textsuperscript{158} But because the frustration of the end of that nature was brought about by an efficient cause, even deformities are for the sake of some end for Avicenna.\textsuperscript{159} Even though we can recognize that the end of a particular complex whole is frustrated, whatever happens is nonetheless for an end. But Averroes does not subsume natural activities and the results of all activities for ends under the active direction of the first final and efficient cause, as Avicenna did.\textsuperscript{160}

Averroes does not tie final causality as strongly to all results as Avicenna does. Instead of focusing on the relationship between efficiency and finality, Averroes stays within the bounds that Aristotle provides in the \textit{Physics} and ends up with a doctrine of natural final causality very similar to that of Aristotle. Natural final causality is recognizable in nature and recognized as the cause of the direction of development, maturation, or motion of whatever has a nature.\textsuperscript{161}

\textbf{1.17 First Mover as Final Cause in Averroes}

Averroes gives an account of how the first final cause causes the world that attempts to elaborate on Aristotle’s position and fill in explanations where Aristotle did not provide them. Unlike Aristotle, Averroes thinks the first final cause is also the first efficient cause. Unlike

\textsuperscript{157} Again, the First Cause for Avicenna is both the first efficient and first final cause.
\textsuperscript{158} Imagine, for example, the person who has six instead of five fingers.
\textsuperscript{159} Such results are for the sake of the First mover which is ultimately responsible for bringing about the frustration of that natural end.
\textsuperscript{160} Averroes does not hold that the first mover caused the existence of the world and all of nature. The independence he sees in nature is supported by a corresponding conception of weak (but not unimportant) causal power of the first mover. This is also in harmony with Aristotle.
\textsuperscript{161} For those natural things that are not alive, natural final causality directs the motion of those things to their proper places.
Avicenna, Averroes does not think that the first mover, as efficient cause, is the cause of the existence (*esse*) of the world. We get an explanation of the causality of the first mover that is unique to Averroes and influential for later thinkers who will see his explanation of final causality through efficient causality in the intellect of a rational agent as a model for the causality of any final cause. Essentially, his account of final causality here provides a way for future interpreters of Aristotle to understand all final causality (i.e. in Ockham), and ultimately to explain even rational final causality as a kind of efficient causality (i.e. in Buridan).\(^{162}\)

Averroes’ account of the causal power of the first mover from his *Long Commentary on the Metaphysics*\(^ {163}\) gives us his creative response to the problem of how the first final cause could be a source of efficient causality. His answer is to have the first mover be the cause of efficient causes through its finality. I see him drawing a distinction between natural final causality and rational final causality, finding the first mover’s final and efficient causality apply to rational final causality only.

As I mentioned above, Aristotle was not compelled to give a detailed account of how the first final cause actually causes. He was satisfied to prove that there has to be a first final cause. It was enough to show that all the cyclical regularities in the world pointed to the existence of some cause of all this regularity. He concluded that there must be a being that moves in the most perfect cyclical way which somehow acts as a model for all natural things. These natural things

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\(^{162}\) In other words, even though Averroes avoided a reduction of final causality to efficient causality in his doctrine of natural final causality (a reduction that would be a greater temptation to one following Avicenna’s conception of natural final causality), he sets up a reduction of rational final causality to efficient causality through his explanation of divine causality that will see the end of final causality as a properly explanatory cause outside of efficiency.

\(^{163}\) This is in book XII (Lam/Lambda) of Averroes, *De metaphysicorum*, 318D-319E. It corresponds to 1072a26-1072a29 in Aristotle’s *Metaphysics*. 
emulate it as best they can through their natural activities. Aside from being sure that the first mover was a final cause, Aristotle said little of how the first mover caused. Aristotle does not attempt a top-down explanation of just how the first final cause is able to move the world as a final cause. He did not clarify just how this first final cause’s causal power (as something loved) would have conveyed from it to the lower spheres.

Averroes attempts an explanation of this causal power. He wants to give an account of the causal power that starts with the first mover and traces its motion to the effects on earth. With the first cause accounting for both the motion of the world (efficiency) and the directedness of this activity (finality), Averroes is able to give a more complete account of the activities of the world from their point of origin in the first cause.\(^\text{164}\)

Final causality in the *Physics* is inseparably connected with the activities of nature. What has a nature has a particular final cause that directs the individual of that nature to be the best whatever-it-is. If we say that this is similarly true for the first final cause, we are saying nothing more than that the first final cause will act as it best can. This tells us only that the first final cause will work for its own perfection and tells us nothing of how it moves anything outside of itself. (The perfection of the first final cause will come from its own movement, not from its moving anything outside of itself. Otherwise, having an imperfection such as that, it could not be our first cause.) The application of such a notion of final causality certainly does not connect the dots between the final causality of the first final cause and the efficient causality of the heavenly bodies.

\(^\text{164}\) Again, his rich cosmology, while it deserves further treatment, is not my focus here, but the final causal power of the first mover.
In his *Commentary on the Metaphysics*, Averroes does not concede that the first mover is an efficient cause through its own proper activity (as Avicenna did). He attempts to show the power that the first final cause has as final cause by asserting that its power as final cause is the source of efficient causality in the world.

With fidelity to Aristotle, Averroes notes in his comments that if the first mover moves without being moved itself (like the soul moves body), it must move what it moves as what is desirable and pleasant moves us. Specifically, it moves as what is both known and desired moves us.165 This leads Averroes to detail how the object of a rational agent’s desire is a cause of motion. He first distinguishes human rational desire from the rational desire within the heavenly movers. The way he draws the distinction gives him room to keep both human and heavenly desire in discussion with regard to the first final cause’s effects as final cause, while noting that human rational agency is not as closely directed by the first final cause as heavenly motion.

For human beings, the object of desire and the object of will are not always the same. The different things we desire (i.e. what we ‘prefer’) and the object of the will (i.e. what is truly beautiful) can take us in different directions.166 (I.e., pursuing what we think is good can lead us away from the true good, which we want. Likewise, willing the good can keep someone from engaging in activities that are desired or pleasant to the senses.)

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165 “Et cum primum movens movet et non movetur, neque secundum accidens, neque secundum seipsum, sicut movetur anima, quae est in corpore, necesse est ut iste motor moveat, quemadmodum desyderyatum, et affectatum movent nos. Quare actio videtur esse bonum” (Averroes, *De metaphysicorum*, 318E-F).

166 “Et, quia modi desyderabilium moventium sunt apud nos alii a modis intelligibilium, quae movent nos, adeo quod iste duae motiones contrariantur sibi: quoniam motion in alterum desyderati differt a motione in alterum intellect” (Averroes, *De metaphysicorum*, 318F).
This difference cannot arise in the case of the heavenly movers, to which what appears good is the intelligible good. What seems beautiful to the spheres is the beautiful itself. They cannot be drawn away from the good itself by desire for seemingly good things, as humans can. The reason that humans seek beautiful things instead of contemplating the beautiful itself is that they perceive what is pleasant through the senses and contemplate the intelligible truths with the intellect. Humans do not experience the pleasures of the intellect through the senses; nor does the human intellect experience pleasure in the way the senses do. The heavenly bodies, however, do not have sensation, so there can be no distinction between what is pleasant and what is intelligible in them. So, the first mover moves the heavenly bodies because it is intelligible, but it is also pleasant for them (since, as intellects, it is pleasant for them to have what is intelligible). So, even though humans and the heavenly bodies have souls with the powers of intellect (knowing) and desire (which is a power of local motion/efficiency), humans are limited in their ability to pursue the highest good. But, through the presence of intellect and will, humans can most definitely have the first final cause as their end.

Averroes thinks that the first mover is both the first final cause and the first efficient cause (agit motum) of the world. The possibility of a final cause not being an efficient cause is found only in human rational activity since humans are not satisfied with knowledge alone.

167 "Corpora igitur coelestia, quia non sentiunt: sensus autem non est in animalibus nisi ad salutem: ideo desyderatum in eis non differt ab intellectu" (Averroes, De metaphysicorum, 318G).
168 "Dictum est in Octavo Physicorum, quod movens haec corpora coelestia in nulla existis materia, et quod est forma abstracta. Amplius in libro de Anima formas abstractas esse intellectus. Quapropter movens est intellectus, et est movens, quia agit motum, et quia est finis motus" (Averroes, De metaphysicorum, 318H). Averroes is convinced that the first mover of the Physics, which moves the celestial bodies is a separate form (i.e. it has no body). He’s referring his reader to the de Anima for support of the assertion that separate forms are intellects. With these pieces, he is confident in asserting that this intellect is the mover of the spheres since it is both the cause of motion and the end.
Averroes says that an agent of motion (i.e. efficient cause) and an end of motion (i.e. final cause) are distinct (and multiple) only in human beings, “because it (i.e. what moves humans) has two modes of existence, one in the soul and one outside the soul.” A cause that moves a man, insofar as it exists in his soul, is the efficient cause of his motion. But insofar as what moves a person exists outside that person’s soul, it causes as a final cause. (I.e. it is what the person is acting for the sake of.) Averroes’ example is the baths, and a person’s desire to go to the baths. The baths can move a person in two different ways, one way insofar as the form of the baths is in the soul and another insofar as the form of the baths is outside the soul.


“Haec autem differunt in nobis, quod movet nos in loco secundum quod est agens, et quid movet nos in loco secundum quod est finis. Et habet duplex esse, in anima, et extra animam. Quod autem est in anima, est agens motum. Secundum vero, quod est extra animam, est movens secundum finem. Verbi gratia, quoniam balneum duplicem habet formam in anima et extra animam; et propter illam formam, quae est in anima, desideramus aliam formam, quae est extra animam” (Averroes, *De metaphysicorum*, 318I). This points to Averroes’ solution to the key problem of the existence and causality of the final cause. Specifically, for rational final causality, the final cause appears to be both present in the one acting for the sake of it, yet not present in the very same agent since activity is done to bring about something that does not yet exist or is not yet held by the one seeking it. Averroes is highlighting this problem and suggesting that whatever exists in the agent and moves it must be efficient, while what is outside the agent is the proper final cause. Averroes points out that this is not a problem for the heavens, which are content in having intelligible content and have no bodily demands to satisfy.

Also see his *De Substantia Orbis*, Ch.1, He identifies the efficient and final causes of the motion of the heavenly bodies. “Ergo nihil est in corporibus coelestibus, quo forma, qua est motus, differat ab ea, ad quam est motus: immo sunt eadem formae, et non differunt, nisi in dispositione. Et, si ita esset, tunc suum movere esset finitum. Quod non movet impossibile est ut sit principium motus eterni. Et dicit Aristoteles quod intellectus et intellectum idem sunt in corporibus coelestibus. Et hoc totum dictum est in alius locis” (*De substantia orbis*, 6G-H). So, what puts the heavenly spheres in motion and what they move towards (or for the sake of) are the same.

Arthur Hyman translates this passage from the Hebrew as, “The intellect and the intelligible in the celestial body are one and the same thing, that the form toward which the sphere is moved and the form by which it is moved are one and the same. All this concerning the intellect and the intelligible has already been explained in other places” (*Averroes’ De Substantia Orbis: Critical edition of the Hebrew Text with English Translation and Commentary* (Cambridge: The Medieval Academy of America, 1986), 71). He refers us to the *Metaphysics* as the location where more on this can be found.
When the form arises in the soul, “we desire it and it moves us towards it.”\textsuperscript{170} One is moved towards the existing baths because of the form of the baths that is in the soul. In this way, the baths (or form of the baths) act as an efficient cause. “This form... is the efficient cause of the desire and motion” of the person towards the baths.\textsuperscript{171} And insofar as the actual baths are sought out by a man who desires to use them, the baths are causing as a final cause, not as an efficient cause. They are what the person is moving for the sake of. The actual baths exist as the stopping point for his desires and his activity towards the baths which was begun by the form in his thoughts.\textsuperscript{172}

Averroes is saying that this person does not desire to have merely the idea of the baths. The form that moves the agent, insofar as it is a form in the intellect, is not the final cause of the person’s activities. The form is not for the sake of which the man acts. The man is acting for the sake of something outside of himself. If baths did not exist in matter and could be held only in the intellect, when the form of the baths was desired, it would move the man as both efficient cause and end together. So, if thinking of the baths provided the pleasure that actually going to the baths did, it would be his end to simply consider the baths.

While the form of the baths does not move the man who wants to go to the baths as both efficient and final cause, the movers of the heavenly bodies are moved by such a cause (that is both efficient and final). Insofar as the movers of the heavenly bodies contemplate the form of

\textsuperscript{170} Genequand, \textit{Ibn Rushd’s Metaphysics}, 149. “Propter illam formam, quae est in anima, desyderamus aliam formam, que est extra animam” (Averroes, \textit{De metaphysicorum}, 318I).


\textsuperscript{172} Cf. Averroes, \textit{De metaphysicorum}, 318K-L.
the first mover, the form of the first mover is the efficient cause of the movers of the heavenly bodies. They contemplate the first mover, the form of which moves them. It excites their desire and, by that, it makes them move. Because they are moved by their desire for these forms, we can say that the form of the first mover is their efficient cause. Because they are satisfied to have the form, it is the end.

But if the heavenly bodies need only to contemplate the form of the first cause, why do they move in any other ways? Averroes asserts that the heavenly bodies are perfected by their circular motion.  

It is like a carpenter who knows that his image of a chest is not an actual chest, but that he must move in order to bring it about. As long as the movers of the heavenly bodies consider the most perfect being (the first mover), they will move the heavenly bodies in a way to continuously actualize the potential that the heavenly bodies have for circular motion. Their perpetual circular motion is the best they can do to actualize themselves in accord with their knowledge of the most perfect being. They can do what they are supposed to do in an almost perfect way because of what they are.

Averroes description of the causality of the first final cause is definitely not a recapitulation of his account of the way natural final causes cause. His explanation of the final and efficient causal activity of the first mover here is based on rational purposive activity. Humans and the heavenly movers both have intellect and will and are moved by what they will. We can see that the heavens are moved by intellects that are almost perfect, able to will the

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173 "Corpora coelestia, cum habent appetitum propter intellectum: intellectus autem maius bonum ipso appetit: contingit necessario, quod corpora coelestia appetunt in hoc motu, aliquid magis bonum ipsis" (Averroes, De metaphysicorum, 319C-D).

174 They will happen to create and move (i.e. be the efficient causes of) the material world, as well, but this is not their end.
perfect good and pursue it in their activities without being misled by what appears good. The perfect good is what appears good to them.

Humans, on the other hand, have both intellect and body. Through intellect and will, they desire the perfect good. Unfortunately, because humans have sensation because of their bodies, the human pursuit of the good is affected and often hindered by what the senses convey as pleasant or harmful. The examples Averroes uses to illustrate the way that a final cause can also be an efficient cause, of a man desiring to go to the baths and of a carpenter planning to make a chest, rely on the final cause being external to the agent acting for the sake of it. While these examples are very fitting for Averroes’ aim here of explaining how the first cause, which exists outside the movers of the heavenly bodies, is the source of heavenly motion, it makes it impossible that he is speaking about a causal power in the nature of the one acting. Averroes sees that the first final cause causes as a final and efficient cause insofar as it is known (efficient) and pursued (final) by a rational agent.

The implication, then, is that the first final and efficient cause is the cause of all only insofar as the movers of the heavenly bodies, which move the earth below, do what they do for the sake of the most perfect being. This is an indirect way for such an important cause to be the cause of motion in the world.\textsuperscript{175}

\textsuperscript{175} And, as a top-down explanation, it is remarkably lacking in providence. Taneli Kukkonen notes, “Providence for Averroes issues from all beings from the ground (the elements) upwards imitating the First Principle – not from this harmony being effected forcibly from above. On the individual level, this teleology takes the form of each existent being acquiring a functional form in accordance with the appropriate celestial movements, and this is what is meant by divine ‘creation’; the actualization of all latent potentialities in matter. There is no creation \textit{ex nihilo}, nor is there room for a first moment of creation. On the cosmic scale, what is important to notice is that none of the existents consciously acts to the others’ advantage – not even God, it seems. Instead, God’s responsibility for the universal order is demonstrated through the fact that this order does not come about by the
1.18 Averroes: Conclusion

Averroes doctrine of natural final causality essentially agrees with Aristotle. There are final causes in nature that direct the activities of things having natures. Natural final causes are, fittingly, tied into the activities and limitations of nature. The directedness of complex natural wholes can be recognized through the regularity of those wholes. They regularly act to bring about what is good for the whole (not the constituent parts) and reproduce individuals that act similarly to themselves.

While Averroes saw natural final causality as an aspect of a thing’s form, the way he describes what it does, as directing and regulating the activities of natural agents on the level of the complex whole, keeps him in harmony with Aristotle, even though we characterized a natural final cause as an irreducible potency for form in his thought.

Averroes ascribes an independence to nature in its direction that dovetails with his more robust allowance of the attribution of chance to the complex results of the interactions of natural agents with each other.

This independence of nature also dovetails with what, in the light of the way Avicenna’s first cause caused, is a doctrine of a weak first final and efficient mover. The first cause, as the first efficient cause, is not the source of being (esse) for the world. It is the efficient cause insofar as the form of the most perfect mover, when held in the intellect of a rational agent, causes motion in that agent. The first final cause is primarily a final cause, which means the agent that

See also Barry Kogan’s Averroes and Metaphysics of Causation (Albany: State University of New York Press, 1985).
knows it is acting for the sake of it. But its effects as final cause are not tied to any attempt on its part to be a model for the world. Consider, for example, that the baths, as the final cause of a man’s activity, are essentially passive with regard to the man’s agency, i.e. they are simply standing in their spot should the man actually arrive and cease his searching. In the same way, the first mover does not make any kind of attempt to be a final cause to the movers (whatever that could look like). The first mover simply acts in its own proper way. There is no ‘push’ issuing from the first mover so that this might come about.

1.19 Chapter 1: Conclusion

We found in Aristotle the philosophical groundwork for recognition and analysis of directed, purposive activity in nature. The regular activity of complex wholes points to direction of those complex wholes, at the level of the complex whole. It is a hearty denial of materialism in nature (a denial upheld by all the Parisian thinkers we will address) and an affirmation that the parts of complex wholes act in coordinated ways so that the whole might thrive and produce more of the same, even if there is no reason or even cognition to be found in the powers of those wholes.

The way that this direction is present in natural agents is not clearly laid out by Aristotle, but it is best to explain the source of such direction as an irreducible potency for form. This is not harmonious in all ways with what Aristotle says about potencies, but it is the best term, based on what is available from Aristotle, to describe the presence of such a principle in nature.

While Aristotle saw that the order in the world pointed to a highest orderer that is most perfect and what all of the lower ordered agents in the world must be trying to emulate, he does
not provide a detailed explanation of how this first final cause causes, other than asserting that it causes as a final cause.

Aristotle’s argumentation for the recognizability of final causality in nature, as well as the issues in his thought related to natural final causality that he did not flesh out more fully, are taken up by the Parisian thinkers in the twelfth and thirteenth centuries, some looking to further Aristotle’s thought, some to correct it, but all in pursuit of the truth on these issues.

But, of course, the physical thought of Aristotle is received in medieval Europe along with the comments of Averroes and the philosophical writings of Avicenna, which are not uniformly influential. Avicenna took Aristotle’s affirmation of regularity pointing to finality to mean that regularity pointed to necessity and necessity pointed to finality. He agreed with Aristotle that complex natural wholes act for the sake of ends, but he found that, insofar as they are causes, they must all act for the sake of ends, since no cause acts unless it is for the sake of an end.

He finds that all that happens in nature is for the sake of something, making chance merely a mental designation for causal relationships that rational agents were not anticipating. The ordering of even the results of complex interactions of natural agents coincides with the causal power of the first cause, which, as the efficient cause of the world, causes all that happens in the world to be for the sake of something. The pervasiveness of ends in nature for Avicenna will be attractive to the Parisian thinkers, but not all will agree that human reason is adequate to recognize that all results in nature are for the sake of something. Also, the close connection he draws between efficient causality and final causality will be adapted by some Parisian thinkers to
allow for a reduction of natural final causality to efficient causality, which Avicenna himself did not abide.

When Ockham reduces natural final causality to natural efficient causality, he finds Averroes’ account of the final and efficient causal power of the first mover to be a good model for proper final causality. In other words, rational final causality will be proper final causality. Averroes’ passive account of the final and efficient causality of the first mover will be utilized to make room for the freedom of rational agents in the face of the final cause, which, for Ockham needs to be a determining cause that becomes a determining cause through the agency of the one being determined. The way the first final cause causes for Averroes (and really, the way rational final causes cause), with the end only bringing about an effect insofar as it is held in the intellect of a rational agent, will provide Ockham with what he is looking for. With the passivity we saw in Averroes’ account of rational final causality, a final cause would not need to exist to be a final cause. Only the intention of a result needs to exist to be a cause of action.
Chapter 2: The Parisian Appropriation of Aristotle

2.1 Introduction

Thomas Aquinas’ writings bear out the reception and sophisticated adaptation of Aristotle’s doctrine of natural final causality in medieval Paris. Like Aristotle, Avicenna, and Averroes, Aquinas recognizes direction through natural regularity on the level of the complex natural whole. A natural final cause is a virtually existing irreducible potency for form. His description of this principle is similar to the descriptions we see in Aristotle and his Muslim readers insofar as Aquinas describes a natural final cause as a potency for form that has virtual existence and directs an agent toward some goal.

Aquinas makes room for the freedom of rational agents and an independence of natural activity in his description of the first mover, while understanding the first mover as a providential first cause, not one that moves nature deterministically. He reconciles the internal directedness of natural agents that can be known in philosophy with the creative and directive power of God in a way that is closest to Aristotle’s approach, even though Aquinas’ conception of God is closest to Avicenna’s. And while he agrees that all that happens (i.e. all the results of complex natural interactions) is under the direction of providence (and so for the sake of the first cause), he does not go as far as Avicenna did in postulating the proper ends of specific complex interactions.

After Aquinas, we will see that a similar position on the recognizability and causality of natural final causes is taken up by Duns Scotus, who also relies on Aristotle’s Physics for his own sparse argumentation that natural agents act for ends. As to the causality of the final cause,
Scotus has more to say. It is well known that Scotus has a pressing concern for distinguishing rational (free) from natural (determined) agency. In doing this, he closely ties the effect of a natural (determined) agent to its motive power (i.e. efficient causal power). He does not reduce natural final causality to efficiency, but he connects them very closely.

Scotus is as clear as one could hope in what he says about the way a natural final cause exists. He describes a natural final cause as quasi-objective and quasi-formal. However, as one might suspect based on the terms he uses, what clarity he is able to bring to his formulation of a natural final causality does not resolve the lingering doubts one could raise about a natural final cause as a principle of motion. In fact, I think Scotus effectively sharpens the lines of the target on natural final causality as a metaphysical principle. With his explicit (and metaphysically honest but still unattractive) account of a quasi-objective and quasi-formal natural final cause, combined with the emerging possibility of explaining the directedness of nature in terms of efficient causality alone, he cuts a path through which the reduction of natural final causality to efficient causality can be brought.

Scotus's description of the direct final causal activity of God appropriates Averroes’ approach that requires a rational agent’s intellectual grasp of God for God to be a proper final cause of an agent’s activity, thereby rejecting the possibility that God is the final cause of a natural agent’s activity. He is able to maintain God’s role as the final cause of nature by incorporating an Avicennian approach to the connection between God’s finality and efficiency. In this way he saves the natural recognizability of God as the first final cause without positing a natural desire within natural things for God. He effectively streamlines divine final causality by denying that natural regularities and results, of themselves, provide evidence of a natural desire
to imitate God. This eliminates the demand that is placed on natural activities and results to provide evidence of God’s direction without denying that God directs all of nature.

2.2 Aquinas: Introduction

Aquinas’ argumentation regarding natural final causality is a perfect example of his use and development of Aristotelian ideas. He is clearly following in Aristotle’s footsteps while at the same time using Aristotle’s ideas in the service of his own intellectual pursuits. He accepts the Aristotelian formulation of the problem of natural final causality as well as the Aristotelian formulations of the responses to those problems. As far as Aquinas is concerned, man can recognize natural final causes in natural agents through unaided reason. The fullest recognition of the end of any natural agent is that it is from God and for God, which is signaled by his commitment to explaining natural final causality in the context of discussing divine providence.

He locates the causal activity of a natural final cause in a nature’s potency for form. Aquinas attempts to normalize his characterization of the natural directing cause by providing additional terms to describe this principle. We will conclude that this cause has virtual existence, connecting the existence of the natural final cause with the existence of any effect in its cause. While his description makes clear what he is trying to convey, he does not keep natural final causality from being problematic in its existence and causality.

He also maintains that God is both the first final and efficient cause, the director and source of being for the world. Aquinas gives a special character to God’s role as final cause, distinguishing it from natural final causality. He also provides a framework within which to
understand the way God causes natural agents as their final cause. He explains it in terms of each natural agent’s appetite for perfection, not in terms of the efficient causality of higher causes.

2.3 Recognition of Natural Final Causality in Aquinas

I will start my treatment of Aquinas’ position on natural final causality by looking at his commentary on Aristotle’s *Physics*, book 2, Ch. 8. Lest starting with a work that is supposed to be a clarification of Aristotle’s thoughts should appear to be an inappropriate starting point for Aquinas’ thought, I will note that while Aquinas is, indeed, working to clarify Aristotle’s thoughts in his *Physics* commentary, nonetheless, his own thought permeates his Aristotelian commentaries through and through. In fact, Aquinas’ commentaries on Aristotle appear to be

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176 Thomas Aquinas, *Comm. de physico*.
177 Cf. Joseph Owens, “Aquinas as Aristotelian Commentator,” in *St. Thomas Aquinas 1274-1974: Commemorative Studies*, v. I (Toronto: Pontifical Institute of Mediaeval Studies, 1974), 213 – 238. His emphasis is on noting what must be Aquinas’ own thought in the *Questions on the Metaphysics*. He says of Aquinas’ *Physics* commentary that, “a creationist metaphysics is presupposed and freely used” (231), and in summary that, “the Thomistic metaphysics of existence, in the relation of existence to common nature and in the understanding of efficient causality as the bestowal of existence, seems taken for granted throughout [all his Aristotelian commentaries]” (234). John Wippel, through his examination of a number of topics Aquinas addresses in his *Questions on the Metaphysics*, argues that Aquinas’ Aristotelian commentaries bear the mark of Aquinas’ positions, but are useful tools for one interested in the thought of either Aristotle or Aquinas (“Thomas Aquinas’s Commentary on Aristotle’s *Metaphysics,*” in *Metaphysical Themes in Thomas Aquinas II* (Washington, D.C.: The Catholic University of America Press, 2007), 240-271). Mark Jordan, on the other hand, goes so far as to assert that it is “unhappy” to even call Aquinas an Aristotelian (*The Alleged Aristotelianism of Thomas Aquinas* (Toronto: Pontifical Institute of Mediaeval Studies, 1992), 41). One of his goals is to point out difficulties in establishing just what characteristics a thinker must have in order to be full-fledged “Aristotelian”. More importantly, though Jordan argues of Aquinas’ Aristotelian commentaries, “The expositions will show what Thomas takes Aristotle to be saying. They will not tell you how he judges Aristotle in relation to alternate authorities, whether philosophical or theological” (21). Overall Jordan is trying to make a different point than Owens and Wippel. Nonetheless, Aquinas’ failure to provide an explicit comparison in his Aristotelian commentaries between Aristotle and a variety of other influential thinkers does not eliminate his commentary works from consideration by those who would establish Aristotle’s influence on Aquinas or, similarly, Aquinas’ own positions in light of Aristotle.
his ways of making Aristotle agreeable to himself.\footnote{Eileen Sweeney agrees that Thomas indeed uses Aristotle to advance his own project, which Aristotle’s ideas do not, of themselves, support. She notes that Aquinas makes a strong effort to smooth over what are actually dramatic differences between himself and Aristotle in their treatments of causality and change (among other areas). Aquinas covers over such differences with his use of analogy (“From Determined Motion to Undetermined Will and Nature to Supernature in Aquinas,” \textit{Philosophical Topics}, v. 20, n. 2, (1992), 189 – 214).} Owens points out that there are a number of instances where Aquinas appears to have a clear understanding of Aristotle’s text or ideas but adjusts his reading of Aristotle so that it is compatible with his own scientific project.\footnote{See Owens, “Aquinas as Aristotelian Commentator,” 225 – 229. He sees this in Aquinas’ treatment of the subject matter of metaphysics as well as the source of the perpetuity of motion in the world.} This may not be strong enough reason, in itself, to take Aquinas’ position as a commentator on Aristotle as being Aquinas’ own position. Regardless, Aquinas’ position in this commentary on natural final causality is bolstered by his non-commentary writings, where he uses argumentation almost identical to what he attributes to Aristotle in his commentaries on the Stagirite’s writings.\footnote{My primary goal is not to establish a connection between Aquinas’ different texts (in terms of influence), but to lay out his position. It appears to me that his understanding of Aristotle is the basis for his position. At the very least, it is the same.}

Aquinas sees eight arguments in Aristotle’s \textit{Physics}, book II, chapter 8 (198\textsuperscript{b}10 – 199\textsuperscript{b}33),\footnote{This begins in book II, lecture 12 of his commentary.} that show that natural things act for ends. The first five are Aristotle’s own proper arguments. The last three are seen as Aristotle’s responses to objections to his position. The major difference between Aristotle and Aquinas at this point is the discussion of providence in which Aquinas sets these arguments. Aquinas is interested in the order of nature insofar as it points to an ordering cause of all of nature. I will summarize the eight arguments, indicating the general thrust of each. I will also point out the importance of providence for Aquinas in this
context. After that, I will move on to some of Aquinas’ arguments in his non-commentary works, *Summa Contra Gentiles* and *De veritate*, which show that things act for ends.

Aquinas recognizes that Aristotle is framing his account of natural final causality as a response to material reductionism.\textsuperscript{182} He sees that this reductionism, which requires no accounting of ends in natural things, needs to be addressed because this would lead to difficulties with regard to providence.\textsuperscript{183} We need to find out if nature acts for an end (especially in those things that do not know their ends) so that we can affirm that natural things are under the governance of an intelligent orderer (i.e. are cared for by providence).\textsuperscript{184} Even though he places his study of natural final causality in the context of divine providence, we will see that his treatment of Aristotle’s position follows the *Physics* fairly closely.

Aquinas rightly notes Aristotle’s assertion that the ancient natural philosophers held that natural activities could be fully explained in terms of material necessity. Aquinas duly mentions rainfall and the support Aristotle provides to the ancient position he will disagree with. Rain’s indifference with regard to whether it hydrates or ruins a crop seems to indicate that it acts neither so that plants might be watered nor that grain on the thrashing floor might be ruined. In fact, rain appears not to act for the sake of anything, but only by virtue of its material necessity.

\textsuperscript{182} “Omnes antiqui naturales reducunt effectus naturales in hanc causam, assignando rationem de eis, scilicet quod necesse est ea sic evenire propter materiam” (Aquinas, *Comm. de physico*, 90).

\textsuperscript{183} “Dicit ergo primo, quod dicendum est primo quod natura est de numero illarum causarum quae propter aliquid agunt. Et hoc valet ad quaestionem de providentia. Ea enim quae non cognoscunt finem, non tendunt in finem nisi ut directa ab aliquo cognoscente, sicut sagitta a sagittante: unde si natura operetur propter finem, necesse est quod ab aliquo intelligente ordinetur; quod est providentiae opus” (Aquinas, *Comm. de physico*, 90).

\textsuperscript{184} Aristotle made no such claim about providence in his own approach to showing that nature acted for the sake of something. The fact that Aquinas is incorporating this investigation into conclusions on providence, which Aristotle did not do, is evidence that he is appropriating Aristotle’s position as his own, as he is interpreting Aristotle in a way that appears to suit himself.
as water. A similar approach could be taken with animals.\footnote{Cf. Aquinas, \textit{Comm. de physico}, 91.} Perhaps they come together because of the necessity of the matter that makes them up.

I find Aquinas’ interpretation of Aristotle’s initial response to the ‘rain’ objection goes beyond Aristotle as Aquinas manifests his explicitly stated concern for providence. Instead of noting that Aristotle saw regularity in rainfall through the constant cycle of the seasons, namely a rainy season and a dry season, Aquinas attributes a specific end to rain, the conservation of things generable and corruptible.\footnote{“Nam pluvia licet habeat necessariam causam ex parte nateriae, tamen ordinatur ad finem aliquem, scilicet ad conservationem rerum generabilium et corruptibilium” (Aquinas, \textit{Comm. de physico}, 91).} Aristotle made no such attribution here. This move by Aquinas echoes the attribution of such an end to rain made by Averroes in his commentary on Aristotle’s \textit{Physics}.\footnote{I noted this above in Ch. 1, where I dealt with the recognition of natural final causality in Averroes. This similarity between Aquinas and Averroes was also noted by Klubertanz on p. 111 of his article, “St. Thomas’ Treatment of the Axiom, ‘Omne Agens Agit Propter Finem’,” in \textit{An Etienne Gilson Tribute}, ed. C. J. O’Neil (Milwaukee: Marquette University Press, 1959), 101 - 117.} Aquinas is pointing to the connection he sees between natural final causality and divine providence. He is showing his concern for the ordering of the whole of nature along with his concern for making it clear that things are not ordered simply by material necessity. We found Aristotle to be saying that water acts like water for the sake of water. Aquinas is saying here that water, as rain, is for the sake of the order of the whole world, which, of course, is not merely the water itself. He is giving an account of the end of water that is on a different scale than that involved in Aristotle's own version.\footnote{As was mentioned above (in the Aristotle section), the elements aren’t moved ‘for the sake of the whole world’ by what moves them. They are moved by what pushes them around for their own sakes.}

Aquinas is reading Averroes’ commentary and his own notions of God’s providence (final and efficient causal power) back into his physical explanation of the world. He is
postulating world-scale ends for things that have very self-directed and narrowly focused ends for Aristotle. This, of course, fits with his stated interest in looking at natural final causality so that we might better understand providence. It illustrates his departure from Aristotle’s *Physics* and puts us on alert that, recognizable as they might be, the ends of natural activities will not be fully explained in terms of the good of the natural agents themselves. Aquinas wants to fit everything into its role as the divine scheme for all of existence would have it.

Even though these claims are beyond Aristotle’s *Physics*, Aquinas makes them as a philosopher (metaphysician), not a theologian. He appears to be consistently anticipating the conclusions drawn in the *Metaphysics* that there must be a first final cause because of the final causality we see around us.\(^\text{189}\) I would say he is simply at home fleshing out implications that have not been explained in detail by the work at hand. Let us turn back to the *Questions on the Physics*.

The first argument (of eight) that Aquinas sees in Aristotle gets its strength from the distinction between what happens by chance and what happens by nature. What happens by nature happens always or for the most part while what happens by chance does not happen always or for the most part. Whatever happens is either by chance or it is for the sake of an end. (Even those who deny natural final causality should be able to affirm this premise.) What is outside the purview of an end happens by chance. (Again, anyone should be able to agree to this.) What happens always or for the most part cannot be by chance (just by the definition of chance). Therefore, what happens always or for the most part happens for the sake of an end.

\(^{189}\) The first final cause is also an efficient cause, more in the way Avicenna’s was than Averroes: more will be said of that below.
And so, what happens by nature is for the sake of an end. This argument relies on the definition of chance and the recognition of the regularities of natural things.\textsuperscript{190} Essentially, Aquinas sees that Aristotle identifies what acts always or for the most part with what acts by nature and asserts that, because of this regularity, what acts by nature cannot be acting by chance. What acts with regularity (i.e. by nature) must act for the sake of something.\textsuperscript{191}

The second and third arguments Aquinas sees in Aristotle are essentially the same as each other. In the second, he sees Aristotle arguing that what is done by human art is done for the sake of an end. And since art and nature work in similar ways, what is done by nature is done for the sake of an end. This is clarified in the third argument, where Aristotle points out that when art makes the same things as nature does, art does it in the same way nature does. Since art is for an end, so also must nature be for an end.\textsuperscript{192} This is a faithful appropriation of the compelling similarity Aristotle saw between art and nature, which must bear itself out in a similarity of actions for ends.

The fourth argument that Aquinas sees Aristotle making touches on the lack of intellect evidenced by so many natural things. Even animals and plants that do not have intellect produce things that are useful to themselves. We see that individuals of a particular type of bird or spider

\textsuperscript{190} Kevin Rickert distinguishes Aquinas’ notion of regularity from a statistical or empirical model of regularity that might be more familiar to today’s thinkers. Aquinas’ connection of a thing’s regularity to its nature (which a statistical or empirical model could not provide) is vital for making the connection between regularity and finality (“Evidence for Teleology: A Thomistic Analysis,” \textit{Aquinas}, 49 (2006), 365 - 379.

\textsuperscript{191} “Omnia quae fiunt, aut fiunt a casu, aut fiunt propter finem; Quae enim accidunt praeter intentionem finis, dicuntur accidere casualiter: sed impossibile est ea quae fiunt semper vel frequenter, accidere a casu: ergo ea quae fiunt semper vel frequenter, fiunt propter aliquid. Sed omnia quae fiunt sedundum naturam, fiunt vel semper vel frequenter, sicut etiam ipsi confitebantur: ergo omnia quae fiunt a natura, fiunt propter aliquid” (Aquinas, \textit{Comm. de physico}, 93).

\textsuperscript{192} “Unde si ea quae fiunt secundum artem, sunt propter finem, manifestum est quod etiam ea quae fiunt secundum naturam, propter finem fiunt, cum similiter se habeant priora ad posteriora in utrisque” (Aquinas, \textit{Comm. de physico}, 93).
make the same type of nest or web as each other. They produce those things in the same ways (i.e. with regularity). Since they do not produce these things for themselves from intellect, but from nature, it is clear that their activities for ends come from natural appetites.

The fifth argument is based on the identification of the form as the end of generation. Since generation of a form is generation for the sake of something, it is clear that what has a form (i.e. any natural thing) is for the sake of something. I do not see how this would convince a reader who did not already accept the conclusions of his earlier lectures. It does serve to highlight that natural things reproduce for the sake of something.

In the next lecture (13), Aquinas addresses arguments he sees as Aristotle’s rebuttals of objections to finality. He sees three bases for objection. Firstly, he sees that there can be errors in natural things (i.e. there can be monsters.). Secondly, he sees that efficient causality might be sufficient to explain the world, rendering final causality superfluous. Finally, he sees that, since nature does not deliberate, it should not act for the sake of anything. Aquinas deems Aristotle’s responses sufficient to address these objections.

First, even though there are monsters in nature, the very identification of things as monstrosities indicates there is some end that is not being achieved. Also, we see that natural things are not generated at random or by chance. An apple seed does not grow into a coconut

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193 Dicit quod cum natura dicatur dupliciter, scilicet de materia et forma, et forma est finis generationis, ut supra dictum est: hoc autem est de ratione finis, ut propter ipsumiant alia; sequitur quod esse et fieri propter aliquid, inveniatur in rebus naturalibus.
tree. That we see a regular order in the development of natural things is a sign that they act for the sake of something, even though natural things can miss their marks.\textsuperscript{194}

To one who suggests that an explanation of the world through efficient causality is sufficient to account for natural things, Aquinas points to Aristotle noting that nature acts with regularity. An end can be achieved by chance, but if a result happens regularly, we do not claim it is by chance. Efficient causality just by itself does not account for the regularities we observe.

Seeing that things act with regularity is to see that they act for ends. It is also to see that they have natures at all. What does not act with regularity is not said to be natural or have a nature. So, if the end is removed, the regularity goes with it and nature itself is denied. If there is no end, there is no nature.\textsuperscript{195} If there is no end, there is nothing for efficient causality to explain in physics (which is the study of nature). So there must be final causality and not merely efficient causality in the world.\textsuperscript{196}

To the third objection, that natural things that do not deliberate must not act for the sake of anything, the response is that an absence of deliberation is not proof of an absence of ends, although it is also clear that where there is deliberation, there are ends, Aquinas, like Aristotle, sees non-deliberative end-based activity in rational agents. Skill or art does not deliberate, yet is unquestionably for the sake of something. (The harpist does not deliberate on how to play when

\textsuperscript{194} It is not so much a case of “the exception proving the rule” as it is a case of “the presence of an exception proves that there must be some rule that is getting an exception.”

\textsuperscript{195} “Sed ipse contrarium ostendit dicens, quod ille qui sic dicit, naturam scilicet non agere propter aliquid, destruit naturam et ea quae sunt secundum naturam. Haec enim dicuntur esse secundum naturam, quaecumque ab aliquo principio intrinseco moventur continue, quousque perveniant ad aliquem finem; non in quodcumque contingens, neque a quocumque principio in quaecumque finem, sed a determinato principio in determinatum finem” (Aquinas, \textit{Comm. de physico}, 95-96).

\textsuperscript{196} We will see that Scotus does not think this is the case. He thinks that if natural ends were removed, natural agents would still do the same things. The difference would be that they would not be directing themselves to their end. They would be moved solely by God.
Because of this, he sees no good reason to deny the presence of ends in natural agents simply because they cannot deliberate.\textsuperscript{197}

Here Aquinas, again, goes beyond Aristotle by referencing God’s providential connection to what acts by nature.\textsuperscript{198} While it is clear that comparisons between art and nature were warranted for Aristotle (they are an integral part of his case that nature acts for the sake of something), he never went so far as to suggest that nature was a kind of art. This last argument provides an opportunity for us to highlight that as far as Aquinas is concerned, even though natural final causality is evident from the regularities of natural things, these regularities need to be placed in the context of a first mover to be fully understood. This is an additional conclusion of Aquinas at this point in the \textit{Physics}, not found in Aristotle.\textsuperscript{199}

For the purposes of what we are pursuing here, though, Aquinas’ imposition of God’s providential causality is not a problem. Even though we see a divergence from Aristotle by Aquinas in his \textit{Commentary on the Physics}, the core assertion made by Aristotle is affirmed by

\textsuperscript{197} In his \textit{On the Principles of Nature} (42 [§3, ln. 16 – 41]), Aquinas provides a brief argument that could be used to show that (non-deliberative) natural (as distinguished from voluntary) agents act for ends without deliberation. First, it is clear that voluntary agents act for ends because they know or deliberate on how to achieve the end. Explicitly drawing from Avicenna, Aquinas then points out that a harpist, who all would agree is a voluntary agent (as a human being), acts for the sake of an end (playing a song) without deliberating while he is in action (playing the instrument). If our harpist were to deliberate while playing, the performance would be a disaster.

Since an agent that properly deliberates on ends (i.e. our harpist) can act for the sake of an end without deliberation, so should natural agents, which do not need to deliberate on their determined natural activities. This allows him to conclude further that natural agents can act for ends without deliberation. Instead of deliberation, natural agents have a natural inclination (\textit{naturalem inclinationem ad aliquid}).

\textsuperscript{198} \textit{“Unde patet quod natura nihil est aliud quam ratio cuiusdam artis, scilicet divinae, indita rebus, qua ipsae res moventur ad finem determinatum” (Aquinas, \textit{Comm. de physico}, 96).}

\textsuperscript{199} Aquinas’ position here is, of course, consistent with his position that God is both the first final and first efficient cause. Efficient causality is here understood in the Avicennian sense. (i.e. God as efficient cause is not merely a pusher of what is, but actually confers existence (\textit{esse}) to what causes efficiently.)
Aquinas. The natures of natural things have built-in ends. Natural final causality can be recognized in all natural things through physical investigation.

As I mentioned above, Aquinas’ non-commentary writings also explicitly support the conclusion that natural final causality can be recognized in all natural things. In the *Summa Contra Gentiles* and *De veritate* Aquinas provides arguments like those in Aristotle’s *Physics*. I will briefly consider his arguments in both works where he makes the case that all things tend towards an end (and that all things tend towards the good). I will then re-address these same texts in the next part of this section when I consider just how a natural final cause causes for Aquinas.

Support in the *Summa Contra Gentiles* comes in book III, chapter 2, “That every agent acts for an end.” Aquinas gives several arguments showing that all things that act, act for the sake of an end. George Klubertanz sees the arguments making up four proofs. I will respect his ordering of Aquinas’ arguments and will consider the arguments that comprise the first proof.

Aquinas’ first argument draws parallels between the activity of rational agents for recognized ends (i.e. purposes) and the activity of non-rational agents for determinate results. In non-rational and rational activities we see connections between particular causes and particular effects (results). For example, an egg boiled in water does not come out cool, but hot. Or,

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200 That all things tend towards the good is a further specification of what it means to say that all things act for the sake of something. To say that all things act for the good is to say that they act for the sake of the good. It specifies that what all act for the sake of is an object of appetite.
202 Klubertanz, 106.
203 He groups the 1st with the 5th. The 2nd, 3rd, and 4th go together. Lastly, the 6th and the 7th are each seen to stand on its own. So, I will be looking at the 1st and 5th of Aquinas’ seven arguments. I will address the 1st argument presently and the 5th in the next part of this section.
whenever a lit match is touched to tinder, the tinder starts to burn. (It certainly does not become wet.) So it appears that what acts (e.g. heat or fire) is in action towards some determinate effect or outcome (e.g. heating or burning). And what a thing is determined to do (i.e. the determined outcomes sought by an agent’s action) is determined by what that thing is (i.e. what nature the thing has). 204

Aquinas here is pointing out the regularity found in natural activities. This is not pointed out in terms of what is regular, though, but in terms of what is a determined outcome. He sees that finality can be recognized in those things that are constantly acting to do the same thing, because they are always trying to do the same things. This kind of activity could not be traced to chance, but must be seen as coming from activity for the sake of something.

Also, saying that a thing acts to bring about a “determined effect” keeps the source of determination unclear. It does not imply that natural things act in the way they do either under their own direction or through the direction of another. However, natural agents act as they do through the direction of another. Nonetheless, we will see that, for Aquinas, natural things are not tools. Natures are internal principles of motion. There is a director outside of themselves that orders them as they are. The fact that natures are directed by something else does not change the fact that natural agents have an end tied to their natures that governs what they do. Natural final causality is operative even though God is the ultimate source of the end. Insofar as natural things move on their own, they must have their own specifically determinate ends.

204 “Nec differt, quantum ad hoc, utrum quod tendit in finem sit cognoscens, vel non: sicut enim signum est finis sagittantis, ita est finis motus sagittae. Omnis autem agentis impetus ad aliquid certum tendit: non enim ex quacumque virtute quaevis actio procedit, sed a calore quidem calefactio, a frigore autem infrigidatio; unde et actiones secundum diversitatem activorum specie differunt” (Thomas Aquinas, SCG, 5).
We experience ourselves and other people acting for determined results (as it is when we ride the bus to work or experience a doctor acting to bring about health). But we acknowledge that we determine the activities we do ourselves. We think that we could have taken a car to work instead or that the doctor could have chosen to not help an injured person (or chosen a different career path altogether). Aquinas does not note here that the determination of the effects can come in different ways. Indeed, that is not his point. His point is that both rational and non-rational things move towards some determinate effect, and thus, act for the sake of an end. By not drawing the distinctions he could have, Aquinas puts natural activity and the activity of rational agents, insofar as they are for the sake of something, on an equal level.

We find additional argumentation supporting the recognizability of activity for ends in nature in his *Disputed Questions on Truth*, q. 22, a. 1. Here Aquinas gives another account of natural finality that is in harmony with his reading of final causality in Aristotle’s *Physics*. In his reply to the question of whether or not all things tend toward the good, he first uses Aristotle to dispatch those Ancients who thought that effects came about due to the necessity of prior causes, but not because they are disposed in any particular way toward some effect. Aquinas finds Aristotle to have provided a succinct rebuttal of such a position. His presentation is a fine summary of what he called Aristotle’s first argument in the *Physics*. What happens most of the

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205 What is sought can be either a product or an activity. If an activity ceases with the creation of a product, then the product was the end of the activity. If there is no product made, the activity is for the sake of the activity. Thomas Aquinas, *De veritate*.

207 “Quidam antiqui philosophi posuerunt effectus convenientes in natura ex necessitate praecedentium causarum provenire, non ita quod causae naturales essent hoc modo dispositae propter convenientiam talium effectuum” (Aquinas, *De veritate*, 22.3, 613 [ln.128-133]).

208 “Quod Philosophus in II Physicorum ex hoc improbat quod secundum hoc huiusmodi convenientiae et utilitates, si non essent aliquo modo intentae, casu provenirent et sic non acciderent in maiori parte sed in minori, sicut et cetera quae casu accidere dicimus; unde necesse est dicere quod omnes res naturales sunt ordinatae et dispositae ad suos effectus convenientes.” (Aquinas, *De veritate*, 22.3, 613 [ln. 133-141]).
time cannot, by definition, be by chance, so such things must have happened because something was trying to make them happen. The rest of this question addresses how a final cause causes (or, how it is that something can be ordered towards an end), which will be addressed below.

Aquinas clearly holds, in following the Aristotelian tradition, that natural final causality is recognizable in anything that acts by nature. The arguments he uses in his non-commentary writings are evidence that he was convinced of it by Aristotle’s *Physics*. Aquinas is much more apt to point out the need for a first mover in his discussion of natural motion. This is the source of nature that is not limited as natural things are. He has set himself apart from Aristotle by addressing natural finality as a part of the examination of providence. While Aristotle also thought the motion of natural things pointed to a first mover, he did not mention it as Aquinas did in this context. (Their conceptions of the first mover are quite different, of course.) But whether there is a providential first mover worthy of mention at every opportunity or a non-providential first mover (as Aristotle thought), natural final causality is evident in the activity of natural things.

### 2.4 How a Natural Final Cause Causes for Aquinas

It should be clear that an explanation through efficient causality does not address final causality from what we saw above in the *Summa Contra Gentiles*. Further explication here of the relationship between final and efficient causality from his *On the Principles of Nature* will show that Aquinas did not reduce natural final causality to efficient causality. Even where efficient and final causes coincide, in the form of a natural mover, the form’s role as an efficient cause is
distinct from its role as final cause. A natural form that is an efficient cause is also a final cause only insofar as it has the characteristics proper to a final cause.

A natural final cause has the character of a rational intention and, as we will see, all final causal activity will be traced back to rational activity. Aquinas’ *On the Truth*, q. 22, a. 1 and *Summa Contra Gentiles*, III, 3, support this. However, the intention-like character of final causes does not require that an agent have reason as a prerequisite for acting for the sake of an end from its own power. While natural activities for ends are properly traced to rational agents, natures have final causes built-in, which he characterizes as potencies for form. Aquinas tries to address the obvious difficulty of making non-existents to be causes by implying that final causes have virtual existence.

It is clear in *On the Principles of Nature* that a natural final cause has a distinct and important causal role in motion. It is responsible for directing the efficient cause in such a way that the efficient cause would not cause in any ordered way unless there was a final cause directing it.209 This gives final causality a place of primacy in the explanation of nature. He goes as far as to agree with Avicenna’s conclusion that the final cause is the “cause of causes”.210 Just as the end is the cause of the efficient cause acting as an efficient cause (because it would not cause anything without being determined), it is the cause of the other two causes (matter and form), since they both cause only because of an end. (Matter would not receive a form unless

209 “Unde finis est causa causalitatis efficientis, quia facit efficiens esse efficiens” (Aquinas, *De principiis*, 44 [ln. 29-31]).
210 “Similiter facit materiam esse materiam et formam esse formam, cum materia non suscipiat formam nisi per finem, et forma non perficiat materiam nisi per finem. Unde dicitur quod finis est causa causarum, quia est causa causalitatis in omnibus causis” (Aquinas, *De principiis*, 44 [ln. 31-36]).
form was acting for an end. Likewise a form only perfects matter because it is determined to
perfect matter in a certain way.)

Even in nature where an end and an efficient cause coincide with each other (and the
formal cause, as well), they are still distinct. Aquinas uses the example of fire. Fire is its own
final cause because its operations as agent are completed with the existence of fire and fire is
directed to bring about fire. But even when the three causes coincide (where it would appear
that the end already exists if it is one with the formal and efficient causes), the natural form that
is acting as a final cause must not be actual, insofar as it is acting as final cause.

Aquinas draws a helpful distinction further on. He points out that the end is twofold. He distinguishes the end of generation from the end of what is generated, using the example of a
knife. The end of generation of a knife is the knife itself. The end of the knife itself, however, is
cutting (i.e. its operation). When we say that the form coincides with efficient and final causes,
we must be speaking of the end of generation. These three coincide when an individual of a
given species reproduces one or more individuals of the same species (like a man generating a
man). This is to say, that a person who is trying to generate another person will have the form of
a man and will be an efficient cause as a human. (I.e., what is formally human will be an
efficient cause as a human when reproducing). And, of course, a person, who is trying to

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211 “Et est sciendum quod tres cause possunt incidere in unum, scilicet forma, finis et efficiens, sicut patet in
generatione ignis: ignis enim generat ignem, ergo ignis est causa efficiens in quantum generat; et iterum ignis est
forma in quantum facit esse actu quod prius erat potentia; et iterum est finis in quantum est intentum ab agente
et in quantum terminatur ad ipsum operationes ipsius agentis” (Aquinas, De principiis, 44-45 [ln. 95-103].)

212 “Sed duplex est finis, scilicet finis generationis et finis rei generatae, sicut patet in generatione cultelli: forma
enim cultelli est finis generationis, sed incidere quod est operatio cultelli, est finis ipsius generati, scilicet cutelli.
Finis autem generationis concidit ex duabus dictis causis aliquando, scilicet quando fit generatio a simili in specie,
sicut homo generat hominem et oliva olivam: quod non potest intelligi de fine rei generatae” (Aquinas, De
principiis, 45 [ln. 104-113]).
reproduce, is trying to bring about a human. However, this is not how the natural end of the thing generated should be taken. The end of reproduction is not the same as the end of what is produced. So, the knife is an end for a metal worker. Cutting is the end of the knife. One who makes a knife is not trying to cut anything. Knives do not try to make other knives.

So, only regarding generation do we say the form, the end and the efficient cause are one. An agent (whether acting by intellect or nature) is the final and efficient cause of its other activities only when making more substances with the same form as itself. Otherwise the form does not coincide. Illustrating this distinction between the end of generation and the end of what is generated helps us see that these three causes coincide only on specific circumstances. When they do coincide, the form is not the end because it exists. It is the end insofar as it is in potency to be instantiated elsewhere. The final cause, as potency, will get more attention below. This should be sufficient to make it clear that a natural final cause is not the same as a natural efficient cause (or formal cause), even if they coincide in the same natural whole. The final cause is the determining cause that directs the other causes.

In the *Disputed Questions on Truth*, q. 22, a. 1, Aquinas distinguishes two ways in which something can be directed towards its end. A thing can be ordered by itself or by something else.\(^{213}\) For Aquinas, a thing has to have knowledge of its end if it is going to order itself.

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\(^{213}\) This distinction was mentioned above in Aquinas’ arguments for the existence of final causality in his *Summa Contra Gentiles*. We pointed out there that he does not bring this distinction to bear on his arguments for the existence of final causality. It is important here, though, since rational agents and natural agents do not come to be determined to act for the sake of something in the same ways.
Whatever does not have knowledge but still acts for the sake of an end, must fall into the group of things that are directed towards an end by something else.\footnote{\textit{Dupliciter autem contingit aliquid ordinari vel dirigi in aliquid sicut in finem: uno modo per se ipsum, sicut homo qui se ipsum dirigat ad locum quo tendit; alio modo ab altero sicut sagitta quae a sagittante ad determinatum locum dirigitur. A se quidem in finem dirigi non possunt nisi illa quae finem cognoscunt, oportet enim dirigens habere notitiam eius in quod dirigat: sed ab alio possunt dirigi in finem determinatum etiam quae finem non cognoscant sicut patet de sagitta” (Aquinas, \textit{De veritate}, 22.3, 613 [ln.142-152]).}

Aquinas further distinguishes two ways in which a non-knowing agent can be directed towards an end. One way is through violence. This kind of direction takes place when a thing being moved does not direct itself through the form it acquires.\footnote{Cf. Aquinas, \textit{De veritate}, 22.3, 613 [ln. 152-168].} So, an arrow does not know its end, yet it is clear that a shot arrow is directed towards a bull’s-eye (i.e. has an end). So it must be moved towards the target by something else. We can see, further, that the form of the arrow does not incline it towards the bull’s-eye. It was not made in such a way that it is directed towards it. (Indeed, it could be shot at a deer or boar.) The archer who shoots the arrow at the bull’s-eye sets the end for the arrow. So, it appears this kind of violent direction toward ends is best seen in our direction of tools and other artifacts.

But there is a natural inclination (non-violent) in things that act for the sake of something without knowledge.\footnote{\textit{Id quod dirigitur vel inclinatur in finem consequitur a dirigente vel movente aliquam formam per quam sibi talis inclinatio competat; unde et talis inclinatio erit naturalis quasi habens principium naturale” (Aquinas, \textit{De veritate}, 22.3, 613 [159-164]). See also \textit{Summa Theologica}, I-II, q. 1, a. 2, which asks whether a rational nature acts for an end. Aquinas characterizes the natural inclination to an end in a similar way. He focuses on the fact that natural agents receive their ends from outside themselves, while rational agents are free to choose how they will act. He does not emphasize that the determination that comes from outside is nonetheless what a natural agent,}}
violent end imposed by the archer), is to fall, as is the end of any heavy body. Aquinas uses the example of a stone. Insofar as it acts on its own, it acts so as to move downward. It is acting by its nature, so it is not directed violently. But the presence of an end in a natural thing that cannot know its end indicates that there must be some knowing mover that made the natural thing such that it acts as it does.

Natures are like specialized tools in a number of ways. Like specialized tools, they are good for one thing. They are determined to one thing. They are also like tools insofar as they require a director outside of themselves. Unlike tools, however, natural things act on their own to actualize what they are for the sake of. Aquinas is emphasizing the dependence of natural movers on an intelligent first mover, but natural agents are still self-movers by virtue of the form that the first mover created.

So even though the direction of natural things is properly traced to an intelligent mover, natural agents are still directed to their ends through a natural internal principle. (What is directed by violence contributes nothing to its motion towards an end.) As was mentioned above, final causality for Aquinas requires an intention in those things that direct themselves. Aquinas here, is saying that a nature has a ‘built-in intention’ in a way, although, as far as the natural

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218 Although, this implies that the creation of an arrow is a violent act. An arrow, as arrow, is not meant to drop, but to fly and strike. It would have to be taken as a composite of heavy bodies and not acknowledged as having its own special existence as an arrow.

219 “Et per hunc modum omnes res naturales in ea quae eis conveniunt sunt inclinata, habentia in se ipsis aliquod suae inclinationis principium, ratione cuius eorum inclinatio naturalis est, ita ut quodam modo ipsa vadant et non solum ducantur in fines debitos; violenta enim tantum modo ducuntur quia nihil conveniunt moventi, sed naturalia etiam vadunt in fines, in quantum cooperantur inclinati et dirigenti per principium eis inditum” (Aquinas, De veritate, 22.3, 613 [In. 169-178]).
thing itself is concerned, it is not properly an intention, although it bears a likeness to an intention.

This is explicitly stated in his sixth argument in *Summa Contra Gentiles*, III, ch. 3. The stated goal of his argument is to show that every agent acts for the sake of a good. Importantly for us, though, it touches on the difference in the way an end is present in agents that act by nature and those that act by intellect. The strength of the argument, with regard to proving its conclusion, depends on Aquinas legitimately pointing out similarities between what acts by intellect and what does not. Namely, the effects of a rational agent are grasped by the rational agent before it acts. Intellectual creatures act to bring about appointed effects because they have a conception of them to guide their actions. He points out that what acts by nature (and not intellect) also has a likeness of the natural effect it will bring about, even though it is not held by an intellect. (E.g., an olive tree has the form of an olive tree according to which it produces other olive trees.)

Aquinas notes in *On Truth* that neither intellection nor sensation need be present in what is directed toward an appointed end, but a rational agent will be found at the beginning of the causal chain that begins with the source of a given nature. This first cause will be intelligent and have the actual intention that is represented in the form of the natural thing. But this source

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220 “Agens per intellectum agit propter finem sicut determinans sibi finem: agens autem per naturam, licet agat propter finem, ut probatum est, non tamen determinat sibi finem, cum non cognoscat rationem finis, sed movetur in finem determinatum sibi ab alio. Agens autem per intellectum non determinat sibi finem nisi sub ratione boni: intelligibile enim non movet nisi sub ratione boni, quod est obiectum voluntatis. Ergo et agens per naturam non movetur neque agit propter aliquem finem nisi secundum quod est bonum: cum agenti per naturam determinetur finis ab aliquo appetitu. Omne igitur agens propter bonum agit” (Aquinas, *Summa Contra Gentiles* III, 9).

221 In this question of the *Disputed Questions on Truth* Aquinas is addressing whether or not things tend to the good, which he addresses briefly. Since what is directed by something else is inclined to whatever the director orders it to, natural things will be inclined to whatever the first mover orders them to. We know God wills the good
gave the nature its own built-in ‘intention’ when it was made. Even though it is important for Aquinas to tie the activities of nature to a rational agent that is the cause of nature, Aquinas does not use this argumentation to eliminate the naturally recognizable causal role that natural agents and the final causes proper to natural agents play in natural activities. Indeed, Aquinas is convinced that natural agents are active because of their natures. His appeal to God as the source of direction for natural agents is his response to the limits he sees in natures that are acting for their own ends. The role he gives to God as the source of direction for non-rational agents does not usurp the independence of the end-driven activities of natural agents. To the contrary, Aquinas is providing the necessary conditions for the existence of the intention-like principles of motion in non-rational natural agents that are recognized by reason.

Aquinas concludes his reply in *On the Truth*, q. 22, a. 1, by pointing out that what acts by nature is not merely led to its end by God, but that natural things, themselves, tend toward God.\(^\text{222}\) Even though natural things are determined to some result and may be seen as tool-like from the perspective of God, such things have their own principles of motion and rest that inclines them to move to their ends. Natural things are not simply tools. They are not merely effects. They are agents with their own causal powers. This includes final causality. Aquinas’ replies to the objections in this question provide insight into just how a final cause actually causes within a nature.\(^\text{223}\) The third is particularly helpful.

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\(^{222}\) “Sed ratione inditi principii dicuntur omnia appetere bonum quasi sponte tendentia in bonum” (Aquinas, *De veritate*, 22.3, 614 [ln. 202-203]).

\(^{223}\) Even though Aquinas’ accounts of natural finality constantly push toward the First Mover of all natural things, he is not assuming God’s existence for his account of natural finality. I would venture to say that Aquinas is doing
The third objection to this question asks how it is that a non-cognitive thing can have the form of its end in a non-cognitive way without having already achieved it.\textsuperscript{224} Aquinas agrees that for a thing to tend to something, it must have a likeness of what it is tending towards. And, for those who have cognition or intellection, the likenesses that are the bases for the tending are not, themselves, what are desired. If they were, animals would seek to merely imagine food and we would be content to have only an idea of God. To be satisfying, what we desire must be real in itself. The animal imagines food, but searches until it finds actual food. Likewise, humans will not be fully satisfied until they achieve beatitude.

So one can have an image or likeness of an end in one of two ways. First, the form can be with perfect actuality in what desires it.\textsuperscript{225} That is, what is desired and what is possessed are the same. When this is the case one does not desire or try to make anything. One rests in what one has. This is not the kind of likeness we are interested in here. Aquinas’ account of the other way the likeness of an end can be found in an agent provides the tools for explaining natural final causality even in natural things that do not have cognition.\textsuperscript{226} Some things have a form incompletely. This incompleteness is explicitly described as a potency. It is this potency to have

\textsuperscript{224} “Si igitur res aliqua appetit bonum oportet quod sit similis bono; cum autem similia sint quorum est qualitas vel forma una, oportet formam boni esse in appetente bonum; sed non potest esse quod sit ibi secundum esse naturae quia iam ulterius bonum non appeteret; quod enim habet quis iam non appetit. Ergo oportet quod in appetente bonum forma boni praeeexistat per modum intentionis; sed in quocumque est aliquid per hunc modum illud est cognoscens” (Aquinas, De veritate, 22.3, 611 [ln. 17-27]).

\textsuperscript{225} “Sed haec similitudo attenditur dupliciter: uno modo secundum quod forma unius secundum actum perfectum est in alio; et tunc ex hoc quod aliquid sic assimilatur fini, non tendit in finem sed quiescit in fine” (Aquinas, De veritate, 22.3, 614 [ln. 253-257]).

\textsuperscript{226} “Alio modo ex hoc quod forma unius est in alio incomplete, id est in potestia; et sic secundum quod aliquid habet in se formam finis et boni in potentia, tendit in bonum vel finem et appetit ipsum” (Aquinas, De veritate, 22.3, 614 [ln. 258-262]).
a kind of form that makes a natural thing tend to its end. So, through this, I take natural final causality to be a potency for form.\textsuperscript{227} Such a lack translates into a natural desire which is not satisfied by merely the appetite for some kind of reality. This appetite is only satisfied with the realization of the form in the thing itself.\textsuperscript{228}

A person is satisfied when he knows he has arrived at a sought out destination. A rock will also stop falling when it arrives where it is 'trying' to go. The difference is that a rock will never know it has reached the center of the earth. It has no awareness. The very form of the rock imparts the appetite to drop.\textsuperscript{229} The appetite will be satisfied when the potency within the rock to fall towards the center of the earth is actually realized by the rock.

I will briefly return to an objection that could be raised after considering the way Aquinas characterized the causal activity of the final cause in \textit{On the Principles of Nature}. He said there that an end is not actual except by the operation of an agent. It might seem that Aquinas is lapsing into circularity. After all, the end is the cause of the efficient cause which is the cause of the actuality of the end.\textsuperscript{230} The efficient cause does not cause the end as final cause. But one might then object that the end would need to be actual to cause the efficient cause. On the other hand, Aquinas could be suggesting that a final cause is simply nothing, and yet a cause. Surely

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\item \textsuperscript{227}It is a potency from the form that directs a natural agent to taking on certain perfections. Again, this the best way to characterize a natural final cause, based on how Aquinas has described it. It is not the same kind of potency that matter has for form. It is not undetermined potency. It is very tightly connected with form and efficient causality.
\item \textsuperscript{228}We can also see from this that a natural agent acts for the sake of itself insofar as it acts for the sake of its own perfection (Edward Pace, “The Teleology of St. Thomas,” \textit{The New Scholasticism}, v. 1.3 (1927), 230 – 231). Pace points out \textit{Summa Contra Gentiles}, III, 17, where Aquinas notes that what man does is done for man’s own sake.
\item \textsuperscript{229}Cf. also \textit{Summa Theologica} I, q.5, a.5, and his \textit{Commentary on the Sentences}, II, d.25, q.1, a.1, where he affirms that the end comes from the form of natural things.
\item \textsuperscript{230}“Efficiens enim dicitur causa respectu finis, cum finis non sit in actu nisi per operationem agentis; sed finis dicitur causa efficientis, cum non operetur nisi per intentionem finis” (Aquinas, \textit{De principiis}, 43 [ln.16-19]).
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Aquinas is not trying to fast-talk his readers through what stands to be a serious metaphysical problem.

There is a way through this possible difficulty based on Aquinas's characterization of natural final causality. We can acknowledge that the end is not actual until an efficient cause brings about its actuality, without having to take the position that the end is simply nothing in the meantime, as it acts as final cause. It was characterized as a potency for form in *On Truth*, but his consistent assertion that natural agents possess their effects (even though they are not possessed rationally), gives us good reason to turn to what he has to say about the existence of effects in causes. Doing this, we see Aquinas give us the tools to talk about a cause being real, but not actual. It would best be described as virtual.

In *Summa Theologiae* I, q. 4, a.2, Aquinas asks whether the perfections of all things are in God. While his answer properly addresses the presence of effects in an efficient cause of another thing (and especially the perfections of creation in God), we can see that an effect must be *virtually* present in its cause. In his answer to the question, Aquinas distinguishes two different ways in which an effect can be found in the cause that produces it. The effect can be of the same form as the cause (e.g. univocal agency, such as man producing man) or not (e.g. equivocal agency, such as the sun’s causal activity in generating things that are not themselves suns). In either case, the effect exists virtually in its cause. Instead of focusing on the distinction between virtual and actual existence, Aquinas focuses on explaining how the virtual presence of

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231 “Primo quidem, per hoc quod quidquid perfectionis est in effectu, oportet inveniri in causa effectiva: vel secundum eandem rationem, si sit agens univocum, ut homo generat hominem; vel eminentiori modo, si sit, agens aequivocum, sicut in sole est similitudo eorum quae generantur per virtutem solis. Manifestum est enim quod effectus praeexistit virtute in causa agente” (Aquinas, *Summa Theologica*, 51.)
God’s effects in God should be seen as a sign of God’s greater perfection over His actually existing effects. Nonetheless, we see that Aquinas has a term for the kind of reality an effect has in its cause.

I acknowledge that simply saying that a final cause is “virtual” does not clear up all questions of the existence of the natural final cause. Nonetheless, it is clear that Aquinas wants to find the terms to properly characterize the apparently non-existent goals of natural activity as real-enough in the forms of natural agents to be principles of action. An oak tree is the final cause of an acorn insofar as it exists virtually (not really) in the acorn and is what the acorn is in potency to become and, in fact, what the acorn has the appetite to become. The natural final cause causes as a final cause by directing all the efficient activity of the acorn to be such that it develops into a tree.

In his characterization of the causality of the natural final cause, Aquinas steers clear of reducing it to efficient causality. It has a distinct and primary role in the direction of natural activities. While it has the character of a rational intention and is traced back to rational activity, Aquinas does not require that every agent have reason in order to, of itself, act for the sake of an end. Natures have final causes built-in, which he characterizes as potencies for form. Aquinas avoids the predicament of making non-existents to be causes by implying that final causes have virtual existence.

2.5 Final Causality and the First Final Cause in Aquinas

As was mentioned when we saw Aquinas’ characterization of the causality of natural final causes as coming, ultimately, from a rational agent, Aquinas’ position on natural final
causality is not complete without additional appeal to a first mover that is responsible in some way for all natural motion.\textsuperscript{232} For Aquinas the first mover is the active director of nature, as the source of its existence and order.\textsuperscript{233} We will first see how Aquinas argues from the regularity of natural agents to the existence of a regulator in the last and most simple of his five ways to show the existence of God. Natural agents require and point to the existence of an external determining cause that is not only perfect (i.e. a first final cause that all natural activities imitate), but sufficient to be the source of their existence. This first mover can be recognized as both final and efficient cause of natural agents without clouding the established recognizability of natural final causality or eliminating the activity of the internal natural directing principle.

A complete treatment of Aquinas’ understanding of God’s causal power is beyond the scope of this study. We will focus on God as first final cause to see how God directly affects both the movers of the heavens and non-intelligent natural agents in this capacity. We will see that, for Aquinas, the power of the first final cause, as final cause, has an extensive reach in

\textsuperscript{232} This is also how it is for Aristotle, Avicenna, and Averroes.

Aristotle holds that the pervasiveness of regularity across all natural movers points to the existence of a mover that moves with perfect regularity which, in turn, moves all natural movers as an object of desire. Again, for him, one is able to see natural things acting on their own, growing and reproducing, or in the case of water, following its cyclical motion of rising and falling. Natural activities are explained through natures that have always been. Only when one steps back from nature and sees that everything that acts naturally, in fact, appears to be imitating cyclical motion, are we able to conclude that there must be something moving with perfect cyclical motion that all natural things are imitating. Aristotle did not see a need to look for a cause of the existence of natural things. How these natures come to be such that they can imitate the divine perfection is not an issue for him. Aristotle does not see this higher mover as a providential director of nature. Averroes is similar to Aristotle in this.

The first cause in Avicenna is the director of nature, causing nature’s existence and order from its (i.e. the first cause’s) own necessary motion. All that happens is for the sake of this cause, which is determined to cause as it does.

\textsuperscript{233} For Avicenna, of course, the causality of the first cause is necessitated by what the first mover is. Aquinas, on the other hand, holds that the first mover, God, did not make the world because God had to do it. The creation of the world is only necessary insofar as God actually did it (cf. ST I, q. 19, a. 3, “Utrum quidquid Deus vult, ex necessitate velit”).
natural activities. Ultimately, the activities caused by natural final causes, while for the good of the natural agent, are also for the sake of the first mover, which is the final cause of nature, even though it has its own existence.

As we saw in his explanation of the recognizability of natural final causality, Aquinas asserts from the very start of his treatment of final causality in Aristotle’s *Physics* that there must be an intelligent guide for those things that do not know their ends (just as an archer is needed to guide an arrow). He uses the observation that non-intelligent things act for ordered ends to argue that there must be a first final and efficient cause in the *Summa Theologiae*. Natural things that cannot choose, act with regularity, as if they knew what they were supposed to do. Because there is regularity, things must be acting for some end (for the sake of something). The first premise and conclusion of this argument could have been lifted from Aristotle’s *Physics*, or Aquinas’ commentary on it. Aquinas then suggests, however, that if something does not know its end (which is surely the case in natural things lacking intellect), it could not act in accord with its end (move towards its end) unless something that does know is directing it.

Aquinas again uses the analogy of the arrow that is directed by the archer. The arrow does not know about the bull’s-eye, but tries to hit it every time because it is shot by an archer who aims and shoots the arrow at the target. Without a first mover that moves as a director, things would not move with regularity. At this point in the *Summa Theologiae*, Aquinas has

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already argued that the first mover is an efficient cause.\textsuperscript{235} We could see the fifth way as specifying that ordered activity in nature is not just for the sake of itself, but for the sake of the first mover, claiming that this most powerful and perfect cause is also the final cause of all nature.

Natural agents could not have ordered themselves as regular movers. They do not have the capacity to originate such directive activity. There must have been something that acted with knowledge to order them. The first final cause is not a perfect being that is only imitated somehow by what acts for an end. God is an orderer, with the power to create and destroy and the intellect and will to guide what it creates and destroys. This mover makes things in such a way that they are ordered in themselves for the sake of Himself.\textsuperscript{236} This might make it seem that God’s role as first final cause is properly knowable through God’s efficiency for Aquinas. Surely God’s role as final cause does not stand on its own as it does for Aristotle. I am trying to point out that God’s efficiency and finality fit together well in Aquinas’ Five Ways. The argument we looked at, though, is based on the ordered activities of nature. The order, itself, points to an orderer. It points to all natural activity being for the sake of something outside of natural motion. Natural regularity points to the divine final causality of nature.

We find a good explanation of the final causal power of God in Aquinas’ interpretation of Aristotle’s account of the final causal power of the first mover in *Metaphysics*, book XII, Ch. 7, which is found in Lesson 7 of his *Commentary on Aristotle’s Metaphysics*.\textsuperscript{237} He limits his

\textsuperscript{235} See the second way from the same question (Thomas Aquinas, *Summa Theologica*, 31).

\textsuperscript{236} See *Summa Theologica*, I, q. 19, a. 3, “Utrum quidquid Deus vult, ex necessitate velit” (234 – 235). He notes, “Alia autem a se Deus vult, inquantum ordinantur ad suam bonitatem ut in finem.”

explanation to the final causality of the first mover, without incorporating God’s efficient causality. We will see that God’s final causality keeps its special character as final causality (a cause of action for the sake of which). Even though God, as the cause of existence of nature, has a direct role in the ordering of the world for Aquinas, God acts as final cause as an object of desire for all that moves by nature.

Aquinas sees Aristotle arguing that the first mover (as unmoved) causes as what is desirable and intelligible does. The first mover could not be a natural mover since a natural mover must undergo motion itself as it moves. The first mover cannot be unmoved if it causes as a will or an appetite, since will and appetite act as moved movers.\textsuperscript{238}

The solution, of course, is that the object of desiring or willing can cause motion without being moved, so this is how the first mover must cause.\textsuperscript{239} The first natural motion for the sake of something is the locomotion of the heavens. Aquinas points out that this locomotion is not brought about by any pushing or locomotion on the part of the First Cause, but by the motion of a proximate mover trying to act as much like God as it can. The desire of the pusher of the heavens cannot be to move the bodies below it, but to be as much like God as possible.\textsuperscript{240} He concludes that the motions of the heavens are a kind of natural motion that imitates a perfection

\textsuperscript{238} “In motu autem qui est secundum voluntatem et appetitum, voluntas, et appetitus se habent sicut movens motum” (Aquinas, \textit{in Duodecim Libros Metaphysicorum}, 590 [§2520]). They are moved by what they desire or will.

\textsuperscript{239} “Dicitur autem primum movens movere sicut appetibile, quia motus caeli est propter ipsum, sicut propter finem, causatus ab aliquo proximo movente quod movet propter primum movens immobile, ut assimilat se ei in causando, et explicat in actum id quod est virtute in primo movente” (Aquinas, \textit{in Duodecim Libros Metaphysicorum}, 590 [§2521]).

\textsuperscript{240} “Non enim est motus caeli propter generationem et corruptionem inferiorum sicut propter finem, cum finis sit nobilior eo quod est ad finem. Sic igitur primum movens movet sicut appetibile” (Aquinas, \textit{in Duodecim Libros Metaphysicorum}, 590 [§2521]).
greater than what the heavens themselves can ever have. Being sure of this, he is then sure that the first mover causes as something appetible.

It is one thing to say that God (as first final cause) moves the heavens as an object of appetite. It is another thing to talk about human motion. Heavenly motion does not provide the most accessible instance of activity through appetite. Human understanding has much more experience with human activity. And when human activity is concerned, it is evident that what is actually desired can differ from intelligible goods. Aquinas notes the incontinent person who is moved by reason to an intelligible good, but is moved by his desire for something pleasant, which seems to be good, but is not absolutely good. But what is most desirable and what is most knowable as good will not be two different things (as they appear to the incontinent person).

Here Aquinas finds a difference between human desire and the desire of the heavenly movers. The first sphere is moved because it is an intelligence and is able to know the good and desire the good without mixing up the intelligible good with what is desired as good. In this way, God, as the perfect good, causes motion in the heavens as a final cause insofar as God is known or intended by the heavens. For Aquinas, though, God does not act directly as a final cause only on those agents that have intellect and intend God.

241 “Sed apud nos aliud est quod movet sicut desiderabile, et aliud quod movet sicut intelligibile bonum; cum tamen utrumque moveat sicut movens non motum. Et hoc praecipue appareb in eo qui est incontinens. Nam secundum rationem movetur ab intelligibili bono. Secundum autem vim concupiscibilem movetur ab aliquo delectabili secundum sensum, quod videtur bonum, cum non sit bonum simpliciter, sed solum secundum quid” (Aquinas, in Duodecim Libros Metaphysicorum, 590 - 91 [ §2522].

242 “Sed illud quod appetitur appetitu intellectuali, desideratur, quia videtur bonum secundum se. Huiusmodi enim “appetitus pricipium est intelligentia”, idest actus intellectus qui movetur quodammodo ab intelligibili. Sic igitur patet quod concupiscibile non est bonum nisi quod desideratur secundum rationis dictamen. Non ergo potest esse primum bonum; sed solum illud quod, quia bonum est, movet desiderium, quod est appetibile et intelligibile simul” (Aquinas, in Duodecim Libros Metaphysicorum, 591 [ §2522].
This becomes clear in the way Aquinas illustrates Aristotle’s distinction between two kinds of end.\textsuperscript{243} One kind of end can exist and be tended towards by what has it as an end. An example of this kind of end is the center of the world as the goal of heavy bodies. The other kind of end is the kind that does not exist actually, but in the intention of the agent that produces the goal. Of course, the first mover cannot be an end in this second way because the first mover is not virtually real, but is actually real.

Aquinas’ example of heavy bodies tending towards the center of the world makes it clear that external final causes (surely including the first final cause) act on even non-rational agents. It is worth noting that the example of the center of the world being an existing end for heavy bodies is not in Averroes at this point. For him, the directedness of a non-rational mover to some existing end cannot be explained in terms of the direct final causality of that existing end. (We saw that the first final cause is indirectly the first final cause of all natural motion insofar as the first natural mover is moving everything efficiently in its effort to imitate the most perfect being.) In Averroes, a heavy body does not descend because it has an appetite for the center of the earth. It does not know the center of the earth to desire it. It descends because it lacks an actuality in itself that is realized through its descent. The center of the earth does not cause the rock’s motion as a final cause for Averroes because the center of the earth is not intended by the rock. Averroes’ description of the final causal power of the first final cause limited the scope of

\textsuperscript{243} a\textsuperscript{\textit{Dupliciter autem potest esse aliquid finis alterius. Uno modo sicut praexistentes; sicut medium dicitur finis praexistentis motus gravium, et huiusmodi finem nihil prohibet esse in immobilius: potest enim aliquid tendere per suum motum ad participandum aliqualiter aliquo immobili: et sic primum movens immobile potest esse finis. Alio modo dicitur aliquid esse finis alicuius, sicut quod non est in actu, sed solum in intentione agentis, per cuius actionem generatur, sicut sanitas est finis operationis medicinæ; et huiusmodi finis non est in rebus immobilius” (Aquinas, \textit{in Duodecim Libros Metaphysicorum}, 591 [§2528]).
the causal power of any would-be external final cause. Existing ends must be known by what acts for their sakes. Averroes limited the causal power of actually existing final causes to rational agents. It was already mentioned that Ockham used Averroes’ description of the final causal power of the (existing) first final cause as template for his own general explanation of final causality. It is correct to anticipate that Ockham, like Averroes, and contra Aquinas, will deny that some final causal power of God (as an existing end) is ordering the \textit{per se} activities of non-rational agents. Indeed, such agents would have to know God for that to happen.

But for Aquinas, even though the first final cause acts as a final cause of intelligent agents insofar as God is intended by intelligent agents, there must also be a way for an external final cause to act as final cause in natural things that have no awareness at all. Aquinas goes into additional detail as to how God (as an existing end) causes motion in the heavens as final cause. We will consider this and suggest that implications follow from it that help us establish God’s role as the final cause of non-rational agents.

As Aquinas reads Aristotle, the first mover moves the first heaven as something loved. (He also says that the first mover moves other things through the first heaven.) He acknowledges that Aristotle holds that motion is eternal, which led Aristotle to postulate that the first sphere was moved eternally, and moved other things in this capacity as eternally moved mover. And if the first heaven is moved eternally, it must remain substantially the same. It must be incapable of being other than it is. Because it must always remain the same substantially, it can only move with locomotion. Other kinds of motion would entail a change of substance, quality, or quantity, but this first sphere will not change in these. The mover of the sphere, the first mover will always be actual and unchanging. This first mover cannot itself be pushed because it is the first pushing
cause. So, the first mover cannot change as it causes motion as an object of love. So the first mover does not move; and the first moved mover (first heaven) moves from necessity.

Since it is not in locomotion, the first unmoved mover (God) does not necessitate the first moved heaven’s motion through pushing it. The activity of the first moved heaven is necessary because the first heaven is perfected by this motion. The eternality of the activity of the first sphere is necessary insofar as the sphere would not be perfect without it. This is what necessity from the end is. The first heaven moves necessarily insofar as it is not acting as perfectly as it could unless it was imitating the first mover (the object of love) as completely as possible. Since the first mover eternally causes as an object of love, the first heaven moves eternally as a lover of the first mover.

But then what about rocks and plants that cannot knowingly impersonate God through their motion? I see an answer in Aquinas that is similar to Aristotle’s on this point. Natural agents must be trying to impersonate God insofar as they are trying to be perfect. Through their natural, built-in ends, the activities of natural things are for the sake of the perfect existing first final cause.

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244 “Primum enim movens non movetur illo motu, quo movet, sicut primum alterans non alteratur” (Aquinas, in Duodecim Libros Metaphysicorum, 592 [§2531].

245 In §2532 Aquinas distinguishes three kinds of necessity. The first kind characterizes what happens by force. The third is absolute or essential necessity The second kind is necessity from the end, which is the kind of necessity by which the motion of the heavens is necessary. Aquinas says of this kind of necessity, “Alio modo dicitur, sine quo non est aliquid bene: seu quia sine eo nullo modo potest esse finis: sicut cibus necessarius est ad vitam animalis, sive quia sine eo non est aliquid perfecte se habens; sicut equus est necessarius ad iter, quia sine eo non faciliter itur” (Aquinas, in Duodecim Libros Metaphysicorum, 592 [§2532].

246 Norman Kretzmann, in his exposition and analysis of Aquinas’ arguments for God’s existence in the Summa Contra Gentiles, keeps his focus on the role Aquinas gives God as an external final cause, noting that Aquinas did not want to characterize God as an intrinsic cause. He says, “But [Aquinas] knows that some who accept the notion of a first cause may be inclined to think of it as intrinsic to what it explains. And so he is concerned to argue that the first cause cannot be intrinsic either as the universal material cause or as a universal formal cause” (The
Aquinas concludes that the first mover, as end (object of love), causes the first heaven to remain eternally the same (changing only by locomotion) and eternally in motion. Since the first heaven is the source of locomotion in all of nature, all motion in nature is caused by love of God. It might seem difficult to avoid attributing what I called “indirect final causality” to Aquinas’ first mover at this point (which is what I attributed to Averroes). However, I see a different way to explain things in Aquinas. Aquinas did not argue here that the final causality of an external final cause makes that external cause an efficient cause insofar as it is known by an intelligent agent that subsequently moves efficiently.

In fact, contra Averroes, Aquinas is not trying to argue that God’s final causal power (as an external final cause) is completely explained through the efficient causality of rational agents below God. God’s final causality is evident through the pursuit of perfection found in all which act for the sake of God. For Aquinas, all natural activities and, based on the directedness of the first moved mover as Aquinas is saying here, all locomotion is for the sake of the first mover. All natural things were made to seek perfection. Insofar as they seek perfection, they seek to be like God; i.e. they imitate God to the extent they can. The existence of a first final cause is used to explain the drive that can be seen in all natural things for self-perfection. That is, for Aquinas, God’s role as the immediate cause of the existence and order of the world puts God’s creatures in the position to pursue perfection (imitate God) simply by being what they are and acting in

Metaphysics of Theism: Aquinas’ Natural Theology in Summa contra gentiles I (Oxford: Clarendon Press, 1997), 130). I am trying to avoid characterizing God as a universal formal cause, even though I will characterize God as somehow the object of natural desire for Aquinas. If God can be recognized as somehow imitated by natural agents and, without intellect, they have no way to come to know God, the desire for God must be in their natural forms.
accord with what they are.\textsuperscript{247} We saw that Averroes’ first final cause is not so immediately connected to the order of the world. (The first final cause for Averroes neither causes the world to exist nor acts for the sake of ordering the world.)

The way that the first cause moves nature as final cause, for Aquinas, is difficult to see in what moves only by nature (and not intellect) because such things have no knowledge of the perfect source they are trying to imitate. A look at the activity of the first moved mover that is for the sake of God (i.e. a look at what the first final cause causes in the heavens) allows us to see that it moves in what acts by nature, even though it is difficult to say just how this happens.

In Aquinas’s account of celestial motion, the heavens, of course, have intelligence and pursue God as a known good. But even though they have the perfect good in mind, the heavens cannot do more than be the best heavens they can be. They will never be better than what their limited forms allow. God, as final cause of the heavens, is the reason why the heavens move themselves as heavens (because they knowingly imitate the perfect good to the extent they can). But if God’s causal power as final cause is evident through the activities of what acts for its own good, it is right to say that, for Aquinas, God is also the final cause for what does not have intellect insofar as it is right to say that those natural, non-rational agents work to be as perfect as

\textsuperscript{247} Perfection is not seen in terms of cyclical motion. It is not constant repetition, but the fulfillment of God’s plan. God is still perfect. God is still the object of imitation. For an in-depth study of Aquinas on this point, see Oliva Blanchette’s \textit{The Perfection of the Universe According to Aquinas} (University Park, PA: The Pennsylvania State University Press, 1992). He is not primarily concerned with comparing Aquinas to Aristotle, although he notes similarities, differences, and influences where he sees them. God’s role as the source of the world’s existence (i.e. as first efficient cause) is a vital difference. Through this, Aquinas can trace any agent’s activities back to God as cause. Seeing an imitation of the maker in what was made (and its activities), anything acting of itself can be seen to be acting for the sake of God. Blanchette says, “Perfection is the term of becoming and the power to generate itself is the sign of perfection . . . . The perfection of the thing generated lies in a similitude with the thing generating. That is why it tends toward this similitude as much as possible” (180). Through the very fact of their existence and activity (let alone circularity or regularity of action) natural agents imitate God.
they can, based on the forms they have. The appetite for perfection is already present in the forms of the natural agents. Unlike the heavens, such natural agents do not need intellect to act for the sake of the first final cause. They somehow have the desire within themselves already.\footnote{Cf. \textit{Summa Contra Gentiles}, II, Ch. 43, “Sed omnia similantur Deo, qui est actus purus, inquantum habent formas, per quas fiunt in actu: et inquantum formas appetunt, divinam similitudinem appetere dicuntur” (in \textit{Opera Omnia}, bk. 13 (Rome: Riccardi Garroni, 1918), 367). Alice Ramos notes in her analysis of this passage, “By moving, things thus tend not only to their own perfection, that is, not only to their own actualization, but also to divine likeness” (“Activity and Finality in Saint Thomas,” \textit{Angelicum}, 68 (1991): 231 – 253), 231. I find the position she takes here to be compatible with what I am asserting. An important aspect of her argument is that a thing’s activity is both for the sake of itself and for the sake of God. She is not focused on how it is that God could actually be the object of natural desire, but how natural activity represents both natural completion and a tendency to imitate the divine.}

It might seem problematic that non-rational natural appetites are being put forth as evidence of divine final causality after the natural drive for regularity was advanced earlier as evidence of natural final causality. It could be seen as an attempt to elevate natural final causality to the level of divine final causality. However, since Aquinas connects natural finality with providence, I do not think that he would find the connection objectionable. Indeed, it is a goal of Aquinas that we recognize the order of the world as both natural and for the sake of the divine first final cause. That is what I take Aquinas to be getting at when he characterizes all that the first mover moves as being for the sake of God.\footnote{The discussion of the direction of natural agents acting both for the sake of themselves and for the sake of God is not to be mistaken for the discussion of man’s two-fold end that addresses the extent to which man’s naturally recognizable end can be identified with the divine end of man that he knows about through revelation. This discussion addresses the extent to which philosophical knowledge can bring salvation and whether one can give a complete account of the human good through philosophy. For more on this, see Denis Bradley’s \textit{Aquinas on the Twofold Human Good: Reason and Human Happiness in Aquinas’s Moral Science} (Washington, D.C.: The Catholic University of America Press, 1997). In the current study, we are remaining within the framework of naturally recognizable ends, only.}

I see Aquinas to be taking all motion in the world as being for the sake of God. Since all that happens must be moved by the mover that moves all for the good, all that happens must be for the sake of God. His explanation here reveals some of the nuts and bolts of the workings of
Divine Providence. The heavens move themselves in accord with God’s will, so what they move is moved in accord with God’s will.\textsuperscript{250} We can then say that natural things are moved as they are because God willed them to be moved that way. The directedness of all motion for the sake of God is guaranteed, even if we are talking about motion that results from an agent being affected by outside movers. Whatever happens is in accord with God’s will. All motion in nature is for the sake of God.

Within natural agents, God causes motion as an object of desire insofar as natural things desire to do what God made them to do. God is not just the source of their natural desire to be what they are trying to be. God is an object of natural imitation. Even though they will never have an idea of God, they still act to be perfect themselves. Aquinas thinks one can see the connection between God and the beings that imitate God because God made them to be as they are. They imitate God because they are made by God to do what God wants.

I can see another objection to this position that we should consider. If the intellect grasps the forms of its objects, it must be that what has God as a final cause through intelligent desire has the form of God. This is a precondition for God being what any intelligent agency is for the sake of. One could then ask where, exactly, the form of God is found in natural agents. Motion that is traced to the heavenly movers is being traced to rational agents that knowingly desire to be like God. Clearly rational desire is not the same as natural desire. Non-rational agents do not

\textsuperscript{250} \textit{Assimilatio autem ad id quod est volens, et intelligens, ciusmodi ostendit esse Deum, attenditur secundum voluntatem et intelligentiam, sicut artificiata assimilantur artifici, inquantum in eis voluntas artificis adimpletur: sequitur quod tota necessitas primi motus subiaceat voluntati Dei” (Aquinas, \textit{in Duodecim Libros Metaphysicorum}, 592 [ §2535].}
know God. It is better to say that God’s finality acts through God’s efficiency in what cannot know God.

I would reply that external final causes must cause non-rational agents’ activities. It is simply that the forms that are held by the natural agents and move those natural agents are built-in, and not taken in and held by an intellect. If natural final causality is evidence of God’s existence as first final cause, God must be built-in somehow to the natural forms that are known and used in the argumentation. Aquinas certainly holds that the mark of the maker is found in what is made. Since God is the immediate source of natural forms, non-rational agents have God-directedness in their very forms and direction. As he has said all along, non-rational natural agents do not have intelligence, but they move with the regularity of what does.

Aquinas’ position on the way an external cause (i.e. God) is the final cause of natural agents is challenging to draw out, but satisfying in its conclusions. The effects of God’s final causality must be acknowledged in nature. The divine intelligence is manifest in the activities of natural agents. God must somehow be in natural forms as what is imitated by the activities of what has any given natural form. (This must be similar to the way a rock holds, but does not know of its inclination to the center of the earth. Such is an external end, the desire for which is somehow built-in to the rock.)

Seeing the way that God moves the heavens as a final cause through being known and understood does not mean, for Aquinas, that God can be a final cause only for agents with intellect. The heavenly spheres understand that through acting as the best spheres they can (i.e.

\footnote{Additional explanation (and satisfaction) on this issue would surely come through consideration of Aquinas’ treatment of the divine ideas of creatures, which are not treated here.}
moving as they are able), they will be as much like God as they possibly can be. They know and choose to imitate the perfect existing being. They can know their end and choose it. Non-rational natural agents cannot choose as the angels can, but they nonetheless imitate God as best they can.

For Averroes, the difference between rational and non-rational agents was where the line was drawn for distinguishing what is directly moved by the first final cause from what was moved indirectly by the first final cause. The way Averroes explains the efficient causality of the first final cause forces him to do this. For Aquinas, the line between rational and non-rational agents simply distinguishes ways in which the first final cause affects what it acts upon. This is the only way that final causality differs between intelligent and non-intelligent natural agents. Aquinas does not link God’s finality and efficiency to rational activity the way Averroes does. Aquinas holds that God is both a final and efficient cause, but does not explain God’s final causal power over nature in terms of the efficient causality that comes from the activities of celestial intelligences that knowingly imitate God. This leaves room for God’s final causality, *qua* final causality, to directly affect all natural motion and the search for beatitude on the part of rational agents.

Instead of following Averroes, it appears Aquinas follows more closely in the spirit of Aristotle on this particular point. Aristotle was not compelled to give a detailed account of the conveyance of divine final causality to nature, yet he was steadfast in his position that all natural movers are moved by the first mover as final cause. For Aquinas, the final causal power of the first final cause is evident in the ordered acts of nature. Aquinas sees a divine intellect guiding the activities of nature where Aristotle saw robust natures that, of their own accord (i.e. without the efficient causality of this first mover), were able to imitate the most perfect mover. But both
see that nature, through its own activity, is trying to assimilate its activities to divine, perfect motion. Aquinas’ use of divine intentions and efficient causal power to more fully explain the source of the existence of natural activity does not obscure this or prevent Aquinas from recognizing the proper activities that natural agents can do through their God-given natures.

God causes as an object of desire insofar as natural things desire to do what God made them to do. God put the natural desire in them to be what they are trying to be when he made them, so even though they will never have an idea of God, they still desire to be perfect as God is by being perfect themselves.

2.6 **Aquinas: conclusion**

Aquinas provides a continuation of the Aristotelian position on the recognizabililty and, on the whole, the causality and existence of natural final causes, even though he postulates a cause of nature in a way that Aristotle did not. His agreement with Aristotle’s arguments from *Physics* II, 8 for the recognizability of natural final causality is affirmed through his reproduction of Aristotelian arguments in his own non-commentary works. Regularity points to activity for ends.

As to the source of regularity in natural agents, Aquinas finds it to be a potency for form, which must have virtual existence. When one considers what Aristotle and his Muslim interpreters have already said about natural final causality, this does not appear to be novel or outrageous in any way. Aquinas used his own terminology to describe a cause found in natural agents that is actually one with their natures, but distinct from the other ways that a nature
causes, leading him to attribute a certain type of existence to natures to the extent to which they are final causes.

A natural final cause is an odd sort of principle for Aquinas, as it was for Aristotle, Avicenna, and Averroes. In an important way, it has to be real. Indeed, it could not be a cause of direction if it was nothing. Yet, it must not-exist in a way as well, since it is a cause of motion for something that is not yet had or not yet existing (or not complete through continued activity). If it exists enough in a natural agent to be its proper goal, what is sought would already be held, stopping any activity that would be done to bring about what we see natural agents bringing about. Natural final causes do not explain anything unless they are causes of activity for the sake of something. It will be a cause as the presence of what is pursued and, as a representation, will not itself be what is pursued. This is the best way Aquinas can describe the causal activity and existence of what does not exist, as it is not only present but is the object of appetite in what does exist.

What strongly differentiates Aquinas from Aristotle and his commentators is the way Aquinas relates God’s final causal power to natural final causality. His explicit interest in fitting natural final causality into a discussion of God’s providence immediately differentiates him from Aristotle. Aristotle’s first mover is not characterized as ordering the world from its will, as Aquinas holds. The first mover from *Metaphysics* XII is a perfect being that is imitated by natural activity, but it is concerned with only itself. It is surprising, then, that the way Aquinas describes the final causal power of God on natural agents is so similar to the way Aristotle did it, even though Aquinas thinks that God holds the world in being and is the active source of order in the world. God is imitated by natural agents insofar as they act to perfect themselves, the desire
for which is part of the fiber of every natural agent from its first moment of existence. In this
way, natural activity bears God’s direction and is for the sake of God.

It might seem that Aquinas should have more in common with Avicenna at this point,
since their conceptions of God are so much closer. But Aquinas does not follow the road to
determinism that Avicenna did, who explained divine final causality as a necessary complement
of divine efficient causality. While Aquinas is in agreement with Avicenna that all that happens
in nature is ultimately for the sake of God, there is room for freedom and independent natural
activity in a world where all is providentially guided by a free First Mover. The way Aquinas
describes the causal power of God as final cause of the first movers makes it clear that God is a
determining cause without being deterministic and that God’s final causality is not simply the
other side of the coin of necessitating efficient causality. The perfective activities of rational
and even natural agents are not simply pushed along in a determined way by God, for

Aquinas. The agents have within themselves the motive power and appetite to bring about
their own perfections, which is how God made them to act. The rest of the Parisian thinkers we

252 Stephen Brock argues that Aquinas makes room for this by seating God’s causality of the world not in simply in
God’s role as the first cause of the physical world, but as the rational first cause of the world, who chose to make
the world with chance and accidental causality (“Causality and Necessity in Thomas Aquinas,” Quaestio, 2 (2002),
217 – 240). He notes of Aquinas, “His explanation... rests on the fact that the divine cause is not physical but
intellectual. The operation of intellect extends to whatever somehow falls under the common notion of being –
even to the per accidens. Intellect can therefore be a per se cause of what is in itself only a per accidens being.
There are coincidences in the world because God wants there to be” (228). The independence of natural motion in
the face of God’s causality that I see in Aquinas is in harmony with Brock’s position here.

253 James Weisheipl (“Aristotle’s Concept of Nature: Avicenna and Aquinas,” in Approaches to Nature in the Middle
Ages, ed. Lawrence Roberts (Binghamton, NY: Center for Medieval & Early Renaissance Studies (1982), 137 – 160),
notes that Aquinas freed earthly natural motion from the determination of heavenly motion that Avicenna saw.
“For Avicenna, however, terrestrial events are ruled by the stars. What may appear to be a chance event in the
sublunar world is foreseen and produced by the souls of celestial bodies and their intelligences. . . . St. Thomas
observed that the sun affects the activity of all plants and animals and even held that it causes the generation of
smaller living things through spontaneous generation. . . . But even within the whole realm of the physical
universe, many events are contingent and even some come about by chance” (152 – 53).
will consider will see the same independence of natural activity that Aquinas sees in the world, despite the fact that all natural agents owe their existence and ordering to God.

The limits Averroes sets on the way God has to cause as a final cause will become dominant. Duns Scotus finds them to be quite compatible with his doctrine of natural final causality. While he affirms the presence of natural final causality, he eliminates the possibility of recognizing the divine causality of natural regularity through natural final causality. He, nonetheless, argues that God’s direction of nature is evident through God’s efficient causality, maintaining the connection between natural direction and divine direction through this one line of argumentation only. That is, he is able to maintain a clear relationship between natural final causality and divine direction without positing what he saw as an unintelligible divine final causal activity in natural movers.

2.7 Scotus: Introduction

We do not have questions or a commentary from John Duns Scotus on the Aristotelian texts that we have been using as our touchstones up to this point. Nonetheless, we can see from what he says about final causality in his writings (including some of his question-commentaries on Aristotle’s works) that he maintains the recognizability of natural final causality through unaided rational inquiry. He sets up the Aristotelian dichotomy between what is by chance and what is for the sake of something, although he apparently does not think it is as

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254 That is, God is the final cause only of what knows and desires God. Or, God can be a final cause for rational agents only.

255 Physics II and Metaphysics XII. A helpful list of Scotus’ works and a biographical sketch can be found in Thomas Williams’ introduction to The Cambridge Companion to Duns Scotus (Cambridge: Cambridge University Press, 2003), 1 – 14.
important to treat this distinction as thoroughly as our previous thinkers did. He acknowledges that chance cannot be a cause, so there must be final causes behind what happens in nature. He also sees that natural final causality has its own special character as the source of motion for the sake of something. He does not reduce it to efficient causality, but says that the final cause is quasi-objective and quasi-formal as the cause of direction in natural agents.

We will pay attention to his characterization of self-motion in his *Questions on the Metaphysics*, where he describes how even non-living natural wholes can be said to move themselves as efficient causes. He will argue that the internal motive principle of a natural agent, as natural, is determined. However, the way he argues for the distinction between nature and will leads him to characterize active natural principles as determined in their very acts, which is distinct from the determination of their appetites. He makes this claim based on his characterization of the first efficient cause of the world and does not change his conception of the determination of natural agents through natural appetite. But such a distinction between the determination of an efficient cause of itself and appetitive determination is taken up by Ockham, who reduces natural final causality to natural efficient causality.

Scotus’ characterization of God’s causal activity as a final cause in nature sees the elimination of the possibility of God being the final cause of natural motion. It is not possible to recognize from natural final causality alone that nature is for the sake of God. Only rational agents are able to desire God and, of themselves, act for the sake of God. But consideration of God’s role as the first efficient cause of the world makes it evident that all that happens in nature is, indeed, for the sake of God insofar as the world is caused by God’s rationally directed efficient causality. This affirmation that all is for the sake of God despite the fact that nature does
not, of itself, desire to be assimilated to God allows Scotus to emphatically affirm that God is the first final cause of the world without having to posit what appeared to be an inexplicable desire for God in natural agents. He simplifies the explanation of divine natural direction in nature by giving primacy to divine efficient causality in the order of explanation.

2.8 Recognizability of Natural Final Causality in Scotus

Scotus does not spend much effort marshaling arguments showing that natural things act for the sake of something. It seems all but assured that this is the case. When he does assert that natural things act for the sake of ends, his case is rooted in Aristotle’s *Physics*. We will look at what he has to say on this point in his *Treatise on the First Principle*\(^{256}\) and his *Questions on the Metaphysics of Aristotle*.\(^{257}\) His treatments are brief and put forth as steps on the way to drawing other metaphysical conclusions. That Scotus is not particularly interested in arguing this point and that he relies on the authority of Aristotle to make it for him is a sign to me that Scotus saw Aristotle as having provided a thoroughly convincing account himself.

In chapter 2 of the *Treatise on the First Principle*, Scotus is laying the groundwork for his arguments on the primacy (and other characteristics) of the First Cause. He is defending the account of the essential order that he gave in the beginning of the work. His fourth conclusion in

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\(^{257}\) See Bk 5, q. 1, ¶14. It is treated below.

this chapter, “What is not ordered to an end is not an effect” (or its logical equivalent, “every effect is ordered to an end”) is supported by arguments derived from Aristotle’s *Physics* that show that all agents act for the sake of ends.

His first proof (of two) is in 2.11. His first premise is that every effect must come from a proper efficient cause.\(^{258}\) Scotus’ support for this premise is from Aristotle. He refers to *Physics* II, 6, where Aristotle says that intelligence and nature as proper causes are prior to chance and spontaneity, which are accidental causes.\(^{259}\) But an effect is not going to be caused by or dependent upon what is posterior. That an activity was by chance or was spontaneous is attributed after the activity is done, so chance cannot be what brings about chance activities, so it is not a *per se* cause.

His second premise is that what is not ordered to an end does not come from an efficient cause. He supports this premise by asserting that no proper agent does anything in vain. We know from our own actions that when we act, we act for the sake of something. Scotus appeals to Aristotle as the authority on the issue of natural activities being for ends. Even though it is less apparent that natural things act for ends, they surely do.\(^{260}\)

These premises get him the conclusion that what is not ordered to an end is not the effect of an efficient cause. But, if an effect is not brought about by an efficient cause, it is not brought about (i.e., does not come to be). I find this to be a very Avicennian reading of Aristotle.

\(^{258}\) “Quod non est ab aliqua causa per se efficiente, non est effectum” (Scotus, *Trac. de p. principio*, 86).

\(^{259}\) “Quia in nullo genere ‘per accidens’ est primum; quod Aristoteles satis exprimit 2° Physicorum, ubi casu et fortuna tamquam causis per accidens piores ponit necessario naturam et intellectum tamquam causas per se in illo genere causae” (Scotus, *Trac. de p. principio*, 86).

\(^{260}\) “Agens per se omne agit propter finem quia nullum frustra, quod Aristoteles in 2° Physicorum determinat de natura, de qua minus videtur; ergo tale nihil efficit nisi propter finem” (Scotus, *Trac. de p. principio*, 86).
Aristotle was arguing that every natural cause acts for an end. However, we saw room for attributing chance to some outcomes in Aristotle. Avicenna thinks that all results are natural. Likewise Scotus attributes all effects to *per se* causes in a way that Aristotle did not emphasize. Every effect is the result of activity for ends.

In his second proof here (explicitly Avicennian), Scotus addresses the ordering of the final and efficient causes and shows that final causality is operative in nature. The end is the first cause in causing. So the efficient cause is posterior to the end (final cause). And whatever is dependent on the posterior is dependent on the prior. So if an effect is dependent on an efficient cause, it must be dependent on the end.

Scotus makes use of earlier conclusions he drew about the ordering of the causes to make a fairly simple argument. For one who denied that final causality was operative in nature, I doubt this would be particularly eye-opening. I am confident Scotus would suggest that such a person should read the *Physics* and then re-approach the *Treatise on the First Principle* when ready for the metaphysical inquiry that the present argumentation is building.

Scotus takes a similar approach in his *Questions on the Metaphysics of Aristotle*, bk. V, q. 1. He addresses the question of whether the end is a principle and a cause. Scotus is making metaphysical arguments about the end itself. In his initial reply to the question Scotus puts forth three arguments that touch on what we are looking for. His first argument unsurprisingly gets its

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261 I am not suggesting that Aristotle would disagree with them or that Aristotle’s texts would not support their conclusions. It is a point of emphasis.

262 “Quia enim finis movet metaphorice ut amatus, ideo efficiens efficit formam in materia; non autem finis movet ut amatus, quia aliqua alia causa causat; est ergo finis prima causa essentialiter in causando” (Scotus, *Trac. de p. principio*, 88).

263 John Duns Scotus, *Quaest. s. l. metaph.*, vol. 3.
bire from the authority of Aristotle. Scotus sees Aristotle holding that every *per se* agent acts for the sake of an end, regardless of whether that agent acts by nature or by intellect.²⁶⁴ Chance cannot be a principle and cause in what acts by nature because chance occurs in an effect of a natural cause. Similarly, fortune is not a cause of what acts by intellect but befalls one who is already acting for a purpose. So, if natural agents do not act by chance (since chance is an effect), they must act for an end. (And what acts by intellect acts similarly.) It is essentially the same as the first argument from his *Treatise on the First Principle*. Scotus’ treatment of the distinction between chance activities and activities for the sake of ends is suitably brief here. He is assuming that the reader knows the terms and knows the arguments.

Secondly, Scotus points out the Aristotelian argument for ends that comes from the presence of errors in natural activities. If an agent is capable of error, it must be that the agent was acting for an end. Both natural agents and agents that act by intellect are capable of error, so they must act for the sake of ends. Even if an agent can be said to have acted in vain, it must be said that that agent was acting for the sake of an end since no action could be in vain unless there was an end being sought.²⁶⁵

In the third argument of his initial effort to show that the end is a principle and cause, he argues that, if an end is intended, then it must be a cause since the efficient cause acts because of

²⁶⁴ quoting from *Cuius probatio est: omne agens per se — quod dico propter casum vel fortunam — agit propter finem, secundum PHILOSOPHUM II Physicorum, ubi dividit agens propter finem in agens a natura et in agens ab intellectu* (Scotus, *Quaest. s. l. metaph.*, vol. 3, 398 [ln. 3 - 6]).

²⁶⁵ quoting from *Item, frustra dicitur esse — ut habetur II Physicorum*²⁴ — illa actio quae non potest consequi finem intentum. Si ergo nullus finis sit intentus, nullum agens ageret frustra; necesse est igitur ponere finem intentum* (Scotus, *Quaest. s. l. metaph.*, vol. 3, 398 [ln. 15 – 18]).
what is intended. This is not based directly on Aristotle’s discussion of activity for the sake of something in the *Physics*, but still points to the fact that natural things (and what acts by intellect) act for the sake of ends.

So in both his *Treatise on the First Principle* (and his *Ordinatio*), his *Questions on the Metaphysics of Aristotle*, Scotus says precious little to convince a reader that all things act for ends. He does not seem to think he needs to do much. Aristotle’s arguments are available. Scotus did not write a commentary on the *Physics*, but was clearly well versed in it since he referenced it when addressing final causality in his metaphysical inquiries. Scotus was confident that Aristotle said what needed to be said regarding the recognizability of activity for the sake of ends in natural agents. Scotus’ concern is placed primarily on the essential ordering and interrelation of the causes, the consideration of which will make it clear that Scotus does not reduce final causality to any other type of causality.

### 2.9 How a Final Cause Causes for Scotus

We will start by seeing Scotus’ explicit rejection of the reduction of final causality to efficient causality in his *Questions on the Metaphysics*, bk. V, q. 1, before examining his characterization of the final cause as an object of appetite in that same question. This is where he characterizes a natural final cause as having quasi objective and quasi formal being, which amounts to Scotus’ way of being as much in harmony with Aquinas as his terms allow.

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266 “Et ultra: si finis est intentus, tunc finis est causa, cum propter illud agat et sit principium motivum agenti. Efficiens autem iam factus in actu causa, sive motus a fine, producit formam in materia. Et haec est causalitas formae, informare; causalitas materiae est substare formae. Causalitas ergo omnium est a fine, ergo etc.” (Scotus, *Quaest. s. l. metaph.*, vol. 3, 399 [ln. 4 – 8]).
We will then see his explanation of self-motion in *Questions on the Metaphysics*, bk. IX, q. 14-15. Scotus thinks that even non-living natural wholes can rightly be called efficient causes of their own movement. What he says in q. 14 will not be contentious for us. What will stand out is his characterization in q. 15 of natural movers as determined in what they will do, even if their appetites are not determined. His characterization of nature as a determined efficient cause does not limit his attribution of final causes to nature. But it becomes a jumping off point for Ockham, who reduces natural final causality to efficient causality.

Scotus was not averse to reducing principles to others for the sake of eliminating redundancies in causal explanations.\(^{267}\) He made it a point however, to distinguish final causality from efficient causality, lest one be confused for the other. In his *Questions on the Metaphysics*, bk. V, q. 1 he takes on what he sees to be a reductionist position, which takes the final cause as an efficient cause. Scotus thinks this cannot be. Such causes do not cause in the same way as each other.\(^{268}\) A final cause does not do what an efficient cause does. It is through equivocation that final and efficient causes are both called causes. A final cause does not act as an efficient cause.

His interpretation of Aristotle’s *de Generatione*\(^ {269}\) supports this. Aristotle says that the final cause moves metaphorically.\(^ {270}\) This does not mean that the final cause is not really a cause.

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\(^{267}\) For example, he reduced exemplar causality to efficient causality.

\(^{268}\) “PHILOSOPHUS in littera: ‘causae non sunt sibi invicem causae in eodem genere causae’. Et probo sic: tunc idem prius et posterius secundum idem et univoce; et similiter idem respectu sui ipsius secundum idem prius et posterius; et similiter quod demonstratio esset circularis secundum idem” (Scotus, *Quaest. s. l. metaph.*, vol. 3, 404 [ln. 10 – 14]).

\(^{269}\) Cf. Book I, ch. 7, 324\(^b\)14-15.

\(^{270}\) “Nota quod PHILOSOPHUS cum loquitur de fine, dicit quod movet metaphorice” (Scotus, *Questions*, 404 [ln. 18 – 19]). In the above section on the recognizability of natural final causality, I quoted from his *Treatise on the First Principle*, ch.2, ¶11 where he also mentions that the final cause causes metaphorically.
It means that it is not really a local mover. It moves metaphorically as an efficient cause, not as an actual efficient cause. It exists or else it cannot be a cause. And it has its own proper way of causing (as desirable) or else it is not a final cause.\(^{271}\)

Fortunately, Scotus give an explanation of the causal power of a final cause in his *Questions on the Metaphysics of Aristotle*, bk. V, q. 1. It comes in his response to the objection that an end is not a cause. The objection (from §2) begins by stipulating that an end causes as something that exists or as something that does not exist. Of course it cannot cause anything if it does not exist because any cause needs to exist to bring anything about. So, the end must cause as an existing thing. The bite of this objection comes with the assertion that an end cannot be a cause as something that exists, either, because an end is a cause only insofar as it causes the efficient cause to move (which, in turn, brings the end into existence). But, as soon as the end actually exists, the efficient cause is no longer moved and, therefore, no longer causes. So, if we say the end actually exists, the efficient cause would need to do nothing and so no action would take place.\(^{272}\)

In his response to this objection, Scotus argues that the end is a cause that has quasi objective and formal being (*quasi esse obiectivum et esse formale*). Before looking at what Scotus has to say on this, I must admit from the outset that the notions of quasi objective and quasi formal being are slippery. He does not make clear what it means to have quasi objective

\(^{271}\) If the final cause and the efficient cause are not taken equivocally as causes, there would be no order between them. They would be the same thing. There would be no reason to distinguish them from each other or suggest that one is a cause of the other, which Scotus does. He lays out the dependence each has on the other in the beginning of the *Treatise on the First Principle* as well as Bk. IX, q. 15 of his *Questions on the Metaphysics*.

\(^{272}\) “Finis non est causa nisi secundum quod movet efficientem ad agendum. Sed quando finis est, non movetur efficiens; immo cessat ab actione” (Scotus, *Quaest. s. l. metaph.*, vol. 3, 395 [Ln. 12 – 14]). Also, this argument reflects Avicenna’s arguments for the existence of a cause in *L. de phil. prima*, VI, 5, discussed above in section 1.11.
and formal being, especially since I am (along with many others) habituated to thinking of things as either existing or not, without gray area in between. The point where Scotus arrives at his characterization of final causality will be taken as similar to the point where the thinkers we previously dealt with characterized the first final cause. He does not flesh out his conclusion as well as we would like. Based on what a final cause must be, in order for it to be the source of activity that it must be, it will have such characteristics.

Scotus begins his response by noting that an end (something desired) can function as a cause in different ways. It can exist. (i.e. It can be a thing in motion.) Or, an end can be an operation. Ends that already exist have their own reality. In circumstances where an end functions in this way, a thing can co-exist with its end. (Here we could use the example of a person planning a tour of Lambeau Field. The stadium is the end and already exists.) In these cases it is clear that the end has its own existence. An end that exists in this way cannot be what the above objection is aiming at. We will see that an existing end, such as Lambeau Field, will not, itself, be the final cause of any action. In our everyday interactions, though, we speak and act as though existing things are the source of our activities for the sake of ends, so it is fitting that he address and set it aside.

So, what of an end that is an operation or a thing yet to be done or brought about? Indeed, when the end is something that does not yet exist, we can face a common objection raised by those who would deny final causality. How could a house be the cause of a builder’s actions when the builder is at the early stages of gathering materials for the structure? Clearly the house

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273 “Et tunc non est difficultas attendere entitatem dum existit (sive prout res iam facta est)” (Scotus, Quaest. s. l. metaph., vol. 3, 399 [ln. 10 – 12]).
(or even the act of building) does not exist on its own. One response is to say the causal power of such an end is the causal power of a potential being.\textsuperscript{274} So the end, as something that does not exist, causes motion insofar as a potential entity can cause anything. Scotus does not think this is a suitable response and marshals two objections to it.

First, if some potential being is the end, then the motion for the sake of that end would cease once the potential being tried to do anything.\textsuperscript{275} If a potential being is going to be a cause, it has to be real. If the end is real, then activity directed towards bringing about that end will stop. This is essentially reasserting what we said was the “bite” of the initial objection. If the end is going to be a cause, it needs to exist. But if it exists, there is no reason for activity. It seems that Scotus is saying that holding an end to cause as a potential entity does not sufficiently address the objection.

His second objection hinges on the priority of the final cause over the efficient. The end is said to move the efficient cause, which makes the end more noble. But the efficient cause is the cause of the actual existence of the end. But then the end would be more noble as potential than as actual since it causes as a potential entity, but is an effect in reality. So, the priority of final causality is compromised by such an account (or else the primacy of actuality over potentiality is).\textsuperscript{276}

\textsuperscript{274} “Potest ergo ad illud dici quod finis, secundum quod ens in potentia, est causa motus, ita quod entitas potentialis debetur sibi prout causat motum” (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 399 [ln. 12 – 15]).

\textsuperscript{275} “Contra: si sic, habito fine secundum quod finis, cessat motus; et finis secundum entitatem potentialem in principio est causa motus secundum quod causa; ergo in principio motus cessaret motus” (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 399 [ln. 16-18]).

\textsuperscript{276} “Ergo esse potentiale finis est nobilius quam suum esse actuale” (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 400 [ln. 3 – 4]).
After these objections, Scotus stakes what will be his own position. He says that the final cause does not move the efficient cause as merely a “future entity” or “potential entity”. The end is a final cause insofar as it is a good or desirable potential being in the mind or in the intention of an agent.\footnote{277 “Sed finis est, secundum quod est in intentione agentis, movens agens ut desiderabile et bonum” (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 400 (ln. 7 – 8)).} So, the end does not cause as just some potential object. An end moves because it is desired. A final cause is not a potential being that is somehow out in the world, just waiting to be realized by an agent. A final cause is intended. But it is not merely an intended object. It is an intended object that is desired. The final cause is a cause insofar as what is intended is desired.\footnote{278 This is supported by his discussion of ends in the Parisian proof. He says the end is the end because it is good. It is desired. It is not just conceived. It is conceived as good. The intellect, alone does not give us the end. The intellect plus desire does. Sense perception alone does not give any ends to sensitive creatures. They need appetite, as well.}

At this point Scotus has not addressed the initial objections or even put forth an account of final causality that satisfies the two objections he just raised to the “potential entity” position. We see he is first placing the importance of activity that is for the sake of something being activity in accord with desire. Since he has not yet drawn the distinction between rational and natural agents in this context, it is apparently not significant that the final cause is something

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\footnote{277 “Sed finis est, secundum quod est in intentione agentis, movens agens ut desiderabile et bonum” (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 400 (ln. 7 – 8)).}

\footnote{278 This is supported by his discussion of ends in the Parisian proof. He says the end is the end because it is good. It is desired. It is not just conceived. It is conceived as good. The intellect, alone does not give us the end. The intellect plus desire does. Sense perception alone does not give any ends to sensitive creatures. They need appetite, as well.

He seems to argue against Aquinas here, who did not explicitly say that a natural final cause is a potency for form \textit{that is desired}. As will be seen, Scotus thinks the same objections that were raised against the conception of a final cause as a “potency” can also be raised against his own formulation of a final cause as a “desired potency”. Perhaps Scotus did not find Aquinas’ description of final causality to be “teleological enough”. He thought Aquinas was not explicit enough about the fact that the final cause is not just what a thing \textit{might} do or become. It is what a thing \textit{actually} trying to do or become. In Aquinas’ defense, he does not think that a final cause is just any potency for form. It is the potency for form that directs natural activity. Aquinas explicitly mentions natural appetite in \textit{Summa Theologica}, I-II, q. 1, a. 2.}
present in rational agents only (or natural agents only). Where there is appetite, whether it be natural or rational, there is final causality.\textsuperscript{279}

As he continues addressing q. 1, Scotus acknowledges that both objections raised to the ‘potential being’ account of ends as final causes can be leveled at the ‘intended being’ or ‘desired being’ account of final causality that he endorses. Saying that the end is an intention is to say that the intention is what is sought. So, as with the potential being, activity will cease once the intention is had since what is sought will be possessed.\textsuperscript{280}

Likewise, if we agree that an end cannot cause unless it has actual existence, there is no way that an end can cause anything as a concept or desire since it does not have actual being until after it is caused in actuality, outside the mind (by an efficient cause). To say otherwise would be to suggest that an intention (existence in the mind) is more perfect than what has actual reality.\textsuperscript{281}

Despite retargeting the original objections so they come to bear on his own position, Scotus holds his ground. In responding to the first in each pair of objections in this question,\textsuperscript{282} he denies that, “once the end is had, the motion ceases” is true. The end must be prior to motion

\textsuperscript{279} In fact, the intellect is passive, so knowledge of some future activity or object does not do anything. The end must be something presented to the will that is chosen.

\textsuperscript{280} "Eadem argumenta quae prius. Quia in principio motus habet finis illam potentiam, scilicet quod est in intentione ut desiderabilis, ergo tunc cessabit motus. (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 400 [ln. 11 – 13]).

\textsuperscript{281} "Item, illud esse finis est minus perfectum esse finis quam esse extra; ergo cum secundum illud esse actuale sit causatum, secundum aliu non potest esse causa" (Scotus, \textit{Quaest. s. l. metaph.}, vol. 3, 400 [ln. 14 – 16]).

\textsuperscript{282} Again, the first objection in each pair asserts that if an end really exists as a potential object or intention, the efficient cause will stop before it starts because it will be satisfied to have the really existing end (even though it be only a potential object or intention).
otherwise there would be no motion. The end must also be had while the activity is taking place. So having the end does not cause a cessation of motion.\textsuperscript{283}

Scotus concedes that motion stops as soon as the end is in matter, but the end in matter does not act as end or cause.\textsuperscript{284} So, it is not the actual house that moves the builder to build, but the builder’s intention of the house he will build. Likewise a potential visitor to Lambeau Field is not moved to visit because of the actually existing stadium, but his intention to see the place. Of course, once the house is completed or the stadium visited, the activities of building or visiting will stop. Scotus is saying that the activities were not caused by the house, itself, but the intentions the builder had of a house-to-be-built. Likewise, the visitor was not moved by Lambeau Fied, but his intention of Lambeau Field.

What about when an end is not achieved? Is the implication from such occasions that the end is not what we thought? One can see here that, when considering the end as the final cause, the actual results of the efficient causal activity that follow are irrelevant. The house may never get finished. Lambeau Field may have fallen down yesterday, unbeknownst to the Packer fan pilgrim.\textsuperscript{285} An end may be achieved or not, but there has to be some way that the goal is present to the agent before the activity-for-the-goal is started. The action is for what is presented as good, not necessarily for what is actually good. And if the agent does not possess the end in some way, it cannot be a cause.

\textsuperscript{283} “Dico quod propositio est falsa, ‘habito fine secundum quod est finis, cessat motus’, quia incompossibilia accipiuntur. Quia quando actio est, finis est ratio movendi secundum quod causa” (Scotus, Quaest. s. l. metaph., vol. 3, 400 [ln. 17 – 20]).

\textsuperscript{284} “Finis in materia non habet rationem finis nec causae” (Scotus, Quaest. s. l. metaph., vol. 3, 401 [ln. 3 – 4]).

\textsuperscript{285} “Si enim illud in se destrueretur, et maneret in intentione agentis, similiter agens ageret” (Scotus, Quaest. s. l. metaph., vol. 3, 410 [ln. 13 – 14]).
To the second objection in each pair, Scotus argues that the effect does, indeed have a truer being in the cause than in matter. The existence of worldly things is more perfect in God, whose existence is the cause of their existence. In a similar way, Scotus asserts that, “the health intended by the physician has truer being in the mind of the physician than health in matter, because it has being in an unqualified sense, namely, as a cause and form of the agent, that is, of the physician for the sake of which he acts.” Regardless of the way the final cause exists, it is more perfect as a cause than as an effect.

To someone who says that a final cause must exist in some way that makes it more noble than actual existence (of which it is a cause), Scotus replies, “Either [the end] moves according to some being that is more noble, but which is not its truer being (i.e. an intention); or else every end is simply something existing and loved (i.e. possessed end in matter). As desired, however, it is an end with respect to another desired thing, but it does not [exist] simply in an unqualified sense, but rather in the way a creature is in God.” So, when a rational agent intends something, the intention is the end, but the intention is not desired as an intention. (i.e. We do not simply want to think about what we want.) So, as a cause, the end is like an intention. But as what brings a cessation to motion (i.e. as something that we want to possess and be satisfied with), the

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286 Again, this objection states that, according to the position Scotus is defending, the end is more noble as a potential or intended existent than as an actual existent (which goes against the proper understanding of the higher nobility of actual existence over potential existence).


288 “Aut movet secundum aliquod esse nobilius sed non verius esse eius; aut omnis finis simpliciter est aliquid existens et amatum; desideratum vero est finis respectu alterius desiderati, sed non simpliciter, sicut creatura est in Deo” (Scotus, Quaest. s. l. metaph., vol. 3, 407 [ln. 3 – 6]). The English text is from v. 1 of Etzkorn & Wolter’s translation, p. 353.
intention is not what we are satisfied with. The end, as a source of motion, does not stop motion.\textsuperscript{289} When the end is in matter, it satisfies the appetites. An end exists in an agent similarly to how creatures exist in God.

God is an equivocal cause when causing the world; likewise the final cause is an equivocal cause of the efficient cause. An equivocal cause is more perfect than its effect.\textsuperscript{290} Such a cause is not formally the same as its effect, although it has the form of its effect in some way, otherwise it could not be the cause of it.

Scotus illustrates equivocal causality with the sun. It is a cause of a bull, yet it does not bring about a thing that heats and gives off light as it does. It is certainly an equivocal cause.\textsuperscript{291} Likewise, the sun is a cause of maggots, but the sun is not formally a maggot even though it can change matter into a maggot. So the sun (and any equivocal cause, including God) has the active perfection at times of what will be its effect, but never formally has it. “Every equivocal agent is in act with respect to its effect in this way. Not that it has similar act formally – for then it would not be an equivocal [but a univocal] agent – but it has that act virtually, because it possesses something more excellent formally.”\textsuperscript{292} So, every end is not simply something existing and loved. The end (as a cause) is not desired in itself (as a cause of motion). We do not desire to have the final cause; what it points to is what is desired. Likewise, the final cause must have

\textsuperscript{289} See Quaest. s. l. metaph., vol. 3, q. 1, §74 -75. 
\textsuperscript{290} “In ordine essentiali causarum essentialium semper est causa aequivoca respectu sui effectus, quia est alterius ordinis ab effectu. Causa autem aequivoca semper est nobilior suo effectu, cum non potest esse aeque perfectum nec minus perfectum” (Scotus, Reportatio I-A, 123).
\textsuperscript{291} “Quomodo enim in bove generante posset esse perfectio solis, secundum quam cooperatur sol bovi generanti” (Scotus, Quaest. s. l. metaph., vol. 4, 652 [ln. 19 – 21])?
\textsuperscript{292} “Et sic agens quodcumque aequivocum est in actu respectu effectus, non formaliter habens actum similem, quia tunc non esset agens aequivocum, sed est virtualiter habens, quia scilicet formaliter habet eminentiorum” (Scotus, Quaest. s. l. metaph., vol. 4, 658 [ln. 10 – 14]). The translation is from Etzkorn and Wolter, v. 2, p. 589. On this particular point Scotus & Aquinas are in harmony.
objective existence (sort of or *quasi*) in order to be a cause, and must be more noble than what is caused, without formally existing as what it is the cause of.

In his concluding remarks on q.1 of Bk v, Scotus summarizes, “The end is a cause insofar as it is in the mind of the agent. We must note that it is there as having a quasi objective and formal being. Objective being is real being. Formal being is that, by which it is now something intended, and this being in intention. (For example, if I understand a rose to be existing, and the object understood is a thing; objectively there is a species or likeness formally in the understanding or intellect.)”

Scotus’ characterization of final causality here is as straightforward as one could hope for. It is not what an agent seeks, but is what causes an agent to pursue what it does. It is a cause in the mind of a rational agent, and insofar as we can attribute appetite to natural agents, this kind of cause is found in them, as well. He describes a causal principle that exists enough to be a cause as an object of desire, but does not exist enough to be the actual object that an agent acts for the sake of. It is sort-of a thing (as a cause) and sort-of the form of what is desired. It seems maddeningly imprecise, yet it is exactly as precise a description of this principle as he can provide. The objections that he does not want to concede to (that an end cannot exist, yet it cannot be a non-existent) can be avoided with only this explanation.

This is a suitable account of the existence of a natural final cause for Scotus, but more needs to be drawn from Scotus to appreciate Ockham’s doctrine of natural final causality.

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293 *Quod est causa in quantum est in intentione agentis, notandum quod est ibi quasi esse objectivum et esse formale. Esse objectivum est esse reale; formale est illud quo nunc illud intentum est, et hoc est esse in intentione. Exemplum: si intelligo rosam existentem, et objectum intellectus est res, obiective formaliter in intellectu est species*” (Scotus, *Quaest. s. l. metaph.*, 411 [ln. 7 – 12]). The translation is from Etzkorn and Wolter, v. 1, p. 357 – 58.
Specifically, we will see that Scotus’ explanation of the self-motion of natural agents gives rise to opportunities for parsimonious cuts that will allow for the reduction of natural final causality to natural efficient causality. I will consider his *Questions on the Metaphysics*, bk. IX, q. 14 and 15. His characterization of the efficient self-motion of natural agents emphasizes the determined character of natures as efficient causes, without direct appeal to natural final causality to account for this determination. In q. 14, he specifies the way that natural movers are said to be efficient causes of themselves. Question 15, which focuses on his distinction between nature and will, is where the emphasis on the determined character of natural efficiency comes to the fore. Despite this emphasis, which comes through a counter-factual hypothetical situation, Scotus is not tempted to reduce final causality in natural movers to natural efficient causality.

In his answer to q. 14, “Whether something can move of itself,” Scotus says that what is a self-mover is said to “move itself” equivocally. A self-mover cannot have, within itself, potency and act in the same way, but it can have a certain potency and a certain activity that reduces that potency to act within itself. His point, though, is that a thing can move itself, even if it is only in particular ways.

And, the motion that comes from natural efficient causes, insofar as natural agents are able to produce an effect in themselves from their own power, must come from a cause that is determined of itself to produce an effect. While it is possible to impede natural movers in their self-motion, upon removal of an impediment they resume their natural motion. Such a

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294 “Scilicet quod habet formam quae est principium agendi aequivoce, et quando cum hoc est capax termini talis actionis” (Scotus, *Quaest. s. l. metaph.*, vol. 4, 634 [ln. 11 – 13]).
295 “Impedimento autem amoto, statim agit ad productionem effectus, sicut a principio egisset si non fuisse impedita” (Scotus, *Quaest. s. l. metaph.*, vol. 4, 640 [ln. 3 – 4]).
determined natural self-moving cause is said to move itself equivocally insofar as the agent that can act upon itself cannot bring itself about, since it is already made, but it can make or change a part of itself. This is not substantial change, but accidental change. That is how “motion” is equivocal when attributed to both self-motion and the creative act.

We looked at the motion of heavy bodies in Aristotle in our effort to see the extent to which natural things acted for the sake of something. Thinkers after Aristotle have been more forthcoming in their assertions that all natural activities are for the sake of something. Scotus does not disagree. In this question Scotus applies his understanding of self-motion to the activities of heavy bodies. Namely, he claims a heavy body has an active principle within itself that explains its motion. “If it is not located [at the place that is suited to it] at the outset, it will move itself there afterwards.” The motion of heavy bodies is not a test case for the extent of natural final causality, here. It is a test case for the extent of internal efficient causality.

Here Scotus argues that the natures of even non-living natural wholes are in potency to move because they have active principles. As far as Scotus can tell, it cannot be any other way. (He explicitly disagrees with Aristotle on this point, who takes the position that a heavy body can move down due to a passive principle of motion.) The center of the earth does not draw heavy

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296 “Potest dici primo quod quocumque per se ens naturale habet principium activum respectu ‘ubi’ sibi convenientis; quod ‘ubi’ si non habet a principio sui esse, postea per illud principium movet se ad illud ‘ubi’” (Scotus, Quaest. s. l. metaph., vol. 4, 630 [Ln. 11 – 13]). The partial translation is from Etzkorn and Wolter, v. 2, p. 575.
bodies downward.²⁹⁷ Scotus has no way to understand what kind of attraction such a drawing downward would be. A heavy body moves itself towards the center of the earth.

As far as Scotus can tell, the way Aristotle described it, positing the creator of the heavy body as the cause of the thing’s downward motion, is simply wrong. When the heavy body falls, the creative act is long over. The external efficient cause (maker) could not be the cause of the falling.²⁹⁸ The cause of the rock’s motion must be in the rock that is falling.

As he says, it is fitting to attribute to nature the ability to bring about its perfections. Nature does not act without purpose and has within itself the means for its excellence. “Hence, when it is not obvious that a given nature lacks an active principle regarding a given perfection, it must simply be conceded that it has it [the active principle], for this dignifies nature.”²⁹⁹ It is fitting to ascribe motive principles to what moves.

The arguments Scotus uses in q.14 to support his attribution of motive principles to natural movers is not especially difficult to grasp or hard to ascent to for a modern thinker. Even though he knows he is disagreeing with Aristotle on the cause of a heavy body’s descent, what he is saying about the existence of a motive principle within natural movers may be palatable to

²⁹⁷ “Dicatur quod centrum trahit grave, quis est iste tractus? Numquid per alterationem gravis? Vel latio erit per actionem univocam? — Similiter, per impossibile, tota terra amota, idem centrum terrae est quod prius, et ad illud movebitur gleba. Quid attrahet?” (Scotus, Quaest. s. l. metaph., vol. 4, 642 [ln. 1–5]).
²⁹⁸ “Si dicatur, quarto, quod generans movet, quomodo effectus in actu erit sine causa in actu? — DICES: dedit virtutem. Verum est: generavit, et quando generavit, fuit. Nunc non est; quomodo nunc movet, si genitum ab ipso manens non movet? Hoc est quod quaeritur. Itaque istic (quae fitiones videntur) praetermissis, et sensui concordat quod grave a se movetur” (Scotus, Quaest. s. l. metaph., vol. 4, 642 [ln. 6–11]).
²⁹⁹ “Ergo quandocumque non apparet quod talis natura non habet principium activum respectu talis perfectionis, immo magis videtur quod habet, hoc simpliciter est concedendum, quia hoc dignificat naturam” (Scotus, Quaest. s. l. metaph., vol. 4, 650 [ln. 8–11]). The translation is from Etzkorn and Wolter, vol. 2, p. 582.
a contemporary thinker who wants to use Aristotelian terms to describe the independent motion of natural movers in the world.\footnote{André de Muralt argues that the independence Scotus gives to free agents vis-à-vis God’s power is non-Aristotelian. He argues that the way Scotus has God and creation as the concurrent causes of the same thing does not follow the way Aristotle described it ("La causalité aristotélicienne et la structure de pensée scotiste," *Dialectica* 47 (1993): 121 – 141). Scotus, himself, recognizes that he is going against Aristotle in attributing efficient causality to natural agents has he has done. James Weisheipl points out that, of course, this provides a problem for those who would distinguish what is alive from what is not since Aristotle described living things as “self-movers”. If every nature is an efficient cause, every natural thing is a self-mover. Additionally, it would be difficult or impossible to explain the self-motion of a homogenous thing like a rock, which would require a variety of parts to be a self-mover (“Aristotle’s Concept of Nature”, 147). He sees Scotus’ position on this as coming from Avicenna, who took a thing’s matter and form to be two different things, one of which could move the other (148 – 49). With just these few points one could see how the distinction between living and non-living in nature would become less important to make, so long as one can recognize the presence of nature itself. Michael Sylwanowicz’s study, *Contingent Causality and the Foundations of Duns Scotus’ Metaphysics* (Leiden: E. J. Brill, 1996), examines the sources of activity in created things without laying out a strong distinction between what is alive and what is not, but, unsurprisingly, with laying out a strong distinction between what acts naturally and what acts through a will. What is important in this, though, is that Scotus makes an appeal to natural efficient causality (an ‘active’ principle) to explain natural motion that was not explained through such an internal source of motion in Aristotle or Aquinas. Scotus is following suit with the likes of Avicenna and Averroes, who also appealed to internal natural efficient causality as the source of any natural agent’s proper motion (Cf. Weisheipl’s “The Specter of Motor Coniunctus in Medieval Physics,” mentioned already in chapter 1 above, 113 – 115). Scotus’ characterization of the determination of this active power found in every natural mover allows subsequent thinkers (i.e. Ockham) to find determination in nature without having to posit natural final causality. My own interpretation is in harmony with Weisheipl (and has been aided by him). I would like to emphasize, though, that the reducibility of natural final causality is not so much impacted by the assertion that nature is an “active” cause as the assertion that such causal power must be determined. I understand that the activity and the determination go hand-in-hand. But from the consideration of natural final causality specifically, the “active” aspect of an efficient cause is not relevant. (This is why the distinction between living and non-living natural agents is not important to flesh out here. The determination of the active cause is important.)}

However, a peculiarity of Scotus’ description of natural motive powers arises in q.15, “Whether the difference assigned by Aristotle between rational and irrational potencies is fitting,” where he lays out the distinction between what moves by nature and what moves through free will. He reaffirms that nature is an active potency that is determined to act of itself. It will not fail to act unless it is inhibited. Will, on the other hand is not determined of itself to
act. It can act in order to bring about opposites or not act at all. What he is saying here is that natural and rational agents differ in their powers to set the objects of their desire. What acts by nature is not free to pursue anything other than what it is determined to pursue. In other words, ends are built-in to nature. This is what it is to be a determined active potency.

We saw above that, with regard to recognition of the presence of final causality, it is irrelevant whether an agent is rational or natural. A final cause, which is what an activity is for the sake of, is present in each. In q. 15 it is clear that for rational agents, final causality will be connected to the will. What rational agents act for the sake of is determined by the free choice of the rational agent. Animals do not have free will, so what they act for the sake of is determined.

In answering q. 15, Scotus gives the best answer he can to a question one might ask of this difference between free and natural agents: Why is there such a difference at all? Why are some agents determined as they are while others are free? We see our peculiarity in his answer to this question.

If one asks why nature is determined to just one sort of action (i.e. why a natural thing is determined to cause what it does while what has a will can choose from alternatives), Scotus does not think we should expect to find an answer. “Just as any immediate effect is related to its immediate cause primarily and per se, without benefit of any mediating cause – otherwise one could go on ad infinitum looking for reasons – so an active cause [as opposed to material or other

301 “Iste autem modus eliciendi operationem propriam non potest esse in genere nisi duplex. Aut enim potentia ex se est determinata ad agendum, ita quod, quantum est ex se, non potest non agere quando non impeditur ab extrinseco. Aut non est ex se determinata, sed potest agere hunc actum vel oppositum actum; agere etiam vel non agere. Prima potentia communiter dicitur ‘natura’, secunda dicitur ‘voluntas’” (Scotus, Quaest. s. l. metaph., vol. 4, 680 – 81).

302 Scotus finds the basis for this distinction in Aristotle’s Physics (II, chs. 5-6, 197a32-b13) where Aristotle distinguishes two incidental efficient causes: chance, which is reducible to nature, and fortune, which involves purpose or will (cf. Scotus’ Questions on the Metaphysics, bk. IX, q.15, ¶ 23).
‘cause’) seems to be immediately related to the action it elicits. One can give no other reason why it elicits its action in this way except that it is this sort of cause.”

Scotus is giving the best answer he can get from natural knowledge. If one wants to know why heat has no freedom to cool, Scotus cannot tell us. He would simply have us look at what it does. It never does otherwise. So, the immediate effects of a natural cause come about because a natural agent cannot choose to do otherwise. If one asks why it causes with regularity, Scotus says that it is simply the kind of cause that causes with the regularity it has. This is evident from the regularity that we see even if it is not evident just why it is determined as it is.

There is no reason we can see for why fire heats and does not cool. We can see, based on its effects, that it is the sort of thing that heats only. As an efficient cause, heat is what it acts to bring about. It is evident that nature is determined in its activity. Since it is determined in its activities, it is determined in its end.

And even though a single natural agent can be responsible for a variety of results, such a variety of results does not support the claim that the natural agent is able to act in accord with a variety of ends. In fact, the end of a natural agent is always the same, even if the results of that agent’s activities are not. This has implications for those who would take any natural results as the final causes of those natural agents. Not all effects are final causes.

He says that even if natural things could want to do otherwise (i.e. could desire something else), it would not change what they do (the powers they have to act). In other words,

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303 "Sicut enim effectus immediatus ad causam immediatam comparatur per se et primo et sine causa media — alioquin iretur in infinitum —, ita causa activa ad suam actionem, in quantum ipsam elicit, videtur immediatissime se habere. Nec est dare aliquam causam quare sic elicit nisi quia est talis causa" (Scotus, Quaest. s. l. metaph., vol. 4, 681 [ln. 12 – 17]). The translation is from Etzkorn and Wolter, v. 2, p.608.
even if natural agents were free, they would still be determined in what they, of themselves, would do. “A natural form, if it is not limited and is a principle of opposite effects in materials disposed to receive such, is still determined to produce these effects in the same way as a form with but one effect is determined to produce a single effect. For the sun does not have it in its power to generate an alternative to the form it produces — when the recipient of this or that form is present — any more than it would have if it could produce but one form.” Here is where the peculiarity of Scotus’ understanding of natural motive powers comes out.

Granting that a natural form can be the source of opposite effects (e.g. heat can liquefy ice to water and solidify liquid egg into solid egg and rain can water a crop or ruin a harvest), is not to see free will in those natural things. The natural thing, in itself, is always acting in the same way. Acting of themselves, natural causes are efficient causal powers moving in consistent determined ways. Their actions are determined, even if their results are not. (In agents with free will the very action itself is not determined, regardless of the results.) So, even if nature is not determined to a single effect, it is determined to one act.

In q. 15, Scotus is distinguishing natural appetite from rational appetite. He is saying that natural appetite is fixed to its object by the natural form a thing has. On the other hand, rational appetite is not fixed to an object. It is incorrect to think that a variety of results coming from a natural agent’s activity is evidence that that natural agent can desire a variety of objects. It is not simply that the desire of a natural agent is fixed by nature on a single object. The motive power

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304 “Forma naturalis, si est illimitata et principium oppositorum in materiis dispositis illorum, est ita determinate sicut illa quae est unius tantum est illius determinate. Nam non est in potestate sua ad alterutram istarum formarum agere, praesente passo receptivo huius formae et illius, sicut nec esset si esset unius tantum” (Scotus, Quaest. s. l. metaph., vol. 4, 687 [ln. 4 – 8]). The translation is from Etzkorn and Wolter, v. 2, p.614.
of that agent is determined to a single activity. A natural agent has no capacity to do anything other than what it is determined to do. Even if one wants to say that natural agents have free will, that does not make them any more free than they are, which is to say, they still have no freedom to act otherwise than they do by nature. The peculiarity here is that Scotus is attributing determination to nature even if nature did not have the appetite to move it in its determined way. If natural final causality were not operative in nature, nature would still be determined to its effect as though it were operative.

For Scotus, this hypothetical situation illustrates that his attribution of appetites to agents, whether natural or rational, is based on his observations of the activities of those agents. That we do not know why some agents act by will and some by nature is not a problem for us; we simply need to accept the world as it is. It relates to our discussion of natural final causality insofar as we can see that even though natural and rational agents act for the sake of something, they act from different principles of desire, one being predetermined to a particular object, the other not. For Scotus, a natural agent’s desire comes from the agent’s natural form. What is desired is held as a kind of potency connected with what the thing is.

What stands out, though, is that he is providing a way to attribute determination to natural agents despite a (hypothetical) rejection of natural final causality. Scotus does not do this only in his Questions on the Metaphysics. He does it in the Treatise on the First Principle and supports it in his Quodlibet, as well. In 4.55 of the Treatise on the First Principle he tells us where the built-in determination of the natural motive power comes from as a part of his proof that the first efficient cause is intelligent and has will. He begins by noting that the first efficient cause is a per se agent and every per se agent acts for an end. He argues that what does not have will acts
of necessity. Natural things would do the same things they do (having determined ends) even if they did not have determined ends. Again, the efficient causal powers of natural agents would be determined, even if there was no determined end. So, even if all natural activities were incidental, they would still happen in a regular way. It is possible to trace the efficient causal activities of nature to a first efficient cause, which would have to be a per se agent, causing for the sake of something by intellect & will (i.e. not act by necessity).

Final causality is surely present in nature, but if it were not, everything would still act as it does already. Natural things would still do the same activities even if they were not acting for the sake of anything on their own because they are caused in what they will do by God. So, as effects of a per se cause, natural agents would still be ordered even if they did not have it in themselves to naturally desire their own perfections. They would not desire their own perfection but they would be moved as though they did. The natural moving power would be the same even if the natural desire to be in a particular kind motion was undetermined.

One might ask why Scotus did not simply see that such a reduction could work as an explanation of nature, allowing him to eliminate discussion of natural final causality. My first suggestion for this has already been discussed; he was not looking to reduce natural final causality.

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305 “Omne naturale agens, praeclise consideratum, ex necessitate et aequo ageret, si ad nullum finem ageret, si esset independenter agens; tandem proximum necessario movebit voluntatem; et ita necessario volet et erit volens necessario” (Scotus, Trac. de p. principio, 144, 146 [4.56]).

306 In q. 16 of his Quodlibet, he traces the very necessity of natural motions to God, who directs them to be as they are. What natural agents will do of themselves is necessitated by God’s causal activity. (Cf. Timothy B. Noone and H. Francie Roberts, “John Duns Scotus’ Quodlibet,” In Theological Quodlibeta in the Middle Ages: The Fourteenth Century, ed. Christopher Schabel (Leiden: Brill, 2007), 192 – 194 [§62-65]).

307 Marilyn McCord Adams certainly finds his comments in his Treatise on the First Principle to undermine his case for natural final causality. “But inasmuch as such norms could be furnished by naturally necessary regularities, it does nothing to establish ends in nature as final causes in Scotus’s sense” (“Final Causality and Explanation in Scotus’s De Primo Principio,” in Nature in Medieval Thought, ed. Chumaru Koyama. Studien und Texte zur Geistesgeschichte des Mittalters 73. (Leiden: Brill, 2000), 172.)
causality to efficient causality. He invested his intellectual capital in developing an explanation as to how this kind of cause existed. He was not looking to eliminate it when he speculated as to how natural agents would act if they were not determined to act by a built-in goal.

Secondly, the importance of desire for Scotus’ account of final causality cannot be undervalued. What a thing desires is what it acts for the sake of. When discussing natural final causality in Scotus, it is important to see that he distinguishes natural desire from the desires of the will. The difference is not merely that what has will has intellect while what acts by nature does not. What acts by will freely chooses what it acts for the sake of. What acts by nature is determined to act in a particular way. For Scotus, natural desire comes from the natural form of what has it. It still has to be a kind of potency connected with what the thing is. Desire is not determined in what has free will, but desire in natural agents is determined. Desire is connected with form.\(^{308}\) Even though there are different powers by which agents can come to desire what they desire, desire must be present for both rational and natural activity for Scotus. The distinction between will and nature does not come to bear on Scotus’ argument at the point in this question on the *Metaphysics* where he emphasizes the importance of desire for final causality. His arguments about the presence of final causality apply to both kinds of desire.

One might suggest that I am overplaying the extent to which even the hypothetical situation Scotus put forth in *Questions on the Metaphysics*, bk. IX, q. 15 relies on an absence of final causality. After all, if the alternative to being natural is being rational, and Scotus was simply speculating that natural agents would be free, he is requiring us to switch to a discussion

\(^{308}\) There is even some necessity to what has freedom (free will). In rational agents, the will must be free. It, by necessity, chooses freely. If it chooses by nature, it is not acting as a will. It would be simply the effect of another cause that was causing the agent to act in a certain way. Again, see Noone and Roberts, 192 – 194 (§62-65)).
of rational final causality in nature, not an absence of final causality in nature. To that I reply that
the germane aspect of free will, and the one that Scotus wants to keep us from seeing in nature, is
the lack of a determined object of desire. The point that Scotus is making is that natural agents
are determined in how they will act, even if they are able to desire a variety of results. The
important point is not so much that rational final causality could be in play for natures. The
important point is that it would not matter for Scotus since the active power is, itself, determined.
For our purposes, the argument that nature would be determined even if natural appetite was
indifferent to its object of desire is just as forceful as saying that nature would be determined
even if there was no object of natural appetite at all. The way Scotus frames this issue in On the
First Principle confirms this.

But, of course, this is only a hypothetical scenario for Scotus, who sees that natural final
causality has its own special character as the source of motion for the sake of something. While
his characterization of self-motion in his Questions on the Metaphysics describes how even non-
living natural wholes can be said to move themselves as efficient causes, at no point does he
walk-back his rejection of the reduction of final causality to efficient causality. He is clear that
the final cause is a quasi-objective and quasi-formal principle of direction in natural agents.

However, the way he argues for the distinction between nature and will and God’s
rational causality of the world leads him to characterize natures as determined in their very act,
which he distinguishes from determination of natural appetite. This does not change Scotus’
conception of the source of determination in natural agents, but such a distinction is made by
Ockham, who reduces natural final causality to natural efficient causality.
2.10 The First Final Cause for Scotus

Scotus’ account of final causality in nature, which sees natural final causes as determined (and determined for the sake of the natural thing, at that), calls for discussion of an agent that is responsible for causing their determination. He takes it as a starting point that ends must ultimately come from a rational agent.\(^{309}\) Natural things act for ends and are not aware of it. So they must be directed by one who is aware. (Natural things must get their direction from God.) I will look at excerpts of Scotus’ Parisian proof of God’s existence as well as his Questions on the Metaphysics to see the connection between natural final causality and the first final cause.

We will see that Scotus maintains that there is a most perfect mover that is both efficient and final cause of the world. In his arguments for the existence of a first mover as well as his arguments that there is a first final cause, Scotus gives a primacy to efficient causality. We see in his Parisian proof for the existence of God, as well as in On the First Principle that the final causality of the first mover is certain because the efficiency of the first mover is certain. He does not make the case, like Aquinas did, that all the regularity in the world points to a most perfect and regular being that all others impersonate as best they can. In fact, he thinks this cannot be the case. Scotus is sure that God is the final cause of the world because God efficiently causes the world to be such as God wants it. God is the first final cause of all things insofar as God willed

\(^{309}\) This means that God acts as a free agent. Antonie Vos provides an interesting analysis of Scotus’ rebuttal of the necessitarian accounts of nature in Aristotle and Avicenna. Vos sees that the contingency Scotus (and the medieval Christian thinkers, in general) finds in the world represents a strong break between ancient and medieval worldviews, where others have seen medieval thought as a continuation of ancient (Antonie Vos, “Duns Scotus and Aristotle,” in John Duns Scotus: Renewal of Philosophy, ed. Egbert P. Bos (Amsterdam: Rodopi, 1998), 49 – 74). He reinforces his argumentation for the originality of Scotus and the questions of the Christian thinkers in the face of Greek philosophy in his wide ranging study, The Philosophy of Duns Scotus (Edinburgh: Edinburgh University Press, 2006), 511 – 539.
and efficiently brought things out for the sake of God’s self. Instead of connecting divine and natural final causality by seeing evidence of divine order in the natural drive for perfection, he says that God’s final causal power is directly evident in rational agents only (as Averroes did), but can be recognized in nature only through the affirmation of God’s role as the first efficient cause of the world (the linking of efficiency and finality being very Avicennian).

We see in his Parisian proof of God’s existence that efficient causality has a position of primacy when it comes to making philosophical arguments about the first mover.\(^{310}\) Even if final causality is prior to efficient causality in causing, one will not be able to recognize that God is the first final cause of the world unless one recognizes God as the first efficient cause of the world. Scotus argues that there is a first per se efficient cause in the essential order, which must be the best.\(^{311}\) Such a first efficient cause will be the best because of what it is to be the first efficient cause in the essential order. Scotus then argues that, from this, we can be sure that God (i.e. this first efficient cause) is the first final cause, too. Since every efficient cause acts for an end, the first efficient agent must act for the sake of the final end.\(^{312}\) He is specifying that God acts for the sake of God. There is nothing better than the first efficient cause. So, God is the final cause of God’s activity because there is nothing higher God could act for the sake of.

\(^{310}\) Marilyn McCord Adams notes problems with Scotus’ attempt to show that the first final cause, by being the first final cause, really exists and is also the first efficient cause (Adams, “Scotus’s de primo principio,” [this is an abbreviated title]. 165). She finds his arguments from efficiency are more effective and notes that Scotus must have, as well, since his later Parisian proof gives primacy to the arguments from efficiency.

\(^{311}\) Cf. Scotus, Reportatio I-A, d.2, part I, q. 1 – 3, Quod Deus sit primum primitate efficientis, 118 – 122.

\(^{312}\) “Si est aliquod primum efficiens – quod est aliquis primus finis non ordinabilis ad alium finem nec virtute alterius finitivum, quia omne per se agens et efficiens agit propter finem... Et prius efficiens propter priorem finem, ergo primum efficiens propter ultimum finem; sed propter nihil aliud a se principaliter agit et ultimate, ergo propter se sicut propter finem. Et sic sequitur quod primum efficiens erit ultimus finis, sive primus” (Scotus, Reportatio I-A, 123).
Scotus’ explanation of how God causes the world as a final cause in his *Questions on the Metaphysics*, bk. V, q. 1, is very different from Aquinas’ (and Aristotle’s). Scotus does not hold that natural movers move themselves in order to assimilate themselves to God. He maintains that God’s final causality is not evident through the natural desire for self-perfection, but can only be seen in agents that explicitly desire to act for the sake of God.

When Scotus described the end as a cause, he noted that it could be taken as what a thing is trying to impersonate (or ‘assimilate to’).\(^{313}\) God could be taken as the end of all movers in this way. (This is what we saw in Aquinas.) Scotus denies that God causes natural motion as such a final cause. For God to be what natural agents are striving to imitate, God would have to be held by the form of the natural agent in some way. Agents do not act for the sake of an actually existing thing.\(^{314}\) I already used the example of a pilgrim to Lambeau Field to illustrate Scotus’ position. If Lambeau Field was destroyed, unbeknownst to the pilgrim, the pilgrim would still act in order to seek it out as though it were there. Clearly the pilgrim is not moved by Lambeau Field itself, but by something in himself. This is Scotus’ point here. We need to see the final causes in the agents themselves. But one cannot be sure that God is the end of natural desire, even as Lambeau Field is the end of a Packers fan.

One making a pilgrimage to the Lambeau Field, or a Roman making his way to public baths, must have both the capacity to know such an end as well as the power to decide to pursue it. In a similar way, God is the end only of whatever decides to do something for the sake of God. But an agent’s activity must come from its desire for God in order to be rightly said to act

\(^{313}\) Cf. *Quaest. s. l. metaph.*, vol. 3, 409 - 410 [§67-69].

\(^{314}\) Cf. *Quaest. s. l. metaph.*, vol. 3, 410 (§70-73).
for the sake of God from its own power. Such desire will not come from God’s existence or causal power outside of the acting agent as an object of imitation.\textsuperscript{315} As far as Scotus sees, whether an agent is trying to bring about something in itself or another that does not yet exist, or trying to imitate what does exist, there cannot be two different kinds of final causality at work as Aristotle saw it. Scotus is clear that the end does not cause as an existing end, even in instances of desired assimilation to God. So, insofar as an agent acts to assimilate itself to something that exists, the agent must be moved by its own desire for assimilation. This causal desire has its own existence, independent of the object of assimilation.

Scotus is maintaining a uniform conception of final causality in his characterization of divine final causal activity. He says God cannot be recognized as the final cause of natural motion through the observation of natural motion, unless it can be recognized that God is the object of natural appetite. Of course, this is not evident to Scotus.

It is evident through the observation of natural motion that natural agents move themselves for the sake of their own good. They act for the sake of themselves. This is the natural end of each thing, to be the best one it can be. This natural appetite is coeval with nature. In the generation of contingent things by contingent things, the final cause can be said to be external insofar as what made the contingent thing (i.e. was the efficient cause of the contingent thing) acted with a view to bringing about something other than accidental changes in itself. External final causality is operative in natural things insofar as those natural things act efficiently to bring something else about (itself already having been brought about by something else). The distinction between internal and external final causality here is not a distinction between two

\textsuperscript{315} Cf. \textit{Quaest. s. l. metaph.}, vol. 3, 410 (§72).
different types of final causality. It is a distinction between objects of appetite which can be seen in nature.

So, to ask about the final cause of a horse, you could ask two questions, one of the internal final cause, one of the external final cause. To ask about the internal final causality of a horse is to ask what the final cause of the series of accidental changes is that a foal undergoes as it grows. The *per se* causal activities of the horse that bring about its growth and development are for the sake of the growing horse itself, which is a source of its own activities of growth and change. It is trying to be a good horse in its natural activity.

To address the second (i.e. the external final cause) is to point to the intention of the horses that mated to bring about our foal in question. That is, our foal can be seen as the external final cause of the horses that mated and generated it. It is what the efficient causal powers that made it were acting to bring about. This is a final cause as an external cause in natural generation. Part of being a good horse is contributing to a healthy next generation of horses. So, reproductive behavior is in accord with the good of the animal that is reproducing. It is then right to say that what is generated in accord with the desire of an agent is generated for the sake of that causing agent.

It is helpful to see, first of all, the way that Scotus utilizes the terminology of external final causality. It does not specify an external existent that acts on an agent as a final cause. Instead, it specifies what is pursued that is other than the agent itself. For natural agents, this kind of final causality has to be traced back to the natural appetite for self-perfection, as it is with the natural desire for generation. Through this connection, one can further see that what is generated or created in accord with natural desire is, itself, for the sake of the one that generated or created
it. This is true of natural generation, which is determined to be for the sake of the one who generates.

This allows us to then further consider the final causal power of God. One can ask about God’s activities with regard to God’s self or one can ask about God’s desire as the efficient cause of the world. What God does from God’s own nature is done for the sake of God’s self. It is done of necessity. (i.e. It could not be otherwise.) However, God caused the world freely and also for the sake of God’s self. The world is not necessary as God’s own goodness is. The world could have not existed. Nonetheless, it is caused by God, surely through God’s desire, and is, thus, for the sake of God

Unfortunately, when given the answer that, “God caused the world for the sake of God’s self,” many are not satisfied with such an answer. A simple appeal to God is not specific enough. With God posited as what the world is for the sake of due to God’s efficient or creative causality of the world, questions remain about the way in which specific events are for the sake of God. How could a given event be caused as it is and be for the sake of a perfect cause?

At this point we can recognize a limitation in our ability to articulate the way that the world is for the sake of God by recognizing some characteristics of God’s efficient causality. Unlike natural agency for natural agents, God’s efficient causality of the world does not add to God’s perfection. All that natural agents do must be done to increase their own perfection. Mating can be seen to add to a grown horse’s perfection. But, of course, God would be perfect even if the world had never existed. On this point the model of natural final causality breaks down as a parallel to divine final causality.
Also, natural agents are determined to do what they do by their natures while God is not, with regard to creation. God does not have a natural impulse to cause the world. God freely chose to cause the world. So, when one asks about the final causal power of God, one is really asking what God’s intentions were behind His free choice to cause the world, which does not, of itself, add to God’s perfection. The world did not need to be made at all. This places the motivations for God’s causal activities outside the scope of philosophical knowledge. Outside of our general certainties, it is difficult to know God’s intentions, which we must have appeal to in order to know “Why?” in greater detail.\(^{316}\)

Considerations of God’s final causality of God’s self go slightly beyond what needs to be addressed to see how Scotus thinks that God is the final cause of natural motion, but it is helpful for understanding what might appear to be conflicting assertions that God is not the object of natural appetite and yet all is for the sake of God. Again, God is the final cause of any agent’s activity insofar as God is what is desired by an acting agent. And for a horse, which has no clear appetite for God (and, as natural, has no capacity for an appetite for God), being a good horse is the final cause of its own activities.

Scotus asserts that what is caused by God that does not act for the sake of God through its own proper activity, insofar as it is efficiently caused by God, is rightly said to be for the sake of God. The final causal power of God in natural things is recognizable only in God’s efficiency and in the dependence of contingent existence on God’s causal power. This affirmation does not come through recognition of natural God-imitating activities. It is only through the link between Divine efficient causality and Divine final causality that it is possible to see how what is caused

\(^{316}\) Cf. Scotus in q.16 of his Quodlibet 16 (Noone and Roberts, 192 – 194 [§65]).
by God is caused for the sake of God. Since the activity of natural agents for the sakes of themselves is ultimately efficiently caused by God, such activity must be to the satisfaction of God’s plan, and thus for the sake of God, as well.

If one asks how the activities of those efficiently caused agents is for the sake of God, no detailed answers can be found in natural philosophy other than the affirmation that what is caused by God is caused for the sake of God. This is because we do not have complete access to God’s intentions through philosophy, so we cannot be sure just how what was made is for God’s sake. Even though natural agents do not act with a desire to be like God, what they do is ordered and caused by God.

2.11 Scotus: Conclusion

We find affirmations in Scotus of many points that Aquinas brought through from Aristotle and his Muslim commentators on natural final causality. First, natural final causality is eminently recognizable in natural movers through their regular activities. This was apparently so clear to Scotus and his readers that he did not argue extensively for this, but simply appealed to Aristotle’s *Physics*. The arguments were known by rote and accepted as true by both Scotus and his audience.

He distinguishes natural final causes from natural efficient causes as principles of motion, describing final causes as sources of order that direct efficient causes. They determine the activities of natural movers insofar as they determine what natural agents desire and, thus, act for the sake of. He finds that natural agents act for their own sakes, establishing the final cause as the nature of a natural mover. The nature, which is also an efficient and formal cause, is a final cause
insofar as it has the quasi objective and quasi formal existence of what the natural agent desires. Again, a final cause is quasi objective because it is real as a principle of motion and quasi formal because it represents what is desired without being the object of desire itself. It exists in natural agents as an effect exists in its cause.

Natural final causes direct natural agents to act for their own sakes, yet all natural motion is for the sake of God insofar as nature is caused by God and what God causes is caused for God’s own sake. Since Scotus is sure that God made the world, he is sure that the world is for the sake of God. This is the only way to recognize that nature is for the sake of God, though, as it is not evident that natures, of themselves, have any appetite for imitating God. His explanation of God’s role as the final cause of the natural world through God’s efficient causality shows Scotus to have a uniform conception of final causality tied to the appetites of the agent acting for the sake of something. His distinction between free and determined appetites points to the presence or absence of freedom in an agent, but final causality is present in both to the extent that there is anything desired at all. The way Scotus accounts for God as the final cause of nature comes with a rejection of the assertion that ordered activity in nature is evidence of divine imitation in natural activities. The ordered activities of natural wholes points to natural appetites only.

What stands out in our consideration of Scotus’ position on natural final causality is his affirmation of determination in natural activity even if an undetermined appetite were

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Richard Cross points out that Scotus argues in *On the First Principle* that whatever is done for the sake of a goal is done for the sake of something outside whatever is done. The goal cannot be worse than or equal to what is done for its sake (*Duns Scotus on God* (Burlington, VT: Ashgate, 2005), 27 – 28). I do not take this to be an argument from end-directedness to a first end. I take Scotus to mean that the end must exist in a more eminent way in what brings about an effect than is found in the effect itself. I addressed this above when describing what Scotus had to say on the quasi formal character of the final cause.
hypothetically posited in a natural mover. This does not affect Scotus’ position on natural final causality. It was asserted as support for his position that it is wrong, or at the very least, pointless, to think that natural agents have free will, even though there must be a willing agent at the source of nature.

2.12 Chapter 2: Conclusion

While Aquinas and Scotus agree on the recognizability of natural final causality through observation of natural regularity, they have different ways of describing the existence and activity of an effect in its cause which is how a final cause acts and exists in a natural agent. They acknowledge difficulties that could come with misconstruing or misunderstanding their positions. But each does his best to describe the non-intuitive way in which this (clearly real in some way) principle must exist. Aquinas explicitly ties it to form. Scotus ties it to desire. Scotus makes the ambiguities with his position very clear but he also makes it clear that a proper description of natural final causality cannot set them aside.

Unfortunately, Scotus’ explicit description of a natural final cause as quasi-real, while metaphysically honest, is unattractive. When this is combined with the emerging possibility of explaining the directedness of nature in terms of efficient causality alone, it is no surprise that natural final causality is dropped by William of Ockham who is happy to take the opportunity to eliminate an explanation of natural activity through a cause with such a slippery conception, especially when what the natural final cause explained (i.e. determined activity) can just as easily be explained by the less controversial efficient causal power.
Such a reduction is also facilitated by the overall importance Scotus places on the distinction between what is determined and what is free.\(^{318}\) This change in focus enables the disassociation of regularity and teleological activity. When regularity is disassociated with activity for the sake of something, the assertion that natural regularity comes from an efficient cause, not a final cause, becomes more palatable.

For our thinkers up to Scotus, similarities between rational agency and non-rational agency were used to point out that complex natural wholes, whether they are rational or not, act in ordered ways on the level of the complex whole. As we saw above in our treatment of the recognizability of natural final causality for Scotus, the way he treats these arguments indicates that the conclusion had already been suitably established. Scotus puts a much greater importance on distinguishing the motive principles of agents that do not move by chance. That is, he wants to address the differences between the principles of rational and natural (non-rational) agency, not argue about whether or not there are such principles. In arguing as he does, he shifts the importance of natural regularity. Instead of being important as a sign of activity for ends (vs. chance), natural regularity becomes a sign of determination (vs. freedom). Scotus does not disassociate natural regularity and natural activity for ends. But we will see that Ockham does.\(^{319}\)

\(^{318}\) Scotus puts such an import on the distinction between natural and rational agency that it does not matter whether he is a voluntarist or an intellectualist. Indeed, Buridan, a strong intellectualist, will follow Ockham on this point.

\(^{319}\) Timothy Noone points out that natural final causality becomes reducible for those who make use of Scotus’s explanation of nature. He has an eye for Ockham, specifically, when he writes, “Nature in Scotus’s sense, though teleological on his own account, is suitable for development in a non-teleological direction; the necessity of the power of nature is so inevitable, given the right circumstances, that the results or outcome is the same, seemingly, independent of the consideration of final causality” (Timothy B. Noone, “Nature and Will: Nature Revisited,” in *Johannes Duns Scotus 1308-2008 : Die philosophischen Perspektiven seines Werkes/ Investigations into his Philosophy*, Proceedings of The Quadruple Congress” on John Duns Scotus, ed. Ludger Honnefelder, et al. (Munster/ St. Bonaventure, NY.: Aschendorff/ Franciscan Institute Press, 2010), 400). Noone’s treatment of Scotus
Ockham embraces Scotus’ pursuit of the differences between rational and natural agency. He sees a radical difference between the determination of nature and the freedom of the will, accepting that nature is determined of itself in how it will act of itself. Natural desire does not get a causal explanation from Ockham that parallels rational desire. Human free activity for the sake of ends does not parallel natural activities.

His ontological parsimony leads him to eliminate the natural final cause as a distinct causal principle of natural determination. So long as he accepts that natural agents have an active principle of order, the direction nature has for regular activity does not need to come from natural final causality. Following the footsteps of Scotus, Ockham will see that regularity points to efficiency. But Ockham finds natural efficient causality to be a sufficient source of determination in nature and thus, a sufficient source of direction or regularity without having to be, of itself, a cause of activity for the sake of anything. For Ockham, final causality will remain as a principle of activity for intellectual agents only, requiring any agent that that acts under the influence of a final cause to be rational.

Aquinas and Scotus also appeal to God as the first final cause of the world. Aquinas explains God’s final causal power as the power of an object of appetite. For the first heavens, God is an object of rational desire. For natural agents, God is the object of their natural appetites. This explanation of God’s causal power as final cause appears, at first blush, to show Aquinas’ fidelity to Averroes’ reading of Aristotle on this point. But even though his description of the

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on nature in this article is in harmony with Weisheipl’s. It includes an emphasis on the importance of Scotus’s affirmation of nature as an active power, but goes beyond Weisheipl in drawing the connection between nature-as-efficient-cause for Scotus and the possibility of non-teleological explanations of natural activities for thinkers after Scotus. Noone noted this in his concluding remarks. The current study is filling in details that verify the connections Noone sees.
final causal activity of God on the heavens is similar to Averroes, Aquinas does not limit the
direct final causal activity of God to rational agents as Averroes’ explanation does.

That is, however, what Scotus does. For God to be the final cause of an agent’s activity,
God needs to be known and desired by a rational agent. His Averroistic position of the final
causal power of God in rational agents is combined with an Avicennian explanation of God as
the final cause of natural motion. Namely, God is the final cause of what God causes efficiently.
Scotus gives priority to efficient causality as the way God’s final causality can be seen in what
acts without rationality.

Scotus rejects Aquinas’ claim that God is the object of natural appetite. This rejection
allows Scotus to maintain a conception of a final cause as an object of desire without having to
posit a special kind of ‘divine final causality’ in nature whereby natural agents somehow desire
to assimilate themselves to something that neither comes from their natures nor, due to their lack
of reason, can be known and subsequently desired by them. However, the conclusion that God is
the first final cause of the world is still guaranteed.

Scotus appears to use a bit of sleight of hand in asserting that natural agents cannot be
recognized as acting out of a desire to be like God (i.e. acting of their own proper desires for the
sake of God) even though God is, indeed, the final cause of all natural agents. Scotus, in
comparison to Aquinas, is, in effect, reducing what we can naturally recognize natural agents, of
themselves, to be acting for the sake of. They are seen as directed, of themselves, to their own
goods only. When considering the proper activities of a natural agent, one does not need to look
outside the natural agent to see what it acts for the sake of. For Scotus, what a thing acts for the
sake of (i.e. desires) is simply what that thing’s motive power is determined to bring about.
Discussion of divine final causality of nature, on the other hand, is meaningful through appeal to a desiring agent (God) outside of these natural agents, who acts (efficiently) so that these natural agents might come about and engage in their own proper activities. Such divine final causality can be naturally known, even though it is not evidenced by self-perfective natural desires. (Indeed, Scotus supported his case for divine finality through efficient causality, not natural finality.) Natural finality does not tell Scotus as much as it tells Thomas about divine direction.

Scotus takes all the weight off the shoulders of natural regularity to provide enough information for a philosopher to explain results in terms of God’s plan. An accounting of the determination of a natural mover from natural motion should not include anything other than the natural determination itself. Scotus’ Avicenna-Averroes hybrid approach to divine final causality in nature is taken up by both Ockham and Buridan, who will not recognize determination for the sake of God in natural motion itself, yet they will have the tools to assert that all is determined for the sake of God, the first efficient cause of the world. The connection between God’s efficiency and the final causality of natural movers will become important for Ockham, who wants to maintain that nature is for the sake of something even though, according to him, nature does not act in accord with final causes of itself. In other words, with the elimination of the natural final cause as a principle of motion, one will need to appeal to God’s efficient causality before finding final causality in nature in any way.
Chapter 3: Critique of Aristotle by William of Ockham

3.1 Introduction

With William of Ockham we see an explicit loss of the distinction between natural final and natural efficient causes as a consequence of Ockham’s concerted effort to streamline metaphysical explanations. Where he naturally recognizes an efficient cause in natural motion, he does not find a distinct complementary final cause.

Indeed, Ockham is not convinced that the arguments derived from *Physics* II demonstrate that natural agents (moving through efficient causality) act for the sake of ends. He does not stipulate the presence of final causality in natural movers to account for regularity. He is sure that nature does not act by chance, but thinks we cannot be philosophically certain that nature acts for the sake of an end. Ockham does this by emphasizing a point that Aristotle already agreed to, that natural agents do not act in the same way as rational agents. Consideration of the recognizability of natural final causality will show that Ockham brings a clear interpretation of the way a final cause causes to bear upon his denial of natural final causality.320 Examination of the causality of the final cause will show that, for Ockham, a final cause is what is loved efficaciously. Efficacious love is only possible for an agent that can intend and love something that either does or does not exist. (An end can be either existing or not.) We will see that, according to Ockham, only what has intellect and will is capable of such intentions and

320 This is different from our other thinkers, up to this point, who worked to lay out the particular kind of causality that explained an aspect of natural motion that clearly needed to come from a special principle. They recognized the need for finding natural final causality in nature. Ockham does not.
desires. Hence, it is only in a rational agent that a final cause can have an effect. Natural regularity will be seen to come from nature, an efficient cause which, as efficient cause, is determined without natural final causality. He sees no distinct final cause in nature. The efficient causality of nature, insofar as it is determined to its effect, suffices to explain natural activities. Because of this understanding of final causality and efficient causality, Ockham sees no good reason to posit natural final causality. Ockham brings into full effect the reduction of natural final causality to natural efficient causality that Scotus hints at, but would never accept.

We will see that Ockham’s doctrine of natural final causality is consistent with his understanding of God’s causality as the first final cause of natural agents (as well as his position on the accessibility of such divine causality to philosophical inquiry). Arguments in natural philosophy that purport to show that there is a first ordering cause of the world rely on the purposive order of the natural world for evidence. Ockham does not recognize an order that is purposive in natural agents. So, Ockham holds that it cannot be naturally recognized (demonstrated) that the world was caused by One who willed it. This means that, for Ockham, it is possible that the world exists from simple necessity. But if the world was not caused by One

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321 Ockham’s model for the proper understanding of final causality could very well have been Averroes’ explanation of the final causal power of the first mover (which we saw as an exceptional/special case). For Averroes, the first mover moves only rational agents as final cause. Natural agents are moved efficiently by God, but do not act for the sake of God in the way the heavens (intelligences) do. Averroes recognized natural final causality, though, and did not require it to be like divine final causality.

322 Nonetheless, Ockham affirms the presence of direction in natural movers. The loss of natural final causality in Ockham is not as much of a game-changing move as might be suspected. Contemporary rebuttals of final causality in nature are made in the context of denying the presence of nature. Ockham does not deny nature. He reforms the sources of activity of nature. While a “textbook” reading of Ockham finds him to be the source of many philosophical evils, his reduction of natural final causality to efficient causality is not as devastating as one might think. Even though natural final causality is eliminated, determination on the level of the natural whole is not. Philotheus Boehner’s Collected Articles on Ockham devotes a number of chapters to refuting unjust “textbook” attributions to Ockham’s thought (St. Bonaventure, NY: The Franciscan Institute, 1958). He does not, however, address Ockham’s position on final causality.
who willed that it come about, the world cannot have a final cause, and, thus, there would be no
finality directing it. Through revelation, Ockham knows that the world was created by the will of
God. Even then, in whatever way God is a final cause for natural agents, such final causality will
manifest itself in the efficient causes natural to them.

3.2 Recognizability of Final Causality for Ockham

Ockham explains natural final causality in some detail in a number of places.\textsuperscript{323} We will
primarily consider his exegetical reading of Physics II, 12, of his Exposition on the Physics for
this part of Ockham’s doctrine. With regard to the recognizability of natural final causality, this
is the most illuminating text, since he devotes so much attention to Aristotle’s arguments that
purport to point out natural final causality. His Quodlibet IV provides additional support.

\textsuperscript{323} Book II, chapter 12 of his Expositio yields his most comprehensive treatment of final causality from Aristotle’s
Physics. His Quest. Phys. and his Sum Phys. both contain abbreviated treatments of his reading of Aristotle on this
issue. De fine provides an extensive treatment of final causality that is not structured as a treatment of Aristotle’s
Physics. Likewise, the first two questions from Quodlibet 4 directly address final causality outside of an explicitly
Aristotelian context. These Quodlibetal questions are accepted as his latest treatment of this topic.

These five different treatments do not lay out exactly the same points. Where they cover the same
ground, they do not always do so in the same ways. Indeed, some strong conflicts between the arguments in these
works have been seen by Marilyn McCord Adams (“Ockham on Final Causality: Muddying the Waters,” Franciscan
Studies 56 (1998) 1-46), who laid out the differences she saw.

Gerhard Leibold argues that the differences impugn the authenticity of some works attributed to Ockham (“Zum
Stephen Brown thinks the different texts can be reconciled with each other. His argument relies on a reading of
the text that Adams thinks is a stretch (“Ockham and Final Causality,” Studies in Medieval Philosophy (Washington,

André Goddu thinks Ockham changed positions on this issue, but does not make an effort to work out just what
An important point of debate for Adams, Liebold, and Brown is the causality of the final cause, particularly
whether Ockham explicitly holds that it causes metaphorically or not. In his De fine, Ockham describes the
movement of a final cause as metaphorical. However, Ockham does not explicitly say that a final cause causes
metaphorically in his Expositio. We will see that his explanations of final causality, whether explicitly as
metaphorical mover, or not, can be reconciled with each other.
His objections and comments in the *Exposition* make it clear that natural final causality is not as evident to him as it was to Aristotle, Aquinas, and Scotus. As we will see, Ockham does not deny that natural agents move with regularity. (They do not move by chance.) But he will not conclude that this means that they act for the sake of ends. He utilizes the Scotistic distinction between nature (as a determined principle) and will (as a rational principle) in showing the limitations of Aristotle’s arguments that the similarity between natural agents and rational agents is evidence of natural activity for ends. Ockham goes patiently through Aristotle’s text, noting Aristotle’s position, disagreeing with him where necessary, and drawing distinctions between senses of ‘chance’, ‘for the sake of’, and ‘end’ as he goes, so that by the end he can say that Aristotle’s arguments are wrong, yet the wordings of his conclusions can be correct, so long as they are properly understood.

Ockham, with Aristotle, has no sympathy with those Ancients who would deny that natural agents act for ends and who would reduce the activity of complex wholes to their material parts. He sees the Ancients putting forth two basic arguments. I will mention the first as it has been prominent in our treatment of our other thinkers. The Ancients argue that an end does not need to be posited for natural activity since a particular result can come about whether an end is intended or not, so it is better to posit that all things happen by material necessity. Ockham sees this argument is supported with the example of the rain, which falls on the field of thirsty plants just as readily as it falls on the field of threshed wheat, helping the growth of the first and ruining the second. But the rain does not fall with the intent of nourishing or destroying, it

324 “Illud non est ponendum fieri propter finem, quod non minus fieret quamvis ille finis non intenderetur; sed omnia quae fiunt, non minus fierent ex necessitate materiae quamvis nullus finis intenderetur; ergo talia non fiunt propter finem” (Ockham, *Expositio*, Lib. II, cap. 12, §2, 368-369).
simply happens that the fields are below the rain when it falls. So, the rain does not act for such an end, but material necessity. What happens as a result of the necessary activity of the rain, whether good or bad, is by chance.\textsuperscript{325}

The response Ockham sees Aristotle making to the first objection (illustrated by the rain) sets the stage for what is to come and makes it clear that Ockham will not be agreeing with Aristotle. Ockham would agree that rain falls \textit{as though} it intended to fall. But, of course, it does not intend anything as it falls, so its regularity must be attributed to necessity. As we will see, what happens by necessity in natural agents is called the end. So, we can say rain acts for an end and not deny that it acts by necessity.\textsuperscript{326} Ockham appears to be making a fairly large concession to the Ancients’ position, noting that Aristotle would not abide it. After all, for Aristotle, nothing acts unless it is for the sake of an end, which means that nothing acts through mere necessity.

It is worth pointing out, though, that Ockham’s agreement with the Ancients and disagreement with Aristotle is not as significant as it might first appear. The kind of necessity that Aristotle sees and objects to in the Ancients is material necessity, which, again, would have the necessities or determinations of the parts of a complex whole account for the activities done by that whole (that are to the benefit of the whole). Aristotle argues that the regularities of the parts do not account for the regularities of the wholes that they make up. While in the \textit{Expositio} Ockham is identifying the regularity of complex wholes as coming from necessity, he is pointing

\textsuperscript{325} "\textit{Ergo pluvia nec est propter corruptionem frumenti nec propter augmentum. Sed aliquando fit casualiter quod cadente pluvia crescant segetes, aliquando fit casualiter quod corrumpantur cadente pluvia}” (Ockham, \textit{Expositio}, §2, 369).

\textsuperscript{326} "\textit{Quia si finis non intenderetur, nihil fieret, cum nullum agens naturale aliquid agat nisi propter finem; et ideo nisi per fluviam agens naturale intenderet finem debitum, pluvia non fieret. Cum hoc tamen stat quod illa flant de necessitate naturae, sicut finis necessario intenditur}” (Ockham, \textit{Expositio}, §3, 371).
to necessity on the level of the complex whole. Ockham is appealing to necessity, but he is not appealing to material necessity. Aristotle wants his reader to admit that there is activity on the level of the complex whole. Ockham, by his use of necessity here, is conceding the original point Aristotle was trying to make, but going beyond Aristotle by identifying nature with necessity. In fact, the problem of material reductionism does not emerge as an important issue for Ockham in his treatment of Aristotle. Ockham has conceded Aristotle’s point by admitting an efficient cause is behind the actions of a complex whole, as a complex whole. The issue for Ockham, and the issue that will give rise to disagreement with Aristotle, is whether or not those natural wholes can act by necessity without acting for the sake of an end (i.e. because of a final cause). Ockham will say in disagreement with Aristotle, that final causality does not need to be posited as a source of direction for the necessary efficient causality at work in natural agents.\footnote{This is clear to Adams in her analysis of Ockham (cf. “Ockham on Final Causality,” 27 – 28, 41). (This is also evident in her “William Ockham: Voluntarist or Naturalist?,” Studies in Medieval Philosophy (Washington, DC: The Catholic University of America Press, 1987), 219 - 247.)}

In §4 Ockham distinguishes two lines of argumentation he sees Aristotle using in his responses to the Ancients with regard to the motion of the rain and other natural motions. Firstly, since the ancients argue that nature does not act for an end, some of Aristotle’s responses support the claim that nature acts for an end. But the Ancients did not merely deny that the activities of natural agents were for the sake of ends. They held that natural activities came from chance. So, the second line of argumentation Aristotle takes up is an effort to show that not everything acts by chance. Aristotle supported this second line through his consistent appeals to the regularity of
natural activities. Ockham is convinced by this second line of argumentation. But he finds Aristotle’s first line of argumentation unconvincing. He is not convinced by Aristotle’s arguments that what happens with regularity (not by chance) is for the sake of something. Ockham spends much effort distinguishing these lines of argumentation in Aristotle and pointing out that being convinced by the second does not require being convinced by the first. Ockham addresses Aristotle’s understanding of chance in his first step by laying out the limited support he can give to Aristotle’s argumentation in this part of Physics II. He notes that Aristotle leaves room for chance in his account of the motion of the natural movers. Aristotle’s assertions of regularity and purposiveness do not extend to all effects. Not every result is intended. The effects that come about that an agent was not intending are said to be by chance. And to consider this from another perspective, whatever is not by chance, for Aristotle, must then have been intended.

Ockham does not think that arguing that some agent’s activity is “not by chance” sufficiently shows that that agent is acting “for the sake of” that regular result. In fact, we can see two different regular results from the rain (i.e. falling down and watering plants), which, when considered as goals, are in conflict with each other. If we understand what does not happen by chance to be for the sake of an end, we would have to say that the rain was trying both to fall and not to fall. Indeed, consideration of what rain does by necessity (i.e. resulting from its own

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328 Indeed, Ockham agrees that the activities of rain are not merely by chance, since one can clearly recognize the regularity of the rainy season. “Quia descensus pluviae in hieme non est a casu nec a fortuna, cum sit in maiori parte, quamvis descensus pluviae sub cane sit vel esse possit a casu” (Ockham, Expositio, §4, 372).

329 He finds authority for this in Averroes, whom he sees as denying that all that nature does is for the sake of something. “Non enim infert quod omne quod est a natura, est propter aliquid” (Ockham, Expositio, §5, 373).

330 This is because the plants, when watered by rain, effectively block the descent of the water.
efficient causality) better leads the observer to what the rain’s activity is directed towards than considering only what is “not by chance.” The rain’s falling is best said to be by necessity, even though it waters the farmer’s crops regularly and ruins them rarely.

Ockham’s second observation in §5 distinguishes two different senses of being by chance. In the first, strict sense, what happens by chance is what happens that is outside the intention of the agent and is rare. Both criteria need to be met for a result to be strictly by chance. Ockham does not see Aristotle using chance in this way when Aristotle sets what happens by chance in opposition to what happens for the sake of something. He sees Aristotle using a second, more general sense of chance, which takes all that happens that is outside the intention of an agent to be by chance (whether its occurrence be rare or not).

Ockham thinks that Aristotle’s use of this second formulation allows him to say that what happens with regularity can still be said to be by chance, so long as the given results are not what were intended. So, Aristotle can say that rain’s nourishing or ruining crops is by chance, so long as he takes the position that the rain, itself was trying to do neither, but only fall. Ockham is

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331 “Et ideo stant simul quod pluvia sit de necessitate materiae et tamen quod sit propter aliquid” (Ockham, Expositio, §5, 373). Because rain waters crops with regularity does not mean that it does not fall by necessity. Ockham is attributing this position to Averroes, but he appears to agree with him. Rain could be acting both from material necessity and for the sake of something since it acts with regularity through its falling.

332 “Stricte dicitur illud fieri a casu quod fit praeter intentionem agentis et in minori parte” (Ockham, Expositio, §5, 374).

333 So, if an agent was not intending some result x, but x still happened with regularity, x’s happening would not be by chance, strictly taken.

334 “Large autem accipiendo hoc vocabulum, sic omne illud quod fit praeter intentionem agentis, fit a casu” (Ockham, Expositio, §5, 374).

335 That rain move downward was, indeed, what we saw as the final cause of rain for Aristotle, with the watering of crops being by chance. He was not in danger of positing conflicting final causes for rain, as he did not posit that rain waters crops always or for the most part. Aristotle’s readers (Avicenna, Averroes, and even Aquinas) considered the possibility that the rain fell for the sake of watering crops, since it did happen with regularity, but
saying that the rain’s nourishing the crops is not by chance, strictly speaking, because it happens with regularity. But just because it is not by chance, properly understood, does not mean that it was what was intended. Aristotle had only one criterion for chance that put it in opposition to purposive activity. Ockham is saying that some results can be not by chance, and yet evidence of an absence of chance is not sufficient to show that the non-chance activity was intended. Ockham does not claim to know the intention of rain, even though he can say that the regular results are not by chance.

Ockham goes on in his third observation to make it clear that Aristotle’s attempts to reveal the intentions of natural agents are not demonstratively convincing. Ockham claims that Aristotle’s arguments are dialectical, having been fashioned to dispute the Ancients, who thought the world was ruled by chance (in the general sense).\(^{336}\) Aristotle’s response was not fashioned as a demonstration of the conclusion that all natural agents act for the sake of something.\(^{337}\)

In fact, Ockham does not think such truths can be naturally demonstrated. He leans on Averroes where the Commentator claims that it is evident in itself that natures act for the sake of something, but it is not evident to those who would not think that anything acts by nature.\(^{338}\)

\(^{336}\) “Tertio notandum quod istae rationes quas adducit Philosophus, non sunt simpliciter demonstrativae, sed sunt magis persuasivae et convincentes adversarium ex propriis dictis. Unde et ipse supponit in praedicta ratione tamquam concessum ab eis quod ea quae non fiunt a casu, fiunt propter aliquid. Et similiter accipit ab eis tamquam concessum quod ea quae fiunt semper vel in maiori parte, non fiunt a casu neque a fortuna” (Ockham, *Expositio*, §§5, 374).

\(^{337}\) “Quod autem ista conclusio non possit simpliciter demonstrari, scilicet quod omne agens naturale agit propter aliquid” (Ockham, *Expositio*, §§5, 374).

\(^{338}\) “Dicit expresse Commentator, commento 80°, ubi dicit sic: <<Cum induxit rationes>>, supple Aristoteles, <<super hoc quod natura agit propter aliquid, et non sunt naturales, cum sit manifestum per se quod natura agit propter aliquid, et tales rationes usitaturum cum adversario, scilicet cum negantibus principia naturalia>>. Ex quo patet quod ista conclusio simpliciter demonstrari non potest” (Ockham, *Expositio*, §§5, 374 - 375).
According to Ockham, Aristotle struggled to show that whatever has an end (habent finem) acts for the sake of that end (propter illum finem). Ockham finds that if we are going to say that natural agents act for the sake of an end, we need to be speaking of ends as results of what natural agents do, not as intentions in a natural agent. Aristotle wanted, however, to take natural ends as intentions, so, according to Ockham, Aristotle did not do what he was trying to do.

Aristotle’s arguments rely on similarities he sees between non-intelligent natural production and intelligent production, of course. These fail to convince Ockham that natural agents act for the sake of ends. In fact, a recurring objection Ockham has to Aristotle’s conclusions is that Aristotle is trying to blur the distinction between natural activity and rational activity. Ockham’s first observation in §6 attacks the notion that nature and skill are similar. Skill simply does not do what nature does. It can mimic nature, but it does not do it naturally. It is not moved by nature as natural agents are, even if it can produce a similar product. The motive powers are different. They do what they do from different sources.

In §7 Ockham continues to point out the differences between skill and nature. Skill can complete nature, and does so by imitating nature. When this happens, skill imitates what is prior so that

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339 “Et nititur specialiter probare istam conclusionem quod quando aliqua habent finem, si fiant a natura, quod fiunt propter illum finem” (Ockham, *Expositio*, §6, 375). Different senses of finem and propter will be distinguished by Ockham as we move forward. We could re-state what Ockham sees Aristotle arguing for here as, “What has regular results acts to bring about those results, intending them.”

340 “Et in ista propositione non accipit Philosophus finem pro intento ab agente, sed accipit finem pro illo quod est posteriorius alio, natum fieri ex illo quando fit, ut ista sit propositio probanda: quando aliqua habent aliquid posterior quod fit ex eis, illa sunt et aguntur principaliter propter illud tamquam propter finem intentum” (Ockham, *Expositio*, §6, 375).

341 Ockham here has taken on Scotus’ distinction between nature and will, as can be seen in the stark difference between the proper sources of rational and natural activities for Ockham. (For this distinction in Scotus, see his *Quodlibet*, q. 16, and *Quaestiones super libros Metaphysicorum* IX, q. 15. Both mentioned above in Chapter 2, where we addressed the causality of a natural final cause for Scotus.)
what is supposed to be posterior comes about. Skill is able to bring about similar results, but that
does not mean that nature was acting with an end in view. That skill can complete nature in a
similar way to nature itself is more a testament to the ability of skill to take on a result of nature
as its own final cause. That nature regularly brings about results from particular activities is
evidence not that nature acts for an end, but that nature acts as if for the sake of an end.\footnote{\textit{Ergo similiter in his quae fiunt a natura, priora sic se habent ad posteriora quod priora fiunt propter posteriora tamquam propter finem} (Ockham, \textit{Expositio}, §7, 377).}

In these sections (6 and 7), Ockham introduced distinctions between senses of “for the sake of”
\textit{(propter)} and “end” \textit{(finis)}. Ockham has already distinguished senses of “chance”. Here we get
his treatment of these two other important terms. Ockham’s distinctions here (as with “chance”) show an attempt to point out ambiguities in terms that would lead to misattribution of final
causality to natural activities. He wants to make sure the reader does not come under the
impression that natural activities and rational activities are the same.

His second objection in §6 addresses the sense of \textit{propter} that he sees at work in Aristotle.

Sometimes “for the sake of” \textit{(propter)} describes the circumstances of the results of an action.\footnote{\textit{Notandum est etiam quod ‘propter’ aliquando dicit circumstantiam posterioritatis} (Ockham, \textit{Expositio}, §6, 376).}

When taken in this sense, saying an agent acted for the sake of some result means that the agent
acted in such a way that some particular result would follow.\footnote{He sees this use of “for the sake of” in Averroes where the Commentator states that natural things act for the sake of something. “Et sic accipit Commentator ‘propter’ in praemissis rationis suae quando dicit quod omnia <<naturalia agunt propter aliquid, et omne quod agit propter aliquid, est natum et causatum ad illam actionem>>, et in consimilibus” (Ockham, \textit{Expositio}, §6, 376). This does not provide authority from Averroes so much as a reinterpretation of Averroes. See the above section on the recognizability of natural final causality in Averroes for how I read him.} This usage is immediately
distinguished from the use of “for the sake of” to refer to the final cause. Ockham acknowledges
that this second sense is the one that Aristotle is trying to see in natural activity.\textsuperscript{345} Ockham does not elaborate further at this point what this means but it is clear that his first meaning is ready to be inserted into those instances where natural agents are said to act “for the sake of” something where there is no proper final cause.

In his observations in §7, Ockham notes two different senses of end (\textit{finis}). In the first sense, it can refer to a thing’s perfection, for the sake of which something happens. Ockham does not think Aristotle and Averroes take ‘end’ (\textit{finis}) this way when they are speaking of the ends of natural agents.\textsuperscript{346} “End” can also refer to a result that is good for what is in motion.

Since one can observe what is prior and what is posterior in natural agents, when Aristotle and Averroes say natural agents are acting for the sake of ends, the ‘ends’ that natural agents are approaching are results that are beneficial.\textsuperscript{347} By this understanding, an end is a beneficial result that has happened. If some anticipated beneficial results should not accrue to a given natural agent, the end is merely what was good or beneficial which did not happen.\textsuperscript{348}

This distinction between senses of end traces the same line as the distinction between rational final causality and natural final causality. The difference here, however, is that Ockham is saying that activity that we took to be purposive is no longer to be considered purposive, but as if it were purposive. Nonetheless, Ockham’s distinctions allow us to keep alive discussions of natural activity being for the sake of an end (\textit{propter finem}), as long as we understand “for the sake of”

\textsuperscript{345} “Aliquando autem haec praeposito ‘propter’ dicit circumstantiam causae finalis; et sic accipitur ‘propter’ in conclusione quando ultimo concluditur quod natura agit propter aliquid” (Ockham, \textit{Expositio}, §6, 376).

\textsuperscript{346} “Secundo notandum quod ‘finis’ dupliciter accipitur, scilicet pro aliquo perfectiori simpliciter propter propter quod alius fit; et sic non accipiant hic Philosophus et Commentator finem” (Ockham, \textit{Expositio}, §7, 377).

\textsuperscript{347} “Aliquando accipitur finis pro posteriori quod reddit totum nobilius, ita scilicet quod totum compositum ex illo priori et posteriori est nobilius quam illud prius per se sumptum” (Ockham, \textit{Expositio}, §7, 377).

\textsuperscript{348} “Vel si non facit unum cum eo, oportet quod sit aliquid nobile et perfectum” (Ockham, \textit{Expositio}, §7, 377).
and “end” in ways different for natural agents than for rational agents. His second sense of “end” complements the first sense of “for the sake of” mentioned above. To say a natural agent acted for the sake of an end can now simply mean that an agent acted in such a way as to bring about what was beneficial to itself. It gives Ockham a way to interpret the terms in the conclusions of Aristotle’s arguments to be giving nothing more than a re-statement of the initial observations of regularity and perfection in natural agents.

Where Aristotle saw regularity in natural complex wholes in their activities towards bringing about what is good for them as wholes, Ockham sees the same, but does not grant the conclusion that those natural agents were acting with their own perfections “in view” in some way. At least they are not acting in the same way as those agents that intend the results they will attempt to bring about. All Ockham concedes is that natural agents do, indeed, act with regularity, bringing about results that are to their benefit. But Ockham is not comfortable granting conclusions beyond the very observations of regularity. And as was seen above, his conception of chance does not require him to posit that what is not by chance is for the sake of something.

We can now follow Ockham through the numerous arguments he finds in this Physics passage and the recapitulations of his primary response, that nature clearly acts with regularity (i.e. is not by chance) but not with final causality because natural agents do not have intellect and will (i.e. cannot act like skilled agents).

He agrees in §9 that a natural agent’s end is its form. Ockham’s lengthy first comment after his exegesis on the relevant passage in Aristotle is not concerned with fleshing out what it means for all natural agents to be acting for the sake of their forms. (It means that development according to their forms is beneficial to natural agents.) He uses it to emphasize that natural agents do not
have intellect and so do not grasp the end in the way that agents with intellect do.\textsuperscript{349} Animals have cognition, but not intellect and free will.\textsuperscript{350} Animals do not understand what they are doing.\textsuperscript{351} The bird does not know it is making a nest. It cannot know the end as one with intellect knows it. (It does not hold a good to-be-brought-about as an intelligent agent does.) Animals do not plan for the future like we do. The spider does not think about making a web so it can catch bugs for food. It makes a web, which catches bugs that the spider then eats. If Aristotle’s arguments would have us accept that animals act for the sake of ends, Ockham asks us to concede that they do not understand the ends they are acting for the sake of.\textsuperscript{352}

Ockham notes an objection to the position that animals do not understand the end for which they act. Some animals engage in a particular kind of production at one time and not in another. (E.g. if a bird is compelled to build a nest without any understanding, one can ask why the bird would stop building once a nest is completed and then use this nest for laying and incubating eggs, unless it had some awareness of what the nest was for.) It seems a bird should simply continue building nests, but it does not.\textsuperscript{353}

\textsuperscript{349} “Notandum est hic primo quod cum ista bruta animalia non habeant intellectum, non possunt agere per cognitionem intellectualem; et per consequens cum non habeant voluntatem liberam, non possunt agere contingenter nec praestituendo sibi finem” (Ockham, \textit{Expositio}, §9, 379).

\textsuperscript{350} “Sed tunc est dubium utrum videlicet ista bruta animalia in operando cognoscant finem sicut cognoscunt illud quod operantur propter finem” (Ockham, \textit{Expositio}, §9, 379).

\textsuperscript{351} “Et dicendum est quod quamvis animalia quando nidificant vel faciunt aliqua consimilia, [faciant et operentur propter finem,] non oportet quod cognoscant finem sicut cognoscunt illud quod operantur” (Ockham, \textit{Expositio}, §9, 379).

\textsuperscript{352} “Et ita patet quod ex quo conceditur quod animalia faciunt et operantur propter finem, quamvis non cognoscat finem propter quem operantur, non debet negari quin natura agat propter finem, non obstante quod non cognoscat finem propter quem operantur” (Ockham, \textit{Expositio}, §9, 379).

\textsuperscript{353} “Sicut videmus aviculas nidificare uno tempore et non alio, quod non potest contingere ex cognitione alicuius nisi finis, ut videtur” (Ockham, \textit{Expositio}, §9, 379). This objection doesn’t represent the position of any of the thinkers we’ve looked at, so far, but it helps illustrate Ockham’s.
Ockham thinks such activities do not require him to posit animal understanding and deliberation. Animals get new qualities from the heavens or other natural agents through cognition, which act as causes of activity that the animals would not have attempted without having experienced what was cognized.\textsuperscript{354} I will speculate with the bird to illustrate further. Once a bird cognizes its completed nest, the cognition of the nest as completed causes it to stop building. This cognition could also be a cause of it beginning its search for a partner in reproduction. Say a strong storm were to destroy the nest, the perception of the empty branches could cause it to begin building again.

Ockham’s effort is to keep us from attributing a kind of understanding or reason to natural agents (which have cognition and imagination only). This certainly was not Aristotle’s problem. Aristotle was quite clear that he did not see deliberation in the activities of animals or plants. It is the same with Aquinas and Scotus.\textsuperscript{355}

Ockham’s second objection in §9 further supports this effort by addressing the strengths of Aristotle’s argument insofar as it is inductive. Arguments that are based on induction can be demonstrative. Indeed universal judgments come from observing individual things. Whatever individuals are described by a given universal will not be repugnant to being as the applied universal states.\textsuperscript{356} So, we will think that all heat heats (unless hindered), even heat we do not have experience of. But sometimes induction provides a universal mixed with individual

\textsuperscript{354} “Sed simul cum cognitione concurrerit aliqua qualitas vel qualitates de novo causatae a corporibus caelestibus et alis agentibus naturalibus, propter quas simul cum cognitione et imaginatione moventur ad operandum, qualiter non moventur quando non sunt tales qualitates in corporibus suis” (Ockham, \textit{Opera Philosophica}, v. IV, §9, 380).

\textsuperscript{355} Of course, they saw intelligent divine causality/intelligence guiding the world, as well, as a result of their philosophical observations of the regularities of natural agents. But they did not posit intelligence as a natural activity of animals or plants.

\textsuperscript{356} “Quod convenit uni individuo unius speciei specialissimae, nulli individuo eiusdem speciei repugnat formaliter” (Ockham, \textit{Expositio}, §9, 381).
characteristics.\textsuperscript{357} Such a universal is imperfect, but Ockham thinks it is not problematic to use an imperfect universal in argumentation so long as the individuals being argued about all fit under the universal being used, or at least so long as the individuals have similar appearances to the ones that the universal does apply to.

Ockham thinks Aristotle is trying to fit natural activity under a universal that does not actually apply to it. Ockham points out that natural agents cannot act for the sake of some end (to the exclusion of another one) unless they understand (\textit{cognoscerent}) that end.\textsuperscript{358} Of course natural agents do not understand ends. Ockham has, in effect, reduced ends to rational purposes.\textsuperscript{359} End-directedness can only be found in what has reason. While Ockham thinks end-directedness is present in the desired effects of a rational agent, there is no philosophically recognizable overlap of natural regularity with God’s intentions. Aquinas and Scotus both argue for such an overlap.

We will see when we consider Ockham’s position on God as the first final cause that while, in truth, natural agents are for the sake of God, God’s rational direction of the world is not philosophically recognizable to him, so not even an appeal to divine intentions is helpful for recognizing activity for ends in nature here.

Aristotle is, of course, under no illusions that non-rational agents had understanding, yet he thought that non-rational agents must have ends in some way. Aristotle saw what surely acts for ends (rational agents) and made a universal that included natural agents, which he had not

\textsuperscript{357} “Et tunc aliquando non potest notitia illius accipi nisi inducendo per omnia singularia, aliquando nisi accipiendi de qualibet specie aliquod individuum contentum” (Ockham, \textit{Expositio}, §9, 381).

\textsuperscript{358} “Et ratio est, quia nulla posset esse ratio quod ista agant propter finem et alia non, nisi quia ista cognoscerent finem” (Ockham, \textit{Expositio}, §9, 381).

experienced doing what is required for purposive activity. Ockham grants that if we saw a number of similar natural agents acting for the sake of the same thing, it would be eminently reasonable to include such end-driven agents in our formulation of the universal that captures those individuals. But Ockham thinks it is clear that natural agents do not do what rational agents can. We do not see natural agents act with understanding, only cognition and imagination. So, he sees no solid inductive basis for being certain that natural agents act for the sake of ends. Both Aristotle and Ockham find the end-directedness of rational agents (in this case, human beings) to provide the most accessible instances of final causality or end-directed activities. For Ockham, though, the clear difference between rational and non-rational (natural) agents keeps him from grouping ordered natural activities (which happen as if they are end-driven) with rational end-driven activities.

As far as I can tell, natural production (dam building, web weaving, nest building, etc.) and skilled human production are as similar as any actions we can compare that are done by natural and rational agents. Aristotle did not appeal to natural production only, though. He appealed to generation, as well, and its orderliness. Ockham deals with this in §11. He sees Aristotle doing what he has been doing all along, arguing that natural activity is not by chance, so it must, therefore, be for the sake of something. The way that natural agents develop (from matter, through a series of necessary changes, over time, through seeds that are necessary for

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360 I will note here that Ockham’s position on the recognizability of natural final causality is compatible with his conceptualism. If no two individuals have the same kind of motive principle (nature), it would be difficult or impossible to make the case that multiple individuals have the same end. But his conceptualism does not come into his approach to recognizing natural final causality. After all, he could have stipulated that each individual nature (efficient cause) has its own final cause. But Ockham does not argue that one efficient cause has one end and another has a different one. He thinks we cannot see any natural purposes. Ockham posits real efficient causality of complex wholes. (Also he could have posited that our concepts of natures should include ends, but he does not argue for that here.)
their existence) cannot be by chance. If the results of generation are not by chance, they must be what the natural agent was acting for the sake of.\textsuperscript{361}

Ockham remains convinced by this argument that what nature does is not by chance, but he does not see evidence that nature acts for the sake of ends in this. Ockham continues to have no difficulty ascribing regularity to nature while denying that nature acts for ends.\textsuperscript{362} An argument like this that depends on what is not-by-chance being for the sake of an end does not stand a chance for Ockham since he has already rejected this either by-chance or for-the-sake-of-something dichotomy. This dichotomy provided a way for Aristotle to get to the crux of an important problem he saw in the Ancients: their materialist reduction of complex natural wholes. This problem was highlighted by Avicenna, Averroes, Aquinas (and Scotus\textsuperscript{363}), who all accepted that what is not by chance must be for the sake of something, which points to natural direction on

\textsuperscript{361} "Sed animal fit determinate ex spermate ita quod non potest fieri ex non-spermate, et tempore determinato fit ex eo ita quod non subito, sed oportet quod tempore determinato procedat ex eo" (Ockham, \textit{Expositio}, §11, 384).

\textsuperscript{362} "Quia tamen secundum veritatem et secundum antiquos quorum opinionem Philosophus hic reprobat, illud quod non fit a casu, ab aliquo intenditur tamquam finis ab illo, ideo eadem rationes quae probat quod ista naturalia non fiunt casualiter, probant quod natura agit propter illam tamquam propter fines quamvis non ita evidenter nec ita clare" (Ockham, \textit{Expositio}, §11, 384).

\textsuperscript{363} Scotus did not comment on Aristotle’s \textit{Physics}, but he made it clear that he agreed with Aristotle’s argumentation here.
the level of the complex whole. Material reductionism is not a problem for Ockham, who finds himself at liberty to champion a third possibility at this point, that natural agents can be moved by necessity, without ends in view, to do what they regularly do. So, even though animals do not come to be and develop by chance, and even though they will work to bring about determined results (by nature), it is not right to say they have final causes (because they are not rational agents). We do not know that natural agents have anything other than their natures as sources of their motion. There is no evident final causality. \[364\]

Aristotle, in *Physics* II, 8, is clear that activity for ends does not require deliberation. We know that Ockham does not hold the same position. We will see Ockham’s treatment of Aristotle at this point \[365\] so we can see Ockham directly address Aristotle’s claim. Ockham uses the same line of argumentation that he has been using all along, utilizing the distinctions he drew earlier between sense of “end” and “for the sake of” to save Aristotle’s formulations while finding fault with what Aristotle was trying to prove.

Aristotle argues that natural agents still act for ends even without deliberation because skill is for the sake of something even though it is not deliberated on. Ockham points out that some arts do

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\[364\] Ockham notes that this argument works with anything that develops from seeds. Animals are not the only type of thing that fits in this argument. Of course if Ockham is not convinced by Aristotle’s arguments that animals act purposively, he is not going to be convinced where he sees Aristotle making a similar case for plants. See §12-13 (Ockham, *Expositio*, 384 - 385). Although it is clear that plants do not develop and reproduce by chance. Just as there is no man-cow, there is no man-vine.

Also, in §15 Ockham points out that what happens by chance is a product of natural activity, even though it does not come from the activities that a natural agent was trying to do or is intended by nature (*intentione naturare*). Ockham’s use of *intentione naturare* here should not be mistaken for an attribution of final causality to natural agents. In light of the context, Ockham must be talking about what the natural agent would have intended if it were able to do so. He is using the terms of Averroes to point out that when Averroes says that what happens by chance does not happen by nature, he is not saying that there is a cause outside of nature, just that what happens in such circumstances is not what nature regularly brings about.

\[365\] It is in §17 of his *Exposition*. 
require deliberation, but the ones that do not are the ones relevant here. So, Ockham wants us to focus on those skills that do not involve deliberation and see just where the final causality is. If we see final causality at work in such activities we may gain a better understanding of the extent to which natural agents act for the sake of ends (i.e. have final causes).

Ockham sees two arguments in Aristotle to show that nature and skill act for ends even though they do not deliberate. First, Aristotle argues that nature would have to act like skill to bring about what skill does, so they must be quite similar. Secondly, skill would need to do what nature does if it wanted to bring about what nature does. Since skill is always for an end, so must nature be as well. The first point is illustrated by the thought experiment of shipbuilding being in wood.

Ockham first introduces Averroes’ treatment of Aristotle’s distinction between skill and nature and interprets it to suit his own approach. Averroes holds that both nature and skill act for ends. It is just that natural activity acts inside while skill acts outside. Ockham is unfazed by this distinction and sees that it can be harmonized with his arguments up to this point. Even if Aristotle hypothetically posits the presence of the skill of shipbuilding in lumber, Ockham will not be forced to concede that nature acts for an end.

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366 “Quare autem requiritur maior attentio in una arte, non est praesentis considerationis” (Ockham, Expositio, § 17, 389).
367 For Ockham’s wording of Averroes, see Ockham, Expositio, §18, 390 [ln. 14 – 21].
368 We considered Averroes distinction to be an articulation and further support for the position we saw in Aristotle. Nature and skill are similar insofar as both are for the sake of ends.
If lumber (moved by nature) had the craft of shipbuilding (skill), it would make a product that would be of the same usefulness as the products of skill. So, the results could be the same as those of a human shipbuilder, but Ockham would not be inclined to posit purposiveness in the activities of the lumber that made itself into a boat. Just because natural activity causes ‘from within’ and skilled activities ‘from outside’ does not capture the important difference between activity by skill and activity by nature. It captures one of the differences for Ockham. The natural agent (lumber) with a built-in skill would not be acting to develop itself, qua lumber, but to bring about something of a different kind than itself. Insofar as it would be acting to bring about something of a different species than itself, it would be acting like a skilled agent, working to bring about effects similar to those that a skilled rational agent would bring about. But the lumber would still not be acting with any effects in mind. It would be determined to act as it did. This inside/outside difference between nature and skill is not evidence that natures act purposively. A comparison of natural activities to skilled activities that are done with minimal or no deliberation is not a comparison between similar activities, one of which acts inside, one of which acts outside.

Indeed, attributing skill to natural agents and positing that a similar product will be made by the natural agent in these circumstances as a skilled rational agent would have produced, does not show that natural agents are just like skilled rational agents, even if we consider those skills that do not require much thought in rational agents. This is because agents do not use any skills unless they already have a final cause determined by right reason. Rational desire is the ultimate

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369 “Cum ergo eadem utilitates navis sequerentur semper vel in maiori parte si natura faceret navem, quae sequuntur quando ars facit navem, sequitur quod propter easdem utilitates propter quas ars facit navem, faceret natura navem” (Ockham, Expositio, §18, 392).
cause of the purposive action of rational agents. The end of the skilled activity of a rational agent is ultimately rational. So, even if we want to say natural activity is similar to non-deliberative skilled activity, we will need to look for deliberative activity prior to the natural activity since no skill is exercised without prior rational activity. We would need to prove or at least posit some sort of rational activity outside of the natural activity since we have no grounds for positing rational activity within natural agents themselves.

Here Ockham reintroduces the distinction between end understood as what is truly intended by an agent (i.e. what that agent truly acts for the sake of), and end understood as what should be intended (i.e. what effect follows always or for the most part). We have seen again that proper final causality can only be seen in agents that deliberate. We can only ascribe a secondary sense of finality to what acts with non-deliberative regularity. This is either what right reason would have arrived at or at least what happens with regularity.

The second argument Ockham sees Aristotle making here in his attempt to show that natures act for ends relies on the cooperation that is seen between skill and nature, especially when nature cooperates with skill as skill acts for the sake of some end. This argument is illustrated by the doctor that is trying to heal himself, apparently working with nature in acting for the sake of health. The body, when healing, must be acting for the sake of health.

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370 “Sed illud quod agens sponte et libere et voluntarie sibi praestituit, est huiusmodi; ergo vere est causa finalis” (Ockham, *Expositio*, §18, 392).
371 As was mentioned above, and will be dealt with below, Ockham thinks that nature is directed by God (a rational agent), but that we cannot know this philosophically. Here, we are concerned with the limits of the philosophical recognizability of final causality in nature.
372 “Sed de secundo fine loquitur Philosophus; qui tamen non est causa finalis proprie accipiendu causam finalem, nisi concurrat aliquod agens sine deliberatione ad illum effectum causandum” (Ockham, *Expositio*, §18, 393).
373 “Illud quod cooperatur arti ad eundem finem consequendum, convenit cum arte in hoc quod est agere propter finem; sed natura aliquando cooperatur arti ad eundem finem consequendum, sicut quando aliquis medicus curat
What was a culminating argument for Aristotle and recognized as a helpful illustration of the parallels between skill and nature for his readers up to this point is more of an inconvenience to Ockham than anything else. He does not spend time re-phrasing the argument he just made regarding the obvious and insurmountable difference between skill and nature. He, instead, points out that Averroes’ interpretation of Aristotle here does not provide a stumbling block to his earlier reading of the Commentator and the inside/outside distinction he drew.  

This concludes Ockham’s special treatment of final causality in his *Exposition*. Ockham gives a more succinct answer to the question of whether we can recognize final causality in nature in his *Quodlibet IV*, q.1, a.2. Here he says that what we know from faith and what we know from natural reason give us different answers to this question. He asserts that reason and experience fail to show that every effect has a final cause. It is only in certain circumstances that the causality of the final cause is distinct from the causality of the efficient cause. Ockham’s basis for this will be addressed in the next section. For the purposes of this

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374 See Ockham, *Expositio*, §19, 394 - 395. Whether one posits skilled activity in natural agents (e.g. shipbuilding in lumber) or natural activities in rational agents, what is done by nature and what is by skill are not similar when considered as activities for ends.

375 “Circa secundum dico quod aliter dicendum est ad quaestionem secundum veritatem fidei, et aliter dicerem si nullam auctoritatem recipierem” (Ockham, *Quodlibet 4*, 295). He asserts that by faith we know that every effect has a final cause. This will be further addressed below in the section on God as final cause.

376 “Sed secundo modo loquendo dicerem, si nullam auctoritatem recipierem, quod non potest probari ex per se notis nec per experientiam quod quilibet effectus habet causam finalem nec distinctam nec indistinctam ab efficiente, quia non potest probari sufficienter quod quilibet effectus habet aliquam causam finalem” (Ockham, *Quodlibet 4*, 295).
section, the second possible difficulty Ockham puts forth to his own position speaks directly to the issue at hand; namely, it appears that we can naturally recognize ends in every effect. Ockham entertains five different arguments that purport to show that final causality can be seen in all activities. We will mention each briefly and see that his responses, while less sympathetic towards the opposition than his responses in his treatment of the *Physics*, follow the same line of argumentation as those arguments in his *Exposition on the Physics*. Namely, he argues that nature is not a rational principle and so does not act purposively (which rational agents can do, of course). The recognizability of final causality is dependent on the recognizability of a rational principle moving what is in motion.

The first objection notes that an answer to the question “Why?” must be given in terms of final causality. To ask the question is to demand an answer in terms of purposive activity so we need to posit a final cause if we want to give a complete explanation of an effect. Secondly, there is no way to account for the start of motion from rest except through final causality. That is, we do not begin to act unless there is an end we are acting for the sake of. Why would that not also be the case for other kinds of motion? Thirdly, if we want to keep from having to assert that all motion is by chance, we need to assert that there is final causality. Fourthly, there is no other way to account for the determined means that we see in the activities of natural agents. Lastly, if we are right to say there is error in nature, we must say there is final causality in nature. Nature cannot make a mistake unless it is acting for the sake of something that it can fail to attain.

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377 “Secundum dubium est, quia videtur quod propter rationem naturalem oportet ponere quod quilibet effectus habet causam finalem” (Ockham, *Quodlibet 4*, 297).
378 Ockham, *Quodlibet 4*, 297.
Ockham’s general response to all these objections is that these arguments apply only to a free agent, which can fall short in what it does even if everything else stays the same. These arguments fail to establish that other agents have final causes insofar as the arguments fail to establish that natural agents are free.

So, to the first objection, Ockham notes that it is inappropriate to ask about the ends of natural activity. The generation of fire is not a voluntary action, so we should not expect to have an answer to the question “Why?” if we want one in terms of the purpose of fire’s burning. To the second objection, that natural agents would not begin moving from rest without an end, Ockham appeals to our understanding of nature as a principle that is in motion unless it is impeded. Nature is always striving and only appears to be at rest when it is being hindered. Fire does not decide to burn. It acts like fire unless it is kept from doing so. (His account of the motion of the bird and its nest-making from his *Exposition on the Physics* provides an illustration of a natural agent that does a variety of activities, but still does not act purposively, yet Ockham does not mention it here.)

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379 “Ad secundum dubium dico quod omnes rationes Philosophi solum concludunt de agente quod potest sine variatione agentis concurrentis et passi et aliarum dispositionum peccare et deficere. Huiusmodi solum est agens liberum, quod potest in sua actione peccare et deficere, quantumcumque omnia alia uniformiter se habeant. De aliis autem agentibus non concludunt quod habeat causam finalem” (Ockham, *Quodlibet 4*, 299).

380 “Quaestio 'propter quid' non habet locum in actionibus naturalibus, quia diceret quod nulla est quaestio quaererere propter quid ignis generatur; sed solum habet locum in actionibus voluntariis” (Ockham, *Quodlibet 4*, 299).

381 “Ad aliud dico quod agentia naturalia noviter exeunt in actum de otio quando nunc est amotum impedimentum, puta ignis nunc approximatur ligno, et prius non. Sed agens liberum exit noviter in actum quia noviter intendit finem” (Ockham, *Quodlibet 4*, 300).
To the third objection, that all natural activity would be by chance if there were not ends, is no problem for Ockham. He does not maintain the direct opposition between what is by chance and what is purposive that is held by Aristotle and thinkers after him. As we have seen, Ockham admits that natures do not act by chance; they are regular. They cannot act in such a way as to bring about some other effect than they normally do. Ockham simply does not allow that they act for the sake of that determined effect.  

To the fourth objection, that final causality is required to account for the regularities of motion in natural agents, Ockham says this is not true. Natural agents are determined by nature. Based on what it is to be a nature (i.e. as a principle of determination), there is no need to look beyond it when looking for an explanation of the regularities of natural activities. To the fifth objection, that we must say there is final causality if we say there is error, Ockham simply says that nature does not err. Only a free agent can err because only a free agent can intend and fail to achieve something. Nature does not intend anything and so it cannot err. 

Ockham has respect for arguments that try to naturally affirm the purposiveness of natural activities, but he cannot affirm that they demonstrate their conclusions. Final causality in natural

\[\text{\textsuperscript{382}}\text{Sed de agente naturali non concludit, quia tale agens ex natura sua sic inclinatur ad unum determinatum effectum quod non potest causare oppositum effectum; patet de igne respectu calor\textit{i}} (\textit{Ockham, Quodlibet 4, 300}). \text{He allows the retention of purposive language attributed to natural motion, but there is no true final causality in it.}\]

\[\text{\textsuperscript{383}}\text{Ad aliud dico quod sic agunt per determinata media ex natura sua, quia natura sua hoc necessario requirit” (Ockham, Quodlibet 4, 300). This is clearly harmonious with what Ockham says on chance and necessity in his Exposition.}\]

\[\text{\textsuperscript{384}}\text{“Sed in actione naturae non est proprie error, quia nihil intenditur a tali agente. Ideo quidquid evenit, naturaliter evenit, et non errore” (Ockham, Quodlibet 4, 300). This is reminiscent of Avicenna insofar as Avicenna holds that activities of nature are not in error, but, of course, Avicenna held that all natural activities are for the sake of the first final cause. Ockham agrees with Averroes on this, but he does not think it is naturally knowable. Averroes thought it was naturally knowable that all activities were for the sake of the first mover.}\]
operations is not naturally evident to him. He sees and acknowledges natural regularities. He is sure that these regularities are not by chance. But even if we see that there is regularity in results, there is no way for us to be sure that what a thing does with regularity is what it was trying to do. He attributes natural regularity, instead, to necessity. He thinks that the arguments that have been used to show that natural agents act for the sake of ends do not convince because they depend on a similarity between natural agency and rational agency that is not there.

The activities that are clearly for ends (i.e. directed by final causality) in human activity provide the bases for the conclusion that natural agents are moved by final causes. But natural agents do not have the same kind of active principle that rational agents have (i.e. intellect and will). However, this principle is required for any rational agent’s activity for ends. Activity that comes from deliberation and free choice is a different kind of activity than determined natural agency. The fact that natural agents do not act from the kind of principle that lets us act for ends is the barrier to seeing final causality in nature.

He conceded that some natural agents clearly do what they would do as if they had right reason (or were directed by right reason). We can see that some natural activities benefit the natural agent. Natural agents act as though they have ends in view. But even those kinds of ends are not true final causes. This is because natural agents clearly do not have the motive power to deliberate and choose. The way that we act for final causes is actually not observed in natural activities, so natural causes must not have that kind of causality contributing to their actions.

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385 That is, so long as we maintain a distinction between something’s activity being determined to an effect and something’s activity being for the sake of something.
Even when natural activity is compared to the activity of rational agents that requires little or no deliberation, Ockham’s initial conclusion is confirmed. In fact, if we want to say that natural agents are moved by final causality in the way a rational agent moves when engaged in such a skilled activity, we would have to be saying natural agents are moved by a rational agent who can act with an end in view. However, it is not naturally recognizable that natural motion is under even this kind of direction.

Ockham’s reliance on the distinction between natural and rational principles might lead one to tie his position closely to Scotus’. However, Ockham’s position on this issue clearly was not held by Scotus, even though the Scotistic distinction Ockham is relying on does some important work in Ockham's own theory. Nonetheless, if the distinction between nature and will is a point of similarity between Ockham and Scotus, it cannot explain why Ockham has such a dramatically different position on this issue of natural final causality than Scotus (and Aquinas). Scotus does not think that natural agents need to hold their ends just like rational agents do in order to be moved by final causes.

In fact, Ockham’s arguments for the unrecognizability of final causality in natural agents (i.e. the arguments where he uses the Scotistic distinction to great effect) depend on his prior explanation of the causality of a final cause. In other words, I believe Ockham came to his discussion of the recognizability of natural activity for ends after he already had a clear idea of how a final cause causes. His conception of final causality comes from his analysis of rational activities for ends and requires an agent be rational for final causality to be present. So, by the time Ockham brings the Scotistic distinction between nature and will to bear on the recognizability of natural final
causes, it is a foregone conclusion that final causes will not be seen in the determined activities of natural agents.\(^{386}\)

We will see in the following section that Ockham gives a reductive explanation of natural final causality that eliminates its role as a unique causal principle that is required for efficient causality to have any direction. It allows Ockham to take the position he has, which heavily utilizes Scotus’ distinction between will and nature, even though his explanation of the principles behind natural motion is so different from Scotus’. In fact, Ockham’s conception of the determination of nature without natural final causality is ultimately supported by his understanding of efficient causality as inherently determined to its own proper effect, which is best seen as an implication of Ockham’s appropriation of Scotus’ claim that nature would be determined even without an appetite distinct from its motive power. Ockham ascribes a very limited causal activity to final causes, leaving little, but important, room for them in the discussion of rational agency, and no room at all for them in the discussion of natural agency. (That much we can see from what has been addressed in this section)

### 3.3 How a Natural Final Cause Causes

The first two questions in Ockham’s *Quodlibet* IV as well as the special question on final causality from his *Reportatio, “De fine”*,\(^{387}\) give fairly detailed accounts of how a final cause

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\(^{386}\) Adams also sees this in her analysis of Ockham. She notes, ”The More than Subtle Doctor approaches Physics II with his analysis of voluntary agency already in hand” (“Ockham on Final Causality”, 44), but she does not elaborate on it.

\(^{387}\) This question is found in vol. VIII of Ockham’s *Opera Philosophica et Theologica*, titled *Quaestiones Variae*. The contents of this volume are not a stand-alone work by Ockham, but a collection of special questions that were not consistently found in the same places in the available manuscripts of books II-IV of the *Reportatio* of his *Commentary on the Sentences*. “Istae quaestiones, una excepta, inveniuntur in eisdem codicibus qui
causes. I will rely primarily on these two sources in this section. In the first article (of two) in the first question of *Quodlibet* IV, Ockham asks whether or not every effect has a final cause distinct from its efficient cause. Ockham asserts three theses which support his claim that not every effect has a final cause distinct from its efficient cause. In this section, I will follow the order Ockham does in this article. I will first lay out the way a final cause causes. Then we will see his definition of final cause. Lastly, we will consider the existence of the final cause as a principle of activity for ends. I will find support for his position and additional details on it from the *De fine*. We will see that, for Ockham, a final cause is what is loved. He gives a reductive account of final causality insofar as what was considered a final cause up to now is labeled an efficient cause. However, he does not reduce all final causality to efficient causality; just natural final causality is lost. It appears to me that he only posited final causality at all because he found a kind of activity (i.e. rational activity for the sake of ends) that could not (and should not) be explained through efficient causality only. However, final causality loses its special characteristic as a principle of motion complementary to and necessary for any efficient causality. It is seen, instead, as a type of causality particular to the activity of rational agents.

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*Reportationem* librorum II-IV continent, sed non omnes in omnibus nec eodem loco vel ordine” (Ockham, *Opera Theologica*, v. VIII, 5*). There is no record of an *Ordinatio* of these books, only of book I.

The question on ends that I will be using here is linked with two other special questions (which are not relevant to this dissertation) that were consistently found in Ockham’s treatment of book II, since the arguments in book II are related. “In maiori parte codicum omnes tres quaestiones disputatae collocantur intra confines libri II *Reportationis*, probabiliter ideo quia problemata in eis discussa affinia videbantur argomento libri II (Ockham, *Opera Theologica*, v. VIII, 12*).

When I am referring to his *Reportatio* in this section, I am referring to this special question.

388 This kind of love is not a desire to hold or use, but a love for his own sake (cf. Armand Maurer’s *The Philosophy of William of Ockham in the Light of Its Principles* (Toronto: Pontifical Institute of Mediaeval Studies, 1999), 412 – 13). I am not particularly concerned with the different types of love Ockham distinguishes in his explanation of final causality. What will be important is that love, insofar as it causes an agent to act, is an efficient cause.
We simply will not (through unaided reason) be able to give a final causal account of natural motion, which for Ockham can be explained through efficient causality.

In his first thesis of *Quodlibet* IV, q. 1, Ockham posits that, “an end causes as it is loved and desired efficaciously by an agent, so that the effect is brought about because of what is loved.” Here we have it stated very simply just how a final cause causes. It causes as an object of love and it causes insofar as it moves an efficient cause to act in a way it would not otherwise act. Just as matter causes by being informed by form and form causes an informing of matter, so too, an end causes as it is efficaciously loved and desired such that, without that love, the effect would not be brought about.

Let us not think that Ockham is setting up final causality so that it must be found in all instances of efficient causality. His clarification shows his own claim regarding the causality of a final cause to be quite modest. The existence of both together is necessary where final causality is taking place. He is saying that wherever final causality is operative, efficient causality will be operative and wherever final causality is operative, the efficient cause that moved because of the final cause would not have moved unless because of the final cause. He is not saying that all efficient causality requires final causality, but just that efficient causes affected by final causes would not have done what they did unless they were affected by final causes.

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389 And the final cause is seen to cause in much in the same way that the first mover caused as final cause of the motion of the heavens for Averroes.


391 “Causalitas finis est amari et desiderari efficaciter, sine quo amore vel desiderio non fieret effectus” (Ockham, *Quodlibet* 4, 293).
His second thesis gives us his definition of a final cause as, “what is loved and desired efficaciously by an agent, so that the efficient cause brings about an effect because of what is loved.”\textsuperscript{392} He distinguishes this from an efficient cause here, which is, “a cause by which something else follows upon its existence or presence.”\textsuperscript{393} Clearly, the above mentioned interrelationship between finality and efficiency is affirmed in these definitions. The effects of a final cause (what is loved) are evident in the effects of an efficient cause. Not every efficient cause, however, needs a corresponding final cause. So, where we find an effect, but there is not clearly a distinct final cause, we will not claim to recognize anything other than an efficient cause at work.

The distinction between these two types of causes, as drawn from these definitions, is based on the presence or actuality of the source of activity, or the lack of its presence or actuality. That a final cause could ever be distinct from an efficient cause indicates that Ockham experienced some kind of activity that could not be explained through efficient causality only. Ockham saw such an activity insofar as he saw that rational agents acted for the sake of results that had not yet come about (did not exist). Those results, as neither present nor existing, could not be an efficient cause, yet the rational agents would not have acted unless it was to try to bring those non-existing results about. It appears, based on these definitions, that Ockham was compelled to admit a kind of causality distinct from efficient causality insofar as there is a cause that causes without having to exist. This is final causality.


A reasonable question to immediately ask is whether the existence or non-existence of a principle is a legitimate basis for distinguishing types of causes. How could what-does-not-exist be a principle of motion? Ockham’s third thesis addresses this point. His thesis is that, “an end is sometimes a cause when it does not exist.”\(^{394}\) We know from our own experiences that ends can be desired when they do not exist. He does not see the need to prove that we can desire what does not exist and that we would not have acted as we did except for that non-existing end.\(^ {395}\)

In this same question, he addresses five objections to his definition of final cause. We will consider the third one and his response to it.\(^ {396}\) This objection addresses the causal power of the final cause as a principle that does not need to exist. This objection represents an attempt to save the metaphysical principle that what does not exist cannot be a cause, but does so by explaining the final causality of a non-existing end as nothing but efficient causality.\(^ {397}\) The objection suggests that in those instances where the end does not cause by its own reality, it must be causing through the efficacious love of the agent, which is taking the place that an existing end would have. But this efficacious love acts as an efficient cause, so the non-existing end that is being called a final cause is not causing as anything other than an efficient cause. If this is true,


\(^{395}\) Ends can exist, as well. We can act for the sake of what already is, but ends do not need to exist to be final causes. But even those ends that exist are not acting as efficient causes in the same way they are acting as final causes. This is not asserted in *Quodlibet* IV, but it will be seen below that this is a friendly reading of Ockham. In fact, I would say it is a necessary reading based on what he says about final causality in his *De fine*.

\(^{396}\) The fourth objection and his response will be addressed in the next section below, on the final causal power of God.

\(^{397}\) Ockham might think this position is in Scotus. The editors of Quodlibet IV do not mention this. But the editors of Ockham’s *Reportatio*, in a text where Ockham addresses the possibility that the final cause causes as an efficient cause, note where Scotus appears to be saying that the final cause is an efficient cause. Ockham’s text at that point, as well as the reference to Scotus, are addressed below.
then what is called the final cause for Ockham must not be causing as a final cause but as an efficient cause, insofar as it does anything.  

Ockham replies that the reality of the end is that by which something is caused insofar as its proper reality is desired. Ockham is saying that the final cause does not need to exist where what is desired is something that does not exist. Where an end does not exist, it is clear enough that some action can be begun so that what did not exist might come to exist. Insofar as that action for-the-sake-of-what-did-not-exist would not have begun unless it was for the sake of what did not exist, we must admit that what did not exist was the final cause of that activity. He consistently appeals to our experience of loving what does not exist to show that a final cause does not need to exist. Ockham is affirming that we do not properly act for the sake of love, but for what is loved. (If the love was all we were trying to bring about, we would not act after having a desire.) We act for the sake of what would be real outside the intellect.

We find some much needed details on the distinction between efficient and final causality, as well as the causal power of a non-existing end, in his special question on final causality (De fine) from his Reportatio. He distinguishes the four types of causality (efficient, material, formal, and final), but not on precisely the same lines as the later Quodlibet IV. This adds a wrinkle to our conception of Ockham’s position on the final cause as a cause that does not act, and is helpful as an illuminator of how a non-existing cause would be a source of activity and why it is

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398 This objection likely comes from Ockham’s reading of Averroes’ explanation of a rational agent’s desire (e.g. for the “bath in the mind”) as an efficient cause. (Cf. “Forma igitur anime balnei inquantum est in anima, est agens desyderium et motum” (Averroes, Metaphysicorum, 3181-K. This passage is discussed in chapter 1, above.)

399 “Dico quod finis sic causat per realitatem propriae propriae realitas desideretur” (Ockham, Quodlibet 4, 298).

400 Cited above.
properly found in a rational agent.\textsuperscript{401} The efficient cause is what effects or acts.\textsuperscript{402} But, as he says, not every causing is a making or effection.

Ockham sees the causality of the final cause being less obvious. Some say it moves efficiently.\textsuperscript{403} Here we find Ockham defending final causality from such a reduction. The final cause is surely the cause of love in an agent. The love is an efficient cause, but we must not mistake the love of the end for the end as final cause. As a final cause, as an object of love, the end does not exist and does not really move.\textsuperscript{404} It moves as though it was an efficient cause, but does not do anything itself.

But an objection is raised here: if the love (i.e. what is caused by the final cause) is real, then the end must be a real mover not a metaphoric mover.\textsuperscript{405} Ockham replies, though, that if what is loved causes love as an efficient cause (i.e. if it is an agent that brings about loving) then the end

\begin{footnotesize}
\textsuperscript{401} Ockham holds here, as well, that the end causes as a final cause because it does not exist. What is loved is loved according to the way we want it to exist outside the soul. (It is not loved as an idea or a potency.) “Sicut non sequitur ‘rosa secundum entitatem eius extra intellectum, ergo secundum illam entitatem modo est’; sicut non sequitur ‘Homerus est in opinione, ergo est’, sed est fallacia secundum quid et simpliciter. Dico ergo sic: ut moveat agens, oportet ipsum existere, hoc non est in quantum finis, sed quia agens” (Ockham, \textit{De fine}, 117).

\textsuperscript{402} “Causatio autem efficientis satis nota est, quae est efficere quoddam vel agere. Non autem omnis causatio ciuslibet causae est quaedam facio vel quoddam efficere, sicut non omnis causa est causa effectiva” (Ockham, \textit{De fine}, 107).

\textsuperscript{403} At this point (Ockham, \textit{De fine}, 107 n.28), the editors of Ockham’s \textit{Reportatio} refer us to Scotus’ \textit{Ordinatio} (Ord. I, Prol., 5, qq.1-2, n.253) for what is presumably an explanation of a final cause moving efficiently. In this location, Scotus says that the end is not a cause except insofar as it is loved and desired. I don’t take this to mean that final causality must be efficient causality for Scotus. I take Scotus to be saying that knowledge does not cause motion, but love does. Not everything known causes action and only what causes action is a cause.

Ockham also quotes Scotus later on (\textit{Ordinatio}, d.2. p.1 qq 1-2, n.51), painting the Subtle Doctor as asserting that final causality is efficient causality. Scotus does say the final cause causes like an efficient cause. But efficient causality is not the same as final causality. Despite this, Scotus does not say that the final cause causes as an efficient cause. I see Scotus saying that the final cause has to be the cause of something if it is going to be a proper cause.

\textsuperscript{404} “Per istud autem quod est sic finem amari, vel agens ipsum finem amare, vel aliquid aliud propter ipsum, nihil realiter adquiritur ei vel etiam est ab eo. Ex quo sequitur quod motio est finis non est realis, sed motio metaphorica” (Ockham, \textit{De fine}, 108).

\textsuperscript{405} “Et si dicas quod amor quo agens amat finem est ab illo fine ut ab obiecto; et ille amor est aliquid reale, ergo finis movet realiter, non tantum metaphorice” (Ockham, \textit{De fine}, 108).
\end{footnotesize}
could not properly be a final cause. Furthermore, what was loved would not be loved freely, but would be determined by an outside efficient cause of love.\textsuperscript{406}

If the final cause is no different from an efficient cause, rational agents would no longer be free agents, able to love different goods. We would not be able to understand and freely love ends. Our love would be determined by what we sense, as it is for lower animals.\textsuperscript{407}

Ockham sees this confirmed insofar as the final cause is not understood to be the love of an end or result, but the effect or end that is loved by an agent.\textsuperscript{408} The end is what is loved.\textsuperscript{409} The causality of the loved end is metaphorically efficient, not actually efficient.\textsuperscript{410} A cause would have to be efficient insofar as it exists in the soul. But we can love what is not real, and what does not exist can be a cause of our action. And if what is not real is to be a cause, its motion must also be metaphoric (not real). Where a principle’s agency is real, its existence will be real and it will be an efficient cause, not a final cause.\textsuperscript{411} A final cause is a cause insofar as it is a principle of activity, but it is not acting like an agent, since it does not exist.\textsuperscript{412}

\textsuperscript{406} “Dico quod si amor causatur a fine amato sicut ab objecto, hoc non est sicut a causa finali sed efficiere, et ut sic est causa efficiens non finalis illius amoris” (Ockham, \textit{De fine}, 108).

\textsuperscript{407} “Unde finem efficere amorem sui in agente non est movere agentis. Sed ipsum amari et propter ipsum ilium amari est movere agentis in ratione causae finalis” (Ockham, \textit{De fine}, 108).

\textsuperscript{408} “Istud confirmatur: causa finalis non dicitur causa finalis amoris quo agens amat ipsum, sed dicitur causa finalis effectus causandi ab agente propter amorem finis” (Ockham, \textit{De fine}, 109).

\textsuperscript{409} “[Finis igitur] in quantum amatus movet agens ad efficiendum” (Ockham, \textit{De fine}, 109).

\textsuperscript{410} “Ideo dico quod licet finis sit causa effectiva amoris quo ipsemet amat, [tamen] ut sic non habet rationem causae finalis, nec ut sic movet ad illum amorem ut causa finalis, sed motio eius in ratione causae finalis et motio metaphorica” (Ockham, \textit{De fine}, 108-109).

\textsuperscript{411} “Sed ex hoc quod sic amat et agens agit propter amorem eius, nihil reale est ab illa. Igitur sua motio est metaphorica – et hoc potest concedi – et est ipsum ut amatam movere sic agens ad agendum finaliter, non effective” (Ockham, \textit{De fine}, 109).

\textsuperscript{412} There is some debate about the “metaphorical motion” of the final cause for Ockham. Leibold (in “Zum Problem”) used the assertion that “the final cause causes metaphorically” as a litmus test for determining whether or not texts attributed to Ockham were actually authored by Ockham. Brown (in “Ockham and Final Causality”) addresses the textual authenticity arguments of Leibold, and, tries to reconcile Ockham’s different texts on final causality, particularly the way a final cause could cause metaphorically, to a single position. Adams (in “Ockham on
Ockham revisits an objection we already addressed, but in a different context. The final cause is considered prior to the efficient cause. But how could the final cause be prior to the efficient cause if it does not exist? Love (an efficient cause) needs to exist before an object of love is brought about. Ockham does not want to say that the final cause is the cause of itself. This is a problem particularly for Ockham since he takes such a strong position on the non-existent end being the final cause. So, how can he explain the priority of the final cause?

Ockham first notes the Avicennian approach. Avicenna said that a final cause causes an efficient cause in its causality. An efficient cause can be caused in its entity (entitatem) as an existing thing. Or, it can be caused according to its causality. That is, it can be caused in its agency. When Avicenna asserts that the final cause is prior to and causes the efficient cause, he is not saying that the final cause brings about the existence of an efficient cause, but that the final cause is a source of the way an efficient cause causes.

Ockham does not want to attribute this kind of priority to final causality; otherwise he might need to posit that every efficient cause requires a final cause to act and thus be forced to admit final causality in nature.

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413 Quia omnes causae necessario requisitae ad eundem effectum simil causant eundem effectum, nec una causat prius alia; ergo causatio causae finalis non sic est prior aliis ut amata moveat agens, quia illud esset prius duratione quam efficiens causaret (Ockham, De fine, 110).
414 Sed in illo primo instanti in quo causae causant, primo causat causa finalis, quia aliter agens ageret et non propter finem (Ockham, De fine, 110).
Also, if the causality of the efficient cause is caused by the final cause, this is nothing more than saying that the causality of the efficient cause is final causality.\textsuperscript{415} If the efficient cause is to be a cause, its effects must properly come from the efficient cause. The final cause must not be a cause of an efficient cause, either in entity or causality but can be a cause of the same results that an efficient cause brings about.\textsuperscript{416} So, if the effect of the final cause is an efficient cause, the causality of the efficient cause is final causality. But the efficient cause and the final cause can be causes of the same effect.

This is for both ways that Ockham sees that a final cause can cause. First, the causality of the final cause can be taken as the causality of what moves an agent to cause some desired effect.\textsuperscript{417} It causes an agent to love a distant end. When the causality is taken this way, we can see how final causality is prior to efficient causality. And this holds only so long as we are talking about agents that are capable of loving something before they act (i.e. rational agents). The causality of the final cause is prior to the activities an agent does in order to bring about some end. The final cause causes before any choices are made and so it is prior to efficient causes that act for the sake of a loved end.

However the final cause is not prior in its causality to the love which directs the choices an agent makes in order to bring about some effect.\textsuperscript{418} It is in the same instant that the final cause moves the agent to desire an outside effect, and the agent effectively wills or loves the effect to be

\textsuperscript{415} “Quia respectu eiusdem effectus respectu cuius est dare causam efficientem per se, est dare causam finalem, et per consequens causationem causae finalis” (Ockham, \textit{De fine}, 111).

\textsuperscript{416} “Ergo causatio causae finalis ut sic non respicit causam efficientem, nec secundum eius entitatem nec secundum eius causalitatem, sed respicit idem causatum quod respectit causa efficiens” (Ockham, \textit{De fine}, 111).

\textsuperscript{417} “Una est causatio eius qua movet agens ad volendum causare effectum” (Ockham, \textit{De fine}, 111).

\textsuperscript{418} “Et licet ista causatio finis sit prior duratione effectu extra, non est tamen prior amore quo agens diligsit effectum producendum” (Ockham, \textit{De fine}, 111).
produced. The final cause will not cause without efficient causality. But what is produced (after
the final cause causes love) is for the sake of the end.\footnote{In eodem ergo instanti durationis quo finis amatus movet agens ad volendum effectum extra, agens vult vel amat effectum extra producendum, et hoc propter finem” (Ockham, De fine, 111).} The causality of the final cause is, of
course, prior to the efficient causality that brings about what is for the sake of an end. So, we can
understand the final cause as being prior to efficient causality insofar as efficient causality brings
about what is for the sake of an end. Nonetheless, the causality of the final cause must be
concurrent with an efficient cause.\footnote{Et in illo instanti causatur amor illius effectus tanquam effectus prior, qui simul duratione est cum illa motione vel causatione causae finalis” (Ockham, De fine, 111). Cf. Avicenna, in L. de phil. prima, VI, 2 argues that every cause must be simultaneous with its effect.}

The second way to understand the causality of the final cause is to consider the end insofar as it
moves the agent to take actions to bring about the end.\footnote{Alia est causatio finis qua actu movet agens ad agendum, et haec motio finis est finem amari propter quem amatum agens causat effectum extra” (Ockham, De fine, 112)\footnote{Et ista motio est dare amabilitatem vel appetibilitatem effectui – dare inquam finaliter non formaliter, et hoc est ‘esse amatum’ – propter quem ut amatum talis effectus causatur ut bonum utile ad finem” (Ockham, De fine, 112).}} The end causes as what is loved and is
for the sake of which an agent causes an effect, even if that effect is not what is wished for. I take
Ockham to be saying that the final cause causes love not only of an end. It also causes an agent
to love and pursue the means to that end, as well. The final cause is a cause of the means for
achieving a loved end.\footnote{Et ista causatio causae finalis simul est cum causatione causae efficientis et aliarum causarum respectu illius effectus, simul inquam duratione” (Ockham, De fine, 112).} Ockham uses the example of the healthful but bitter medicine. The one
who is sick will love and pursue the bitter medicine as the means for bringing about health.
When the final cause is understood as acting in this way, it is also understood to cause
simultaneously with the causality of the efficient cause.\footnote{Et ista causatio causae finalis simul est cum causatione causae efficientis et aliarum causarum respectu illius effectus, simul inquam duratione” (Ockham, De fine, 112).}
Through these distinctions we can also better see the proper causality of the final cause.\textsuperscript{424} It moves an agent to agency.\textsuperscript{425} Insofar as a final cause is for the sake of which an effect is loved, the effect of a final cause is intrinsic. The effect of a final cause is love.\textsuperscript{426} Nonetheless, the final cause does not cause the efficient cause. Together they contribute to the same effect.\textsuperscript{427} But since Ockham attributes a real effect to the final cause, how can it suffice that he asserts that a final cause does not need to exist? Ockham’s response to the proper question he was addressing, whether every end that is a final cause has real existence outside the soul, points out why a final cause does not need to exist to be a final cause, even though the activity of final causality must happen with efficient (existing and effective) causality. He tries to reconcile what he takes as the positions of Avicenna, who claims the final cause must exist in the soul, and

\textsuperscript{424} “Per hoc ergo patet ad primum argumentum quod causatio causae finalis est respectu sui causati” (Ockham, \textit{De fine}, 112).
\textsuperscript{425} “Sed in hoc quod movet agens ad agendum causat finaliter effectum” (Ockham, \textit{De fine}, 112).
\textsuperscript{426} “Scilicet propter quod amatur effectus, causatur in hoc effectus extrinsecus vel intrinsecus, scilicet amor qui est effectus intrinsecus” (Ockham, \textit{De fine}, 112).

Harry Klocker argues that all final causality is reduced to efficient causality for Ockham (“Ockham and Finality,” \textit{The Modern Schoolman}, XLIII, March, (1966), 233 – 247). He says, “What Ockham means... is not that there is a real distinction between efficient and final causality but rather that final causality can be reduced to efficient causality and that the only difference between them is a difference of reason and definition. It is a denial that final causality is something real in its own right” (236). I am asserting that final causality, where it is found in rational agency, cannot be reduced to efficient causality, or else there would be no freedom in those agents that act in accord with final causes.

\textsuperscript{427} It appears to me that these two different ways to understand the causality of the final cause coincide with the activities of the end in rational choosing. Before a rational agent acts, he must first wish, or desire a distant end. This activity appears to me to coincide with the first sense of final causality. This activity of wishing is caused by a combination of final and efficient causality.

Once an attainable end is wished, deliberation then takes place, where we consider the means for bringing about that distant end, culminating ultimately in a decision, or election of the specific means to bring about that distant end.
Averroes, who claims it must exist outside the soul. Ockham concludes that that final cause does not have to exist outside the soul.\textsuperscript{428} Ockham is willing to concede that the end that is loved is loved as having existence outside the soul. (We want it to be real.) Again, we do not want to have just an idea of health when we are sick, we want to be healthy and we act for the sake of real health.\textsuperscript{429} The end moves with the efficient cause according to a real entity outside the soul because it is loved according to that entity by the agent and for the sake of this loved entity, the agent acts.\textsuperscript{430} So, the end that is a final cause does not need to exist, but is loved as if it were real.

Ockham uses Avicenna to keep himself from having to admit that final causes are nothing. We can know things according to their reality, but that does not mean that they exist according to that reality. It is sufficient for an end to have existence in the soul. Because we can understand ends and can be moved by what does not exist, we can be moved by ends that do not have existence outside of us.

The end exists in a particular way in our souls insofar as we know the end before we love it. (Nothing is loved unless it is known.\textsuperscript{431}) But, again, awareness of an end is not the causality of a final cause. The sources of our awareness cause as efficient causes. The final cause causes at the moment we love it. (A final cause is an end that we want.) The intellect can hold many ends. It is not simply because an end is in the intellect that it is a final cause. It is those ends that are loved which move us.

\textsuperscript{428}“Dico ergo quod causa finalis ad hoc quod moveat agens, non requiritur habere entitatem illam in re extra, sed sufficit illam habere in anima” (Ockham, \textit{De fine}, 114).
\textsuperscript{429}“Finis autem amatur ab agente secundum realitatem extra animam et propter amorem illius ut sic agit” (Ockham, \textit{De fine}, 115).
\textsuperscript{430}“Finis secundum entitatem realem extra animam movet efficientes, quia secundum illam entitatem amat agens et propter illam entitatem amatam agens agit” (Ockham, \textit{De fine}, 115).
\textsuperscript{431}“Et cum nihil ametur nisi cognitum, ideo sic intelligendo non movet nisi secundum esse quod habet in anima, quia scilicet non potest movere nisi habeat talemod essendi” (Ockham, \textit{De fine}, 116).
that are final causes. So the final cause does not properly cause as an idea (that is not what we act for the sake of), even though an idea will efficiently cause with the final cause. The final cause may cause as a non-existing end.

With this additional help from his De fine, we have the details we need in order to more fully flesh out Ockham’s doctrine of final causality. A final cause (end) causes with an efficient cause, (i.e. with the idea of the end). It will be found only in an agent that wishes and deliberates. It causes love of an end and the means for achieving that end. Also, as final cause, it does not need to exist.

So, what then of the metaphysical principle that “what does not exist cannot be a cause”? Ockham simply denies that it is true. If something is desired that does not exist, it can cause as a final cause. We saw in Aquinas and Scotus that the virtual existence of x in nature or a willing agent was the final cause (causa finis). A non-existing end could not have been a cause because it did not exist and might never have come about. The end is held in the agent trying to bring about the end. The virtual existence of the end in the agent is the final cause. They affirm that what does not exist is not a cause. However, when further details are sought on just what virtual existence is, we arrive at the limits of Aquinas and Scotus on this point. They see that final causes must exist in this way, but that is all we can say about this kind of existence. Final causes have a special existence.

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432 Ockham’s lengthy discussion of the satisfaction of the blessed, which takes up most of the rest of the special question and is not particularly helpful for a treatment of natural final causality, reinforces his position that the final cause is not an idea. Insofar as an idea is a cause, it causes as an efficient cause. “Quod est secundum Commentatorem, commento de balneo, qui dicit quod balneum in re extra movet ut finis, sed ut in anima movet ut efficiens” (Ockham, De fine, 117). The idea is not what is loved, though, even though it is through ideas that we come to love ends and act for the sake of them.

433 This underlies Aquinas’ and Scotus’ positions. Adherence to this principle compelled our earlier thinkers to explain just how this kind of principle could exist and yet cause as a distant goal.
Ockham, on the other hand, is willing to deny that “what does not exist is not a cause” is true. What is desired is a cause, even if it does not exist. Of course, then Ockham must explain how something without existence could be a cause. But that is what he thinks he has done. He appeals to experience and does not think he needs to go further. In full conformity to his program of ontological reduction and explanatory simplicity, he does not stipulate a special kind of existence (i.e. virtual existence) that is unique to the final cause.

When an end is efficaciously desired, that end is a final cause. For Ockham to say the final cause exists is to speak of the object of desire as existing. Ockham does, of course, see that desire is an existing cause. However, it is an efficient cause, which causes action because of the final cause (the final cause being ‘what is loved’). The appetite for a result (whether rational or natural) is no longer the final cause of that result that guides the efficient cause (motive power). Appetite with a fixed end is an efficient cause.

I will return now to the issue I am concerned with here, namely natural final causality, by considering two of the last objections that Ockham deals with in his special question. It should be evident why one should not expect to recognize natural final causality in natural activity here. Love or desire is an efficient cause. In natural agents, the desire is natural. It is determined. Its end is always fixed, so nature is always moved by efficient causality. This is why Ockham thinks he has sufficiently shown that one cannot recognize final causality in natural activity through appeal to natural determination. There is no evidence that they wish for distant ends or deliberate on how to achieve them. If we were to see natural agents change their minds, we might think otherwise. But the causality surrounding a rational agent’s free loving of an end is all that we need final causality to explain. All else can be explained through efficient causality.
But then, let us ask again a question that Aristotle or Aquinas or Scotus might pose. How does that regularity exist in the nature? How does the oak exist in the acorn? What does it mean to say that the acorn is determined to be an oak and yet say that the oak is not the final cause of the acorn’s activities? Ockham would say that the oak exists as the fixed effect that the efficient powers of the acorn are determined to bring about. The acorn grows into an oak by necessity. The oak in the acorn is not acting as final cause. An end that is a final cause is known and loved before action for its sake takes place. What is not known and desired is not a final cause. Acorns do not have the capacity to know or love being an oak, so they cannot be moved by final causes. Just as natural agents are surely not moved by chance, it is surely true that whatever direction natural agents are subject to cannot come to them in the same way rational agents come to be determined.

Ockham is not sure through philosophical inquiry what the source is of the regularity of natural agents, outside of being sure that it comes from nature. It is evident that natural agents act with regularity and as though they are directed by reason. There is likely some outside direction, but it is not clear to us through our observations what that direction is. It is only clear that they do not act like rational agents and that they do not act by chance. We do not even know why we are intelligent and free beings, as our abilities to know and choose come naturally. We know the purposes only of those activities that we do for the sake of a rational end.

\[434\] "Unde, generaliter, ad hoc quod finis habeat causalitatem causae finalis, oportet eum praecognosci et prius amari" (Ockham, De fine, 152).

\[435\] "Unde oportet quod finis praecognoscatur et diligatur antequam habeat rationem causae finalis respectu alicuius effectus" (Ockham, De fine, 152).
An efficient cause is an existing principle, the presence of which brings about some effect (whatever proper effect the efficient cause is determined towards). In natural agents, which act with regularity, it is evident that efficient causality is behind their activities. Even those animals that have perception and imagination still move with such regularity that the perceptions can be seen as efficient causes of activities in animals (Each perception and sensation is received as a cause that, based on the natural agent’s fixed effect, determines what a natural agent will do.)

Ockham’s understanding of efficient causality appropriates what our previous thinkers took as evidence of final causality. But Ockham does not grant the conclusions our other thinkers did. For Ockham it is clear that efficient causes act with regularity. An efficient cause is directed towards its effect. But that it is directed towards its proper effect is not evidence of final causality, or else the efficient cause does not do anything itself. As Ockham says when

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436 An objection that could be raised: It appears to me that his efficient/necessary causal account of perceptions in animals might require different animals to act in the same way when confronted with the same perception. But they do not. For example, a bird sees a nest with eggs and is moved to sit on and warm the eggs. When a mongoose sees a nest of eggs, it moves to take and eat the eggs. If they were put in a position to have similar perceptions, if that perception is an efficient cause, directing what has it to its own proper effect, should not both do the same things?

I think one could rightly respond that this is too simplistic an objection. Two similar efficient causes, causing even on two different objects do not necessarily cause the same effect. Hit a rock with a hammer and it may be pulverized. Hit a pillow with a hammer and it would likely be unharmed. Even when the same efficient cause acts on two similar kinds of natural things, the results may not be the same. When hit with similar strokes of a hammer, one piece of granite might crumble while another remains whole. Two robins do not even react the same way when confronted with the same nest. One stays. The other moves on to its own nest. The bird and the mongoose are closest to the two different pieces of rock, one of which crumbles under a hammer blow while the other remains whole under a similar blow. However, the bird and the mongoose are dissimilar natural agents, with dissimilar proper effects, so we should certainly not expect all similar efficient causes to have similar effects. Ockham would not feel compelled to posit final causality here to explain these various actions among species if he did not see the need to do so when confronted with the various activities of an individual natural agent.

Two animals can have similar perceptions, but the perception only causes as a perception. That is its effect. The nature then reacts to that perception in its best effort to bring about its own proper natural (determined) effect.
addressing Avicenna, if the final cause causes the efficient cause in its causality, then the efficient cause is really a final cause.

For any cause to be a cause, it must have its own proper effect. It is not satisfactory to say that the proper effect of an efficient cause is motion and the proper effect of a final cause is direction for that motion. Because, again, that means that the causality of the efficient cause is really the causality of the final cause and that would make the efficient cause an effect of the final cause. If an efficient cause is really a cause, it must properly be the source of its effect.

We can see the grounding for Ockham’s position in Scotus’ arguments that natural causes would not do other than they do even if they did not have ends. Ockham is using such a position on natural motion to make natural final causality redundant. A determined cause is limited as it is an efficient cause (i.e. regardless of final causality).

In fact, with all the observable regularity in the world, it might seem then that there is no need to posit any kind of causality outside of efficient causality. Experience forces us to acknowledge that rational agents do not act to bring about the same results at all times. We do not act in the determined ways we see in nature. Rational agents freely choose what they will do. This evident freedom and irregularity of action tells us that rational activities cannot be explained only in terms of natural motion and efficient causality. We are not determined to a single effect. The perceptions that lead to determined actions in natural agents do not compel rational agents to act in any particular ways. A perception efficiently causes awareness. But a rational agent’s wishing or loving an end has to happen before deliberation and action.

This love is not caused in rational agents merely by a perception (efficient cause). Again, if it was, rational agents would be determined just as natural agents are. Instead, rational agents
have a principle of motion proper to them that is not determined to act by perception but is free to love and choose a course of action from a plurality of possible objects of love. So this love is not the proper effect of an efficient cause only. Rational agents are able to love an end that is distant from them and can choose to act in order to bring that end about.

Since humans are free agents, there must be a causal account of human activity that is not merely efficient. This is what I see Ockham doing with his formulation of final causality. The will is a motive power that is not determined. It does not have one result that it will always try to bring about. Ockham is allowing a rational soul to take up some direction without saying, though, that something from outside determines it or that it is already determined to some effect of itself.

With the final cause acting as the object of love, Ockham posits a principle of motion for rational activity, yet allows freedom for the will to determine what effect it will be directed towards.

Final causality explains how a will can take on an end without being determined by what is outside it. The metaphorical causality of the final cause allows for this. Our free will determines our action toward a distant end. This distant end is clearly a cause of motion, insofar as it is the object of wish. It cannot be an efficient cause, first, because distant ends to not exist. It is also impossible for it to be an efficient cause because, secondly, it does not act to determine the will’s desire. It is in the same instant that it is freely loved that the final cause becomes a final cause.

What appears to ultimately underwrite Ockham’s position on natural final causality is his definition of efficient causality and the limited way a final cause is a cause. Based on his understanding of efficient causality, any existing cause with a proper effect is an efficient cause. Since the proper effect of an efficient cause is understood as the result of efficient causality,
there is no need to posit final causality as being required to work with it. Ockham did not posit the activity of two causes in natural activity where the activity of one sufficed. One type of causality did not suffice for explaining free rational choices, which appears to be his reason for positing final causality at all.

3.4 Final Causality and God

Ockham’s treatment of God as final cause does not provide additional insight into the directedness of natural activity. Nor does it provide an occasion for the synthesis of any hard gained conclusions regarding natural final causality (as it did for Aristotle). Based on Ockham’s doctrine of natural final causality, however, such heights should not be expected. His treatment of God as final cause fits well into the conclusions he draws from his natural knowledge. They do not call for grand speculative arguments, but modest observations based on the way final causes cause.

First, it is important to note that when Ockham considers what he knows through revelation, he does, in fact, admit that all effects have a final cause. We see this in his response to the fourth objection to his definition of final cause, in *Quodlibet IV*, q. 1. The objection asserts that natural agents act for the sake of ends, even though they do not deliberate or love their ends before they act. Ockham responds to the objection by asserting that the activity of natural agents is not done for the sake of a final cause decided upon by a created will. Natural agents have ends fixed in advance by God.437 So, the determination of natural agents comes from God’s free choosing, but

437 “Dico quod agentia naturalia . . . non habent causam finalem praestitutam a voluntate creata, sed solum habent finem praestitutum a Deo, qui est superius agens” (Ockham, *Quodlibet 4 Quodlibet 4*, 298).
we cannot know that nature is an expression of God’s will except by revelation. Even then, the relevant final causality is found properly in the rational agent that acted to bring about what did not exist before. Natural agents, even understood as being caused for the sake of something by God, are still not understood to be moving by final causality insofar as they are moving themselves. Their desires are fixed and they have no capacity to grasp a non-existing end and choose to act for the sake of it. We can merely see that God set natural agents in motion for the sake of something. So, even though their motion is for the sake of something, natural agents do not determine themselves in what they will do (or try to do).

In *Quodlibet* IV, question 2, we see Ockham’s position on God as a final cause as natural knowledge allows it. This question asks whether it can be sufficiently proved that God is the final cause of some effect. For Ockham, it is not naturally evident that God is a final cause of anything. We cannot be sure that what acts by nature acts through a final cause fixed beforehand by a will. This is (unsurprisingly) because natural activity is regular. Their activities never change unless something outside them changes. The activities of natural agents follow in the same ways. This is consistent with his position on the determination (and, thus, lack of free will).

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438 This is supported by his response to an objection in his special question in the *De fine* (Ockham, *De fine*, 153). The objection is that not every effect has a final cause. Ockham responds that final causes are in nature from God, not from natural will. Insofar as we can understand natural agents as effects of God’s will, we can understand their activities as being for the sake of something.

What Ockham says here goes a long way toward addressing what Adams sees as contradictions in Ockham that need to be reconciled before a unified doctrine of final causality can be found in him. She writes, “Major vacillation occurs as to whether there is any final causality apart from the aims of intelligent voluntary agents. Among some treatments there are outright contradictions: e.g., between the *Expositio*’s ‘true but not evident’ and the outright denial in *Quodlibeta* IV, q.1” (“Ockham on Final Causality,” 40). I find no major vacillation on this position in Ockham. The differences of explanations come from the different positions from which Ockham is speaking. He knows by faith that all is for the sake of God, but there is no natural way to recognize this. Regardless, he is sure that there is no final causality in the proper motion of natural agents, even if what they do is for the sake of something (when considered as divinely caused).
in natural agents and is evidence for Ockham that activities of natural agents are not directed by final causes.

In the second article, he systematically addresses whether God could be the final cause specifically of angels, humans or of other natural movers. He uses the distinction between will and nature to point out which ones could have God as final cause. Of course, only rational agents, capable of knowing and freely loving an end can have God as a final cause. God can cause as a final cause only insofar as God is known and then loved, which will lead to love of what must be done for the sake of God.

4.3 How a Final Cause Causes

Just as understanding the way a final cause causes is important for fully understanding Ockham’s position on the recognizability of natural final causality, so is understanding how a final cause causes important for understanding Buridan’s position. As it is with Ockham, Buridan brings a fully formed conception of what final causality is (and, thus, what natural final causality must be) to his discussion of the recognizability of activity for ends in nature. As I

439 This is his 3rd thesis (conclusio) at the beginning of a. 2. “Dico quod potest evidenter sciri per experientiam quod Deus potest esse causa finalis effectuum productorum ab agentibus liberais hic inferius, quia quilibet expeiritur quod potest facere opera sua propter honorem Dei sive propter Deum tamquam propter causam finalem.” (Ockham, Quodlibet 4, 303). While he does not exclude natural agents from acting for the sake of God as their final cause, he notes that the recognition of a free agent’s activity being for the sake of God comes through experience of that agent’s freedom.

440 Adams thinks that Ockham’s affirmation of end directedness in what does not have cognition is difficult to reconcile with his arguments against natural final causality. Responding to Brown, Adams presumes that Brown would have tried to explain natural ends as God-impersonating as a way to make the reconciliation. Brown’s brief treatment (in “Ockham and Final Causality”) does not verify or deny that he would take this approach. But it should be clear that such an assumption does not need to be made and Adams is right to deny the value of such an approach (“Ockham on Final Causality,” 36 – 37).
mentioned above, Buridan actually addresses the way a final cause causes in his *Questions on the Physics* (in q. 2.7) before he addresses the recognizability of natural final causality (in q. 2.13). Recognizability is treated first, here, in order to maintain the parallel structure across chapters.\textsuperscript{441} Some important points related to the causality of a final cause were mentioned already in the above treatment of *Questions on the Physics*, 2.13 and will come up again here.\textsuperscript{442}

We will see that Buridan actually completes the reduction of final causality to efficiency that Ockham began. In the process of doing this, we will see that Buridan unequivocally denies the possibility of final causality as Ockham knew it. Buridan’s explanation and application of final causality eliminates the need for a rational agent to act in accord with a special kind of non-determining final causality like the kind Ockham spelled out.\textsuperscript{443} Buridan finds determination behind rational activity that Ockham did not, which makes such final causality unnecessary.\textsuperscript{444} We will see, though, that final causality as Ockham characterized it is not just unnecessary for Buridan, but is impossible.

\textsuperscript{441} The fact that Ockham and Buridan have fully formed notions of how a final cause causes before they look for it in nature betrays a different approach to treating natural final causality than what we saw in Aristotle, Aquinas, and Scotus, who began with the experience of regularity and looked for a proper cause of it, and found it required a special kind of explanation. Ockham and Buridan start with a developed and narrow notion of final causality and require nature to satisfy their requirements for such a kind of cause to be present before they posit it.

\textsuperscript{442} For example, we already saw the kind of intention that is an end for rational agents. Not all that is known is an end. (Simple knowledge of possible or actual results does not, of itself, cause any action for the sake of that known result.) Such an intention is both known and desired. Also, Buridan was quite clear that any cause will be an existing cause and that results cannot be a cause of themselves.

The distinction between ends of first intention and ends of second intention was also mentioned in 2.13. This distinction is important in 2.7 and this section.

\textsuperscript{443} Again, Ockham did not ascribe final causality to nature because final causality served a special role in determining a rational agent to an end. Since rational self-determination was not shared with natural agents, neither was final causality.

\textsuperscript{444} Buridan respects the important differences between free rational activity and determined natural activities by positing different determined efficient causal powers in rational agents (intellect and free will) than natural agents (nature).
For Buridan, as it has been for our previous thinkers, rational activity for purposes provides the most accessible model of activity for ends. In rational agency, results are planned and intended by an agent. When talking about rational agents, one commonly asserts that what-will-happen is a cause of their activities. But, even then, as we already saw above, Buridan makes it very clear that a future result cannot cause anything. The intention of the results is a cause, and an efficient one, at that, in rational agents.

While Buridan’s conception of final causality in rational agency is different from Ockham’s, the two are not far apart as far as the activity of natural agents for ends is concerned, even though they discuss it in different ways. For both, a natural agent’s determination is an aspect of its efficient causality. Actually, Buridan’s recognition of the pre-determination of rational activity gives him good reason to talk about final causality (as he understands it) in nature. Importantly, though, final causality is present in nature only to the extent that proper (directed) efficient causality is present.

The structure for this section will follow Buridan’s *Questions on the Physics*, 2.7, “Whether the end is a cause.”445 He takes the question of the causality of an end to be a question of whether or not there is an efficient cause that is also an end. Buridan thinks that an efficient cause is an end in those instances where a cause acts for the sake of itself. (This is the only way it could be both a cause of activity and what it is acting for the sake of.) Buridan is sure, though, that every cause acts for its own sake and, thus, that every efficient cause is a final cause.

At the beginning of this question Buridan asks whether health is the cause of a doctor’s intention to heal, whether health is the cause of a patient’s taking medicine, or whether heat-that-

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445 “Utrum finis sit causa” (Buridan, *Physics* 2.7, 35a).
is-yet-to-be-generated is the cause of fire. He entertains four objections that would have us think the end is not a cause before putting forth two arguments from Aristotle that the end is, indeed, a cause. His response to Aristotle finds fault with the Aristotelian arguments on the causality of final causes (and could be brought to bear on Aquinas’, Scotus’, and Ockham’s positions). He uses the distinction between ends of first intention and ends of second intention to support his arguments.

These two senses of end were only mentioned in the previous section. Here we will see him address the causal powers that are associated with each type. One sense refers to an end that truly is a final cause. The other sense captures the notions of an end that are commonly used in everyday life and are derived from the proper understanding. This distinction leaves Buridan room to maintain the everyday use of “end,” without forcing him to accept that such ends are causes. His explanation of the distinction also contains his support for both the reduction of final causality to efficient causality and the assertion that all things act for their own sakes.

Essentially, when Buridan distinguishes an agent as an efficient cause from that same agent as a final cause, he distinguishes the agent as one that brings about some effect (or any effect) from that agent as acting for the sake of something (i.e. contributing to its own proper effect). While an agent’s contribution to an effect is not necessarily what it was acting for the sake of, every such efficient cause is determined to act for its own sake. So, pointing to a final cause in nature, for Buridan, will not point to a corresponding unique determining final causal power. It will point to an efficient cause, and more specifically, to its proper determination. Buridan’s reduction of final causality to efficient causality is compatible with his position on the recognizability of final causality in natural results that we considered in the above section, and
leaves the philosopher with a decidedly anemic understanding of the extent to which the results of natural activity are for the sake of something.

A brief look at the four initial objections Buridan raises to Aristotle’s position in 2.7 do not suggest any striking problems. All of them address the difficulty of positing a non-existent as the cause of an effect or positing an effect as the cause of itself.\(^{446}\) First, an end cannot be a cause because nothing causes nothing. Health-that-does-not-yet-exist and heat-that-does-not-yet-exist cannot be causes.\(^{447}\) Second, a principle is first or prior, but an end is last. Because of this relationship, the end cannot be a principle.\(^{448}\) Third, when people talk about ends, they are talking about results or ultimate effects. But it does not make any sense to call an effect a cause. Health is properly the effect of a doctor or medicine, and should not be mistaken for a cause of it.\(^{449}\) Fourth, if we say health (the effect of the art of medicine) is the cause of a doctor’s acting, we have to then say that we are causes of God.\(^{450}\) We will see that Buridan finds merit in these objections.

But before he gets to his own position, Buridan notes two arguments from Aristotle that purport to show that an end is a cause. The first points to our attribution of causality to ends in

\(^{446}\) However, it might be shocking that these are seen as objections to Aristotle, since he does not suggest that something that simply does not exist is the cause of anything, let alone itself.

\(^{447}\) “Arguitur quod non quia quid nichil est nullius est causa. Secundum ille ignis generandus nichil est quod non est illa calefactio. Sanitas illa nichil est quod non medicus sic operatur. Ergo ista sanitas vel iste ignis non sunt causa predictorum” (Buridan, Physics 2.7, 35\(^{ra}\)).

\(^{448}\) “Iterum omnis causa est principium quinto metaphisice sed finis non est principium quia principium dicitur ex eo quia est primum vel prius et finis non est huiusmodi” (Ibid.).

\(^{449}\) “Item quae effectus ultimus aliorum non debet dici causa illorum sed illa sanitas est effectus illus medic conveniens effective ex illis medicinis datis ipsi infirmo; ergo non est causa illorum” (Ibid.).

\(^{450}\) “Si propter predicta diceremus sanatatem illam esse causa medici et medicinarum et suarum operationum, ita deberemus dicere hec inferiora esse causas dei et intelligentialium et celi et motuum celestium. Secundum hec apparent inconvenientia” (Ibid.). This objection is also found in Buridan’s Questions on the Metaphysics, Bk. XII, where he addresses God’s final causal activity. It will be addressed in the next section below.
rational human activity. The second points to the causality of ends in natural agents. Firstly, according to Aristotle, the end is an important part of a causal explanation.\textsuperscript{451} It is normally given as a cause when we ask, “Why?” So, health must be a cause of a doctor’s activity. It answers the question, “Why does the doctor do what he does?”

Secondly, the necessity and determination of operations and natural dispositions proceed from the end, so the end must be a cause.\textsuperscript{452} Natural agents are ordered to act with consistency and to bring about regular results. So, what they do must be caused by the results to be produced. Fire must exist for the sake of heating. This is the same type of argument Buridan says Aristotle uses to point out the recognizability of final causality in nature in 2.13. In 2.7, though, Buridan is not focused on the recognizability of natural final causality, but the causality of ends.

Buridan’s reply first acknowledges, in accord with Aristotle’s first argument, that when one asks why something happened, the answer is often given in terms of what actually happened (i.e. an event or product). We tend to attribute causality to effects when those effects come about. Also, sometimes we say we are acting because of some event or result that has not happened or does not exist yet.\textsuperscript{453} Buridan will conclude that when we claim our actions are caused by what does not exist (or were caused by what did not yet exist), we are mistaken. Nothing causes

\textsuperscript{451} “Oppositum determinat Aristoteles et probat quia hoc est causa quo respondent ad propter quid finis est huiusmodi ut se querant propter quid iste ambulat dicemus ut sanetur” (Ibid.).

\textsuperscript{452} “Item illud est causa operationum et dispositionum naturalium ex quo proveniunt necessitates et determinationes in operibus et dispositionibus naturalibus et propter quod agentia naturalia agunt sed finis est huiusmodi ergo etc.” (Ibid.).

\textsuperscript{453} He uses the example of the woman who says that she goes to church so that she might hear Mass, as though the not-yet-existing Mass is causing her to move. In such instances, a non-existent is being called a cause. “Illud quod nihil est sit causa eorum que sunt” (Buridan, \textit{Physics} 2.7, 35\textsuperscript{b}).
nothing. Buridan will repeatedly stipulate that a non-existent cannot somehow be a cause.\textsuperscript{454} His position will not categorize final causality as a unique type of causality, but as an aspect of efficient causality.

Buridan anticipates the reply that what-is-desired, while it does not exist outside of the agent, exists in some way in the intention of the agent. It exists as something possible.\textsuperscript{455} Since the agent desires that it exist, it is right to call what is intended a cause. Buridan quickly says, though, that describing the non-existing results as intended or desired is to use those words in an exaggerated way (\textit{sunt dicto modo ampliativa}). The Mass-that-has-not-yet-been-said does not exist and cannot cause in any way. Rational agents are not caused to act because of something that does not exist. It will make better sense to Buridan to say instead that rational agents are moved by an intention of something that does not exist, not a non-existing thing. What-is-desired will not be a cause.

The position Buridan represents and rejects in this objection is the best characterization Buridan gives of a desired-result being a cause. Even though Buridan agrees with thinkers like Aquinas and Scotus that a non-existent cannot be cause, he appears here to be at odds with these two, who assert that a result’s ‘virtual’ or ‘quasi objective and quasi formal’ existence is a cause. He will not re-introduce various ‘shades of existence’ in order to account for the source of an agent’s determination.\textsuperscript{456}

\textsuperscript{454} This will be a straightforward rejection of Ockham’s position on final causality.

\textsuperscript{455} \textit{“[Quod est in intentione agentis] non enim est inconveniens quod illud quod nondum est. Secundum est possibile intendant et ab agente appetatur, et sic esse sufficit ad hoc quod sit causa”} (Buridan, \textit{Physics} 2.7, 35\textsuperscript{rb}).

\textsuperscript{456} This conception of final causality that John Buridan is attributing to Aristotle was recognized and refuted by Scotus, although Scotus did not attribute this position to Aristotle. In \textit{On the First Principle}, while arguing that what is not an effect is not ordered to an end, Scotus asserts that an end (final cause) cannot in itself be a thing’s last
We find confirmation of Buridan’s position through a compelling chain of reasoning that he uses to show its merits. If the object of an intention that does not exist outside of the intention is a cause of itself, we would then have to say that creation (being caused by God) causes God’s activity. We hold that God causes through intellect and will, so that what God was intending would have to cause God’s activity in some way. But we know that creation does not cause God in any way.

operation or what a thing happens to achieve through what it does. (“Non tacendum quod falsa imaginatio est de fine, quod illud est causa finalis entis, quod est operatio ultima vel objectum quod per illam operationem attingitur” (Scotus, Trac. de p. principio, 88 [2.12]).) For Scotus, the last operation is not the cause; it is what follows the existence of what is ordered to the end. The last operation is dependent on the final cause. The existence of a thing is not essentially dependent upon the last thing it does. What a thing does and what it is trying to do can overlap, but what a thing happens to do is not the final cause simply because it was the last thing done. Scotus would not think that Buridan’s criticism would affect his position, as he levels a similar criticism against this very same position. Scotus does not think Aristotle’s or his position depends on making the final cause an effect that is essentially prior to a natural agent’s last operation. The final cause is distinct from the ultimate effect.

Buridan takes the position that existing results (where an agent finishes an action) are not causes of themselves. He also says that intended (non-existing) results cannot be causes of future results. I see these as different sides of the same coin for Buridan. He can argue one or the other way to the same point regarding the priority of causes and effects.

One important concession that accepting these two positions as similar entails, though, is that final causality is tied up with rational activity. (Only rational agents can intend future results.)

It is strange that he would have an extended conversation about non-existent not being causes, unless he’s addressing Ockham.

To be fair to Aquinas and Scotus, neither thinks there are any conflicts with divine omnipotence or priority by saying that the world, as an effect, exists virtually in God who is the cause of it. Clearly Buridan holds that God intended the world before He caused it. But Buridan does not appear to be allowing the assertion that an effect has virtual existence in God as a cause of God’s activities. The intention is the cause; the virtual effect is not. Before the world existed, God’s intention existed, but it is a mistake to say that the world existed in any way before it was made. Buridan, like Ockham does not appear to abide any special cases of existence for effects as final causes. Existing intentions have a direct role in rational agency for ends. But they should not be mistaken for what is intended (i.e. the content of the intention); which would lead us to conclude that the effect somehow exists as a cause.
Buridan does not back away from this objection, but also does not want to eliminate causal explanations of activities through results in our everyday speech. He wants to clarify just what it means to claim that something is a final cause. He does this by drawing a distinction between two senses of end, the first of which corresponds to ends that are causes (i.e. true final causes). The second corresponds to ends that are either results or conceived results, which are often taken as final causes, but are not.

First, an end can be understood as that from which or for the sake of which some activity or production comes. Buridan calls these, “ends of first intention” (*fines prima intentione*). Simply stated, ends of first intention exist as starting points of activity. Such an end is a cause for the sake of which something is done. The final cause (end) of an agent is the agent itself, the existing cause of motion. For Buridan, the term final cause is fittingly applied only to what is an efficient cause. To say something is a final cause is to say that the cause is the end of its activities. It (i.e. any given final cause in question) is what it causes for the sake of. In his formulation of the true final cause, it is clear that he is not trying to distinguish a kind of causality from efficient causality; he is trying to point out a characteristic of an agent that acts of itself. Every efficient cause is a final cause. Nothing in this formulation limits final causality to rational agency.

This kind of end is distinguished from what Buridan calls an end of second intention. For Buridan, any concept of second intention is a concept that refers to at least some concepts, but

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460 “Dicitur... quo alius gratia cuius, alius operationis vel generationis” (Buridan, *Physics* 2.7, 35th).
does not need to refer to concepts only. In his characterization of ends of second intention, he describes results. His first assertion regarding ends of second intention is that these are the things done or made by an agent. Buridan is talking about the real stopping points of activities, in this context. So, to point out an end of second intention can be to point out where an agent’s activity ceases. Results, of course, cannot exist as starting points. They exist only as the finishing points of action. They cannot be what activity is for the sake of because they are the results of activity, not what order it.

When Buridan talks of ends of second intention he must also include conceived results that are held by rational agents (otherwise it would not be worth calling them ends of second intention). These are intended results that rational agents act to bring about. Such intended results

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461 My understanding of the distinction between what is of first intention and second intention for Buridan comes from the explanations and illustrations I found in two sources, G.E. Hughes’ commentary on ch. 8 of Buridan’s _Sophismata_, and Gyula Klima’s notes in his translation of Buridan’s _Summulae de Dialectica_. I have included the excerpts below that were most helpful.

“In the terminology that Buridan uses, if the things that fall under a concept C are not themselves concepts, C is said to be a *first intention*, and if at least some of the things that fall under C are themselves concepts, C is said to be a *second intention*. The concept that corresponds to the word ‘horse’ is a first intention, since the only things that fall under it are animals of a certain kind. The concept that corresponds to the word ‘true’ is a second intention, since at least some of the things that fall under it are mental propositions, which are themselves concepts” (John Buridan, *John Buridan on Self-Reference: Chapter Eight of Buridan’s ‘Sophismata’, with a Translation, an Introduction, and a Philosophical Commentary*, ed. G. E. Hughes (Cambridge: Cambridge University Press, 1982), 107).

And Klima notes, “Second intentions are concepts by means of which we conceive of concepts (or other signs) insofar as they are concepts (or signs). For example, the concept to which the term ‘species’ is subordinated is a second intention. First intentions are concepts by means of which we conceive of things other than concepts (or other signs), or perhaps concepts, but not insofar as they are concepts (or signs). Such as, e.g., the concept to which the term ‘man’ is subordinated, by which we conceive of human beings, who are not concepts, or the concept to which the term ‘being’ is subordinated, by which we conceive of both things that are not concepts and things that are concepts; however, by this concept we conceive of the latter not insofar as they are concepts but insofar as they are entities, regardless of their representative function” (John Buridan, _Summulae de Dialectica_, trans. Gyula Klima (New Haven, CT: Yale University Press, 2001), 968n182). [Klima refers to Albert of Saxony as the source of this idea.]

462 He is not speaking only of the results held in the intentions of rational intention. Ends of second intention clearly include more than ‘what is conceived by a rational agent’.

463 “Finis enim dicitur... rei operate vel genite” (Buridan, _Physics_ 2.7, 35r).
exist as conceptions in the intellect, not as real results. Whatever results are intended (i.e. the contents of the intention) exist only as representations. Even though intentions are causes in intellecction, an intention does not, of itself, compel a rational agent to act. Nor does a rational agent’s intention necessitate that what was intended will result. Rational agents simply know what they are trying to do through their intentions.464

Here the difference between natural final causality and rational final causality is most clear. Rational agents intend results and natural agents do not. The difference does not prove to be that rational agents act in accord with final causality and natural agents do not, as it is for Ockham. Natural and rational agents are, themselves, true final causes (ends of first intention) because they act for their own sakes.

The first distinction Buridan draws between types of ends of first intention (i.e. final causes) is not between those that are rational and those that are natural. He distinguishes God from the rest of the world. So, the first kind of final cause is prior to the others in being, goodness, perfection, and necessity, and directs other agents, which act because of it.465 This is God. God directs other agents and their actions. God’s causal power orders both existing acts and ends of second intention (i.e. results). All opposing causal powers have goodness and perfection by God and for the sake of God. Because God is the efficient cause of all, we can be sure that all

464 Buridan is not sure that fire (a natural mover) is trying to heat, even if whatever fire does is done for the sake of fire. In the same way, whatever we do is done for the sake of ourselves. However, we can know whether what we actually do is what we were trying to do for the sake of ourselves.

465 “Et est tanta differentia inter istos fines quia finis dictus prima intentione est prior aliis in esse et bonitate et perfectione et necessitat et dirigit alia agentia que agunt propter ipsum et dirigit ea et actiones earum et secundum exigentiam illius oportet etiam omnes actiones et fines secundaria intentione dictas moderari” (Buridan, Physics 35).
natural activity is for the sake of God. Buridan can say, then, that God is the final cause of man insofar as man is made by God and is less than God. In other words, insofar as humans, or any agents for that matter, are the effects of God’s causal power, they are caused for the sake of God.

Buridan sees a built-in directedness to any agent’s actions. When considering the directedness of the whole world, Buridan starts with God. An agent, as efficient cause, is the final cause of what it does. His description of God as cause and source of order for other agents and activities does not appeal to God’s rational activity, but simply God’s causal priority to everything else. So, while the whole world, as caused by God, truly has God as its final cause, creatures are seen as the second kind of ends of first intention. Insofar as what God created is capable of its own agency, what those agents do is done for the sake of themselves.

This affirmation that the activities of every agent, whether Divine or created, are determined to that agent must be based on Buridan’s experience of rational human activity, guided by intentions, even though Buridan’s arguments that what humans do is for the sake of themselves come after his assertions that what God created was created for the sake of God. His characterization of the directedness of divine activity parallels the directedness he sees built into human activity. Humans are able to act on their own and when they do, they act for their own sakes. For example, when a man builds a house, it is for the sake of himself. Even if he has a

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466 “Et ab illo et ipsius gratia omnia alia habent bonitatem et perfectionem sic enim deus est finis omnium naturalium fine actionorum sive passiuorum vel entium actionum et transmutationum” (Ibid.). Buridan is saying that God, who is prior in goodness and being to all things and the cause of all things is the end of all natural actions or passions or existing actions or change.

467 “Sic enim stando citra deum homo faciens domum est finis gratia cuius facit domum et non est sic deus finis eius quem ipse fecit domum propter seipsum et salutem suam et si facit eam propter pecuniam habendam adhuc illa erit propter seipsum et si facit eam propter filios vel amicos adhuc est finaliter propter seipsum quia reputat illos tanquam ipsum et bonum ipsorum tanquam bonum suum” (Buridan, Physics 357).
stated purpose that is not “himself”, Buridan says it is still built for the sake of himself. (For example, if you say you are building it for a friend, Buridan would remind you that a friend is “another self.”) Nor does one build it for the sake of the resulting house.

We can use his principles to move from recognition of rational agents acting for their own sakes to the generalization that any cause is determined to act for its own sake. Even though the philosopher can recognize that what rational agents do is for their own sakes using reason, it is not because humans have reason that they act for their own sakes. In fact, there is no choice they could make that was not thought to be for their own sakes. In this way all that they do is determined. It does not matter whether they have reason or not. If even rational free agency is determined in this way, such basic directedness must be found in all agents.

Buridan sees a more important similarity between rational human activity for ends and divine activity for ends that is not shared with non-rational agents. Humans have the ability to seek and bring about a great variety of effects that are, nonetheless, for the sake of themselves. In this way humans are different from other created movers. Humans are free, not necessitated in their activities in the way the rest of nature is. In human activity, intention is prior to action. Still, even though a variety of results could be intended and achieved by a rational agent (as is evidenced in the different results that the house builder might be seeking, such as getting money or giving a friend a house), that does not mean that the agent has a variety of ends. All that an agent does is for its own sake.

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468 That rational agents do whatever they do for their own sakes is a principle that can be (and needs to be) grasped from our experiences of ourselves and other rational agents.

469 And one can recognize that natural agents are efficient causes before we are sure that God caused them, so it is possible to affirm that there is some directedness in nature without knowledge of God.
With God posited as the single final cause of the world, one could ask how a single source of order could be the end of the variety of (sometimes conflicting) effects in the world. Buridan addresses this, as well. God, through His causal power, necessitates the heavens and other agents, which then necessitate their own actions, for their own sakes. These different agents produce different effects and are affected by superior powers. God lets lower agents have a hand in ordering. Each natural agent does what it can, but not all can do the same things. It is because of the ordering activities of lower agents that there are different perfections from different causes.

Buridan is pointing out the complex hierarchy of efficient (and thus, final) causes in nature. We see that what moves in nature is moved by the movers that are more noble than what is moved, but less than God. Results point to where what-was-made came from. The variety of results points to a variety of movers. For Buridan, this variety of movers explains why there is such a variety of effects in the world. And this variety of causes acting on the world is ultimately traceable to God as first final and efficient cause. These movers must be moved by God for the sake of God since God orders them.

As he did earlier, Buridan appeals to human activity to illustrate. Men act for the sake of themselves, even though they see different results coming from different people, even those trying to do the same type of activities. Buridan uses the example of a poor and a rich person, each one building a house. They have the same goal, but the poor person will be able to muster

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470 “Et manifestum est quia deus est principalis ordinator omnium aliorum necessitat enim et ordinat celum in motu suo et consequenter per celum et motum celi necessitatur et ordinatur ista inferiora principalius quae per agentia particularia ut primum secundo de generatione sed etiam ulterius agentia particularia necessitant et ordinant effectus quos producunt secundum exigentiam ipsorum et agentium superiorum” (Buridan, Physics 35 rb-vo).
only a shack, while the rich will build an opulent home. The house-building activities of each differ insofar as they are affected by other causes in their pursuits, yet the results are for the sake of the one acting.

Buridan is essentially answering the question, “For the sake of what?” with, “It is for the sake of the efficient cause.” His explanation places God as the first final cause of all that happens in nature insofar as God is the first efficient cause of nature.

We must accept here that God causes in accord with intentions that we are not privy to. We get only the fact that the first mover does what He does for His own sake. An end that is a cause (whether it be God or a natural mover) is known as an end only through its efficient causality. While one can say with certainty that a final cause is what something is for the sake of, for all practical purposes, calling something a final cause simply indicates where efficient causality is coming from. God made all and so is the final cause of all. There is a first final cause of nature because there is a first efficient cause of nature.

For Buridan it is not important for the philosopher merely to recognize finality through efficiency. Based on his illustrations, Buridan is indicating that the causality of a final cause is actually efficient causality. There is no causality attributed to ends except insofar as those ends are efficient causes. The final cause points to what an activity was done for the sake of, but the ‘causal’ part of the final cause is the efficient causality of the agent. There is no final causality

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471 “Unde dissimilia agentia dissimiles producunt effectus et etiam facientes domos proipsis vel aliis secundum exigentias ipsorum diversas faciunt eas diversas ut dives facit magnum domum et fortem / pauper antem parvam et debilem” (Buridan, Physics, 35).

472 As to the recognizability of these final causes, as was mentioned above, insofar as there is a hierarchy of efficient causes affecting each other, there is a hierarchy of ends.

473 The presence of such a variety in nature is not a problem for Aristotle when he addresses natural final causality. But Aristotle did not try to explain how a variety of conflicting results could be for the sake of the same end that created and ordered all of them.
without efficiency. Recognition of finality is merely the recognition of the determination of the
efficient cause to itself.

He is not saying that there is a particular kind of ‘final causality’ that has its own proper
way of causing. When a final cause causes anything, it causes as an efficient cause. Agents are
final causes insofar as what they do comes from (is determined by) themselves and is not from
other agents acting upon them. To the extent that they undergo some change or contribute to
some effect through the activity of another agent, they are not the final causes of what results.
When Buridan says that a final cause must exist, he is not recognizing any existence outside of
the existence a thing has as an efficient cause. He is affirming that nothing causes nothing. There
is metaphysical room for talk of natural final causes in Buridan, but this is because final causality
has been reduced to efficiency and points to the self-directedness of any efficient cause.

One might object, at this point, that if intentions are causes, they must be efficient causes.
And if efficient causes are determined to their effects, then when a rational agent acts in accord
with an intention the agent’s activity should be determined by the intention, and, thus, should not
be free. We saw in Ockham that what determines the will cannot be merely efficient, otherwise
rational agents would be just as determined as animals that have sensation. For Ockham the final
causality of what is desired by a rational agent complements the determining action of the will,
such that the will could not determine itself to some action unless there was some object that a
will could determine itself to (i.e choose to act for the sake of). In characterizing the free will as
non-determined, Ockham set up the will as an incomplete efficient cause. (It is a power to act
that is not determined.) This non-determined causal power requires a non-determining final
cause or else it will not and cannot choose anything. If it was moved by efficient causes only, it
would be simply necessitated by those outside causes.\textsuperscript{474} Ockham might ask whether or not it is possible to reconcile Buridan’s universal reduction of final causality to efficiency (and the determinism that may have to come with it), with the freedom of rational agents.

While a detailed discussion of Buridan’s theory of rational activity is beyond the current scope, such reconciliation should be possible. Buridan is not accused of being a determinist and the accusation is not leveled here. It is accepted that Buridan is an intellectualist, not a voluntarist. Buridan worked to avoid the strict determinism that was associated with rationalism at his time without denying that the source of freedom in rational agents has some built-in determination to it. Nonetheless, Buridan does not strive to make rational free choice as unequivocally free from determination as Ockham does.\textsuperscript{475} In fact, the built-in determination he sees behind rational agency is the reason why he does not think he needs proper final causality as Ockham did. (This determination in free agents, unexpectedly perhaps, allows Buridan to attribute final causality to all causes.)

\textsuperscript{474} For an illustration of Ockham’s position as I have characterized it, it might be helpful to think of a natural efficient cause as a single purpose tool, where a will is a tool handle with a universal adaptor. It can do many different activities, but it will be effective for nothing unless there are tool heads that can be fitted into the adaptor. Like a tool extension fits into the universal tool handle to make a particular tool, the final causality of what is intended and the choosing of the will fit together in one determining act. After a choice is made, the determination of a rational agent (so long as it does not change its mind) is similar to that of a natural agent (which has no will and so will never change its mind).

\textsuperscript{475} Aside from being determined to act for the sake of itself, Buridan thinks that a rational agent cannot knowingly desire a lower good as a higher one. This could certainly be seen as a limit on a rational agent’s freedom. But even holding this, Buridan claims that the will, after desiring, is not determined to choose a good, but must do so freely. Jack Zupko finds two acts of the will in Buridan. One is a desire that forms based on what is known. The second is the will’s free choosing. The first act is mechanical. It is like the necessary desire in animals that have perceptions, but no rationality (Jack Zupko, \textit{John Buridan: Portrait of a Fourteenth-Century Arts Master} (Notre Dame, IN, University of Notre Dame Press, 2003), 259).
Buridan holds that all causes, all activities (not just those of nature), and even the free choices of rational agents, are pre-determined in a way. They are determined to be for the sake of the one acting. Buridan appeals to his readers’ experiences of rational purposive activity as the basis for recognizing this determination of the will.

The will has a completeness (i.e. determination) to itself even before a choice is made that Ockham did not recognize. It is already determined to something. It is determined to choose what is good for the agent. No rational agent’s choice can change the fact that it must elect what is for the good, perceived or real, of the agent. What is chosen does not set the end (as it does for Ockham). There is no need to posit a way of causing that is unique to rational agency, found in what is desired by a rational agent, and compatible with the self-determining activity of the will. The will comes already determined.

Buridan’s challenge is to provide an explanation of deliberation and an act of the will that accounts for the freedom of human experience. Again, the focus of this chapter is not Buridan’s philosophical psychology or theory of cognition and will not suggest what that solution looks like. However, based on his argumentation in this question, he appears to allow for a variety of efficient causes, such that one could have more freedom than another. The will could be seen as an efficient cause that changes an intention, which had been a cause of awareness only, into a cause of further activities (such as deliberation and so forth).

His position essentially makes many questions on the activities of nature to be unanswerable through an appeal to final causality. To say that fire burns ‘for the sake of God’ or

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476 We could say that, for Buridan, the will is already a ‘whole tool’, to use the terms of the illustration of Ockham’s position provided in the above note. It is useful for choosing what is good for the agent, and this cannot be changed by any choice it makes.
‘for the sake of itself’ does not tell the philosopher whether or not fire is trying to burn. It does not tell us whether what fire does is what fire was trying to do. It also does not tell us how fire’s heat is for the sake of God. Buridan knows the limits his position imposes. But he is sure that what is done by fire is done for the sake of fire, and ultimately for the sake of God. One cannot naturally know whether a given result in nature is what a natural agent was actually trying to bring about for the good of itself as a natural agent.477

But people think that results are ends. They see goodness and perfection come from agents’ actions. They know that human production intends and desires good and perfect results which are produced last by the agent. They discuss the results of activities (both rational and natural) as though they order what happens and are what activity is for the sake of, since they are what actually came about. These are thought of as final causes, but they do not exist as causes of themselves. These are ends of second intention.478

People think that certain results (and not others) happen because those results must have been the final causes. But results are produced, necessitated, and determined in what they will be by what brings them about.479 The priority of cause over effect (or result) must not be misunderstood. Results occur because of the final cause (i.e an end of first intention). Perfections and goodness are intended, but they do not cause themselves. Such ends are finishing points, not final causes.

477 Although, one can be sure that any given result in nature is for the sake of God, which Buridan argues for in Physics 2.13, which was addressed in the previous section of this chapter.
478 „Finis autem dictus secundaria intentione est posterior naturaliter agente ipsum et in esse et in perfectione“ (Buridan, Physics 2.7, 35va).
479 „Et ille finis est productus et necessitatus et determinatus in suis dispositionibus ab agente suo vel ab agentibus suis et habemus bonitatem et perfectionem ab eis et ab earum actionibus et ex eo dicitur finis quia agens intendit et appetit ipsum et quia ab illo agente ultimo productur“ (Ibid.).
Using the secondary conception of end, one is right to say the lower created beings are ends of God and the intelligences and the heavenly bodies.\(^{480}\) Again, all of creation is an end of second intention; it is a result of God’s efficient causal power that must have been intended by God to be ordered for the sake of God. But creation, even when intended by God, did not cause God. (An intention of creation is, of course, not creation.) Natural agents were caused by God, but did not cause God to act.\(^{481}\)

Buridan returns to the four initial objections of this question, that ends are not causes. Clearly, he thinks the objections should be taken seriously when results are taken as ends.\(^{482}\) However, the objections do not show that God is not the end of all or that man is not the end of his actions or that nature does not act for the sake of itself, in its own ways. Nonetheless, Buridan wants to save the language of ‘results as final causes’ even though results are not final causes. He does this by responding to the argumentation of each objection with the ways that results are like final causes.

To the first objection, that nothing causes nothing, Buridan says that, even though the results do not exist as causes of themselves, they imitate the existing final cause and get their

\(^{480}\) Unde sic ista inferiora sunt fines dei et intelligentiarum et corporum celestium sic ergo concedendum est quod finis prima intentione dictus vere est causa eorum que gratia ipsius sunt vel agunt vel aguntur; nec contra hoc arguunt rationes que in principio questionis fiebant” (Ibid.).

\(^{481}\) And what God created that can act for its own sake is able to do so only because God acted in accord with His will in causing those agents. This is evident from human activities. What is done by us is not caused by the results of what we do. It is caused by our activities, which are ultimately for our own sake.

\(^{482}\) “Non opperet finem secundaria intentione dictum esse proprie loquendo causam agentium suorum vel actionum precedentium ipsum cum hec inferiora non debeant dici cause dei et intelligentiarum et corporum vel mobilium celestium” (Ibid.). I have paired Buridan’s qualified responses to the objections as they best matched. The first corresponds with the first, but the second response corresponds to the fourth objection; the third response corresponds to the second objection; and the fourth response corresponds to third objection. To aid the clarity of my presentation, I will maintain the order of the objections at this point, which will lead to some unproblematic jumping around in the text.
perfection from the final cause. So, we can keep talk of results as final causes alive, because the results are for the sake of the final cause and are similar to the final cause.\footnote{Similitudines autem propter quas effectus productus ab agente diceretur finis vel causa finalis agentis secundum modum loquendi attributiarium vel similitudinarium possunt poni tales... quia... effectum producibilem intendit et appetit gratia finis principalis quia producendo ipsum assimilatur quodammodo fini suo principali; in hoc enim largitur illi effectum esse et perfectionem quemadmodum finis principalis hoc sibi largiebatur” (Buridan, \textit{Physics} 2.7, 35\textsuperscript{va}).}

To the second objection, that a principle is prior to its effect, Buridan says that even though the ultimate effect is last in being, when it exists it has the greatest similarity to the final cause (what made it) of all that has been caused up to that point. One can say that the results are the final cause insofar as the closest similarity to the final cause comes with the last thing to be produced.\footnote{Potest dici quod sit ibi similitudo vel attributio, quia quodammodo causa principalis finis quam ille effectus producibilis ultimo intenditur et appetitur ab agente, effectus erunt quae finem ultimum (“ultimatū”) vocamus inter ea que dicuntur fines secunda intentione sic ultimo attingitur.” (Ibid.).}

To the third objection, that discussion of results as causes simply does not make sense, Buridan responds that in the activities of rational agents, awareness of effects (i.e. what is posterior) comes before knowledge of the causes that need to be prior in being for those effects to come about.\footnote{Quadam alia vel proportio conversa in opere exteriori artis et in ratiocinatione propter hoc quod effectus posteriores sunt sepe nobis notiores causis suis prioribus in esse” (Ibid.).} Saying that results are final causes is a confusion of the order of the knowing and order of becoming. But we see how this can happen since the results are the first things known for us.

To the fourth objection that if health causes a doctor then creation must cause God, Buridan replies that even though creation does not cause God, whatever exists, insofar as it has

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\bibitem{Buridan} Similitudines autem propter quas effectus productus ab agente diceretur finis vel causa finalis agentis secundum modum loquendi attributiarium vel similitudinarium possunt poni tales... quia... effectum producibilem intendit et appetit gratia finis principalis quia producendo ipsum assimilatur quodammodo fini suo principali; in hoc enim largitur illi effectum esse et perfectionem quemadmodum finis principalis hoc sibi largiebatur” (Buridan, \textit{Physics} 2.7, 35\textsuperscript{va}).
\bibitem{Ibid} Potest dici quod sit ibi similitudo vel attributio, quia quodammodo causa principalis finis quam ille effectus producibilis ultimo intenditur et appetitur ab agente, effectus erunt quae finem ultimum (“ultimatū”) vocamus inter ea que dicuntur fines secunda intentione sic ultimo attingitur.” (Ibid.).
\bibitem{Ibid} Quadam alia vel proportio conversa in opere exteriori artis et in ratiocinatione propter hoc quod effectus posteriores sunt sepe nobis notiores causis suis prioribus in esse” (Ibid.).
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existence, has some similarity to the first final cause. We can call produced effects “ends” or “final causes” of God himself because of this similarity of what was produced to the first final cause.

In his conclusion to 2.7, Buridan comes back to his disagreement with Aristotle on what a final cause is (and whether results can be causes). He reiterates that Aristotle cannot be correct on this point. An agent’s ultimate effect should not be given as a proper answer to the questions, “for the sake of which?” or “because of what cause?” Results cannot be causes of themselves, which means they cannot be final causes. If an answer must be given in terms of results, it must be recognized that the terms are of second intention and do not represent actual causes. A proper answer will be given in terms of an intention or will or causes that are prior in being. These answer the question, “Why?” (propter quid).

So, if someone asks, “What is causing you to go to church?” Buridan thinks one should respond, “I intend or want to hear Mass.” Or if one asks why the doctor gives medicine, one should respond that he wants to heal because the intention and will preceding the activities are truly determining causes of operations. They direct the person’s activity. However, if one responds that he goes to church because of Mass, or that the doctor gives medicine because of

\[\text{Ipsius dei idcirco effectus productus dicitur finis vel causa finalis in quantum est quandum participata similitudo prime cause finalis et etiam ea ratione intenditur et appetitur ab agente} \] (Ibid.).

\[\text{Nec valet ratio Aristotelis ut mihi videtur} \] (Buridan, Physics 2.7, 35

\[\text{Non enim ad questionem convenientem “propter quid” vel “propter quam causam” responderi debitum effectus ultimatus, sed intentio vel voluntas vel cause piores in esse sive termini pro predictis supponentes} \] (Ibid.).

\[\text{Unde si queratur propter quam causam vadis ad ecclesiam debet dici quod intendo vel volo audire missam; et propter quid medicus dat medicinam quia vult sanare quia intentio et voluntas praecedentes operationem sunt vere cause operationis determinantes et dirigentes operationem; et si aliter respondeatur, tamen veritas responsoris est ad istum sensum} \] (Ibid.).
the health-that-a-patient-will-gain from taking it, the response can be taken as true, but it must be recognized that these are final causes equivocally.

And as for agents that do not understand or that act without any awareness of what they would bring about, Buridan says he believes that the order in intention and appetite is according to the order of what apparently is done. Buridan is aware that our recognition of appetites in nature comes about only after we have seen nature in motion. Humans, on the other hand, can give voice to their appetites before they act and describe what they will act for the sake of. But the issue is not just the fact that humans need to see natural agents in action before they speculate as to what those agents were acting for the sake of. The very way natural agents are determined to do what they will do is different from how rational agents come to be determined.

A natural agent does not know what it is going to do as a rational agent knows. There is no intention or appetite in natural agents except for their determinations, and so it is through natural determinations that the activity of fire is determined to heat when a higher cause is determined to generate fire in heated and disposed matter. To make sure his position is clear, that the regular results of natural agents do not provide conclusive evidence as to what those natural agents were determined to bring about, Burdian asks again, how one can answer the question as to what fire heats for the sake of. He answers that the cause is not, “the fire to be

490 “De intentionibus agentium non cognoscentium vel non per significationem agentium credo quod ordo in intendendo et appetendo sit secundum ordinem operis apparentis econverso quam in nobis, propter quod bene dicitur quod nobis notiora sunt minus notiora naturae” (Ibid.).
491 „Dictum enim fuit in primo libro quod intentio vel appetites agentis naturalis non est nisi determinatio eius ad hoc et sic agendum modo ignis primitus est determinatus ad calefaciendum” (Ibid.).
492 „Deinde cum causis superioribus est determinatus ad generandum ignem in materia illa calefacta et disposta” (Ibid.).
Rocks have no cognition, but they have the natural appetite to fall (Cf. Zupko, John Buridan: Portrait of a Fourteenth-Century Arts Master, 259).
generated” (“ignis generandus”). The cause is its form (determined efficient cause), and its existing heat, and God, for the sake of which it acts. Other responses are given in the improper senses that he already spoke about.\textsuperscript{493}

From the very formulation of question 2.7, Buridan distinguishes himself from the likes of Aquinas and Scotus while showing himself to be in conversation with Ockham. Buridan asks whether an end is a cause. He is not asking about a particular kind of causality (“final causality”). He is asking whether or not a particular type of thing can be cause.

Buridan recognizes that, in the attempt to provide complete causal explanations of rational activity and natural motion, people see the results of rational activity and call those results “final causes,” as though the results somehow brought themselves about. Likewise, people see the results of natural movers and think that those results somehow caused the natural agents to act as they did. In other words, rational and natural agents appear to act while under the causal influence of something that does not exist at the moment when it causes. But this cannot be true, most obviously because what does not exist cannot be the cause of anything.

In support, Buridan asks us to consider that God is a rational agent. If what-does-not-exist is a cause of activity in what intends to bring about what-does-not-exist, then God must have caused the world while under the causal influence of the world. The non-existing world must have caused God to make it. This is clearly false. Nothing outside of God is the cause of God’s activities. So, Buridan concludes that an agent’s results, at least, must not be causes of the agent’s activities that bring about said results.

\textsuperscript{493} “Secundum ergo quaeratur que est causa propter quam ignis calefacit. Respondebo quod illa causa non est ignis generandus sed est forma sua et sua caliditas et deus gratia cuius agit et qui agiteret si dentur alie responsiones erunt sensus improprii secundum modos predeterminatos etc” (Buridan, \textit{Physics} 2.7, 35).
But Buridan wants to find room for discussion of results as final causes, so he distinguishes causal ends from ends that are not causes. Ends that are causes are ends of first intention. These are the ends that actually exist and are prior to what they cause. We can see such final causes in the human experience of rational agency. Humans experience themselves acting for the sake of themselves. Humans, as efficient causes of the results they are determined to, are final causes. But his claim is not limited to rational agency. He thinks that any efficient cause causes for its own sake, i.e., whatever is an efficient cause is a true final cause. Ends of second intention are the results of efficient causal activity that are incorrectly called causes in everyday conversation. Of course, what does not exist cannot be a cause and certainly nothing can be the cause of itself.

Buridan points out that, since the variety of results that we experience from a given person’s activity is for the sake of that very person, there is no difficulty in asserting that the first efficient cause (God) is the first final cause of all that happens. This also helps us further to recognize a hierarchy of ends in nature that overlays the hierarchy of efficient causes in nature. Each efficient cause is a final cause and does what it does for its own sake. In describing final causality in nature, Buridan describes the proper efficient causal powers at work in nature and the interactions of those causal powers.

What is important here, though, is that he explains the activity of final causality in terms of efficient causality. A final cause is an efficient cause that is acting for its own sake. And any agent that acts in accord with its own proper abilities and limitations is acting for the sake of itself. Even though Buridan sees final causes in all natural movers, his explanation of natural final causality in terms of efficient causality effectively maintains and shores up the reduction of
finality to efficiency begun in Ockham. Finality (determination) for Buridan is simply an aspect of efficiency. Even though Buridan’s insistence that a final cause must exist is a rejection of Ockham’s position, his agreement with Ockham that future-results do not exist could be taken as a rebuttal of Aquinas and Scotus.\textsuperscript{494} Buridan does not posit a particular type of final causality that is distinct from efficient causality.

While Buridan acknowledges that there are a number of good reasons for saying that results are final causes, any philosopher must recognize that this way of speaking is only metaphorical. A proper understanding of final causality for Buridan simply points to the pre-determination of an efficient cause to act for the sake of itself. It tells us nothing other than that. For example, we can say that fire acts for the sake of itself, and also for the sake of God. One could also say that fire is determined to heat. And if one wants to talk about fire in this way, Buridan has no objection, so long as one acknowledges that the heat is not a cause of itself in any way.

When saying that heat is the end of fire, one is saying one of two things, either that heat is what results from fire or that heat is what fire is determined to bring about. This does not tell us what it is for the sake of, though. We know that fire is for the sake of God insofar as it was made by God and the heavenly spheres to do what it does. If one wants to say that fire acts for the sake of itself, that is acceptable. One could also accurately make general statements such as,

\textsuperscript{494} And even though Buridan rejects explanations of final causality like those from Aquinas and Scotus, he is clearly not Modern in his explanation of final causality. Rolf Schönberger notes that it is difficult to establish a consistent doctrine of final causality in Buridan (in \textit{Relation als Vergleich} (Leiden: E. J. Brill, 1994), 17 – 20). But he disagrees with Anneliese Maier’s position that Buridan simply rejected the views that had developed from the Aristotelian tradition. (For Maier’s position, see \textit{Metaphysische Hintergründe der spätscholastischen Naturphilosophie}, (Rome: Edizioni di Storia e Letteratura, 1955), 300–335. E.g. “Was Buridan an die Stelle der Finalität im Naturgeschehen setzt, ist also nichts anderes als das Naturgesetz im modernen Sinn” (334).)
“A nature is determined to do what it does.” This does not give us any motivation for fire’s activity, nor does it tell us how fire fits into God’s providential plan.

3.5 Chapter 3: Conclusion

Ockham’s doctrine of natural final causality is clearly quite different from those of the Parisian thinkers we have touched on up to this point. Aquinas and Scotus held that we could naturally recognize that natural agents are guided by final causality because they act with regularity. What natural agents do with regularity must have been what they were acting for the sake of. Since they are directed, there must be a principle that directs the motive principles of natural agents. For both Aquinas and Scotus, this is a virtually existing principle, one that is real enough to direct the natural motive power. But for Ockham, we cannot recognize such a principle, based on the way an efficient cause causes and the way a final cause causes. A final cause is what is loved by a rational agent. But this kind of desire does not move natural agents. They have no capacity to wish for ends or make free choices. Insofar as natural agents act with regularity, we have no evidence that they act with free choice. The arguments that try to show that natural activity is for ends due to parallels between rational and natural activity fail to demonstratively show that natural agents have will and intellect.

Consideration of the places where Ockham addresses the recognizability of natural final causality does not provide a full explanation of why he takes the position he does. It is consideration of final causality itself that gives us the basis for giving up hope of finding natural final causality. We see that rational agents are free to hold in their minds the results they will act for. Rational agents act because they wish to bring about what does not exist. We also see that
human desire is not fixed on a particular object. The object of human love moves people to act and the object of their love can change. It is this kind of activity that leads Ockham to posit final causality. This clearly happens, so there must be some principle that causes desire in humans even if it does not exist. Since the causality of an existing and agent-like principle is efficient and this does not explain rational agents’ free activities, Ockham posits final causality as causality from what is not moved and can be by what does not exist.\footnote{Motion of animals through cognition is determined by the cognition. When a bird sees its completed nest and stops building it, the nest is not an unmoved mover in this way. The cause of the bird’s motion is the cognition within the bird, which is an efficient cause that moves the bird to do what it would do next. The bird does not then choose to do something else. It is pushed upon reception of a perception to act still in accord with its nature, an efficient cause, directed to its own proper effect. Nature is an efficient cause that is moved by other efficient causes.} We know of this kind of causality from the common experience of human action. If we had it and it caused us to act, it would be understood as an efficient cause. The final cause is the kind of cause that affects the will, yet allows it to act freely. The final cause is the one that leads to love of a non-existing reality, but that non-existent is loved insofar as it is potentially real.

Natural agents cannot act freely as rational agents can. What natural agents will do is simply determined by nature (i.e. the motive power of the natural agent). This is why Ockham does not posit final causes in natural agents. Their activities can be fully accounted for by the efficient causes (natures) they have. There is no basis for appealing to the causality of a cause outside them. A nature is not affected in its proper effect by outside causes as rational agents can be when they wish and choose. There is no evidence that natural agents wish to do anything other than what they do. Even if natural agents had the power to ‘want’ to do something else, natural agents could not do anything else because they do not have the power to. As it stands, we cannot
have any experience of what natural agents may or may not be trying to act for the sake of. We have experiences only of their regular activities and that is all we can recognize.

Ockham’s understanding of efficient causality as a cause, the presence of which brings about some effect, reaches out to include what were understood as final causes by our previous thinkers. For Ockham though, once a principle of motion exists within the agent, it is an efficient cause. The activities of nature, insofar as they originate in a nature, are efficiently caused. Only the activities of the rational agent’s ability to be moved by what is outside itself gives Ockham reason to posit the reality of final causality.

The only opportunity for this kind of causality to cause is in those agents whose activities led him to posit it in the first place. Rational agents are the only ones known who can love what does not exist, so rational agents are the only ones for whom this type of cause is an issue. What rational agents wish for and choose needs to be determined without being determined efficiently (otherwise there would be no freedom to deliberate and choose). Rational agents are efficiently moved to awareness only and are free to love an end.

So, Ockham’s doctrine of natural final causality is better described as a reduction of natural final causality to efficiency. Even though revelation tells us that natural agents were made by the free choice of God for an end known to God, there is still no basis for positing final causality in natural activities, insofar as they are natural. Any divine final causality operative in nature is operative through the determined, efficient activities of the natural agents. The recognition of

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Even if one wanted to object that what a natural agent regularly does must be what it is trying to do, I do not see how such a formulation would be a problem for Ockham, so long as the objector is willing to admit that the determined desire is an efficient cause, not a final cause, of the natural agent’s activity. There is no final causality distinct from efficient causality here.
purposiveness on God’s behalf, however, would need to be accessed through some insight into God’s free choices behind the natural activities. The natural activities, themselves, however, as determined, do not provide such insight.

What Ockham gains from his reduction is a simplified understanding of the way a final cause causes. The final cause as virtual existent, which could safely be called an awkward entity if anything could be, is eliminated from discussion. His explicit denial of the principle that “what does not exist is not a cause” is based on our own everyday experiences. Regularity, which signaled finality for Aristotle, Aquinas, and Scotus, confirms the presence of only efficient causality and necessity behind natural agency. It is no longer apparent that final causality is operative in what natural agents do.

Ockham takes what happens with regularity as happening by necessity. It is not by chance, but there is no way that a natural agent will try to do other than it is doing. Distinguishing what is by necessity from what is by chance (as opposed to distinguishing what is for the sake of an end from what is by chance) shows an effort by Ockham to focus on the motion of natural agents themselves and lets him separate what regularly happens in connection with the activities of one or more natural agents from the question of why those regularities occur and whether or not they were intended by the agent.

The price Ockham is willing to pay for his reduction is clear from the first part of this chapter. We can be sure of less about nature and natural agents than we were before. To say that natural agents act by necessity and not final causality is to rein in what we speculate on with regard to the order of the world. Asking why fire burns or rain falls is now foolish. We can only know that fire does, indeed, burn and that rain falls. We need to leave it at that.
We will see that John Buridan simultaneously makes a home for Ockham’s reduction of natural final causality to natural efficient causality while he rehabilitates the discussion of a hollow kind of final causality in natural agents. We will see that Buridan does not fully agree with Ockham on the recognizability and causality of a final cause, although they are in agreement on a number of important points. He affirms that regularities of natural motion are due to the determination of natural efficient causality. But Buridan goes as far as to say that natural agents do what they do for their own sakes, which Ockham does not affirm.

We will see that Buridan’s claim is based more on his conception of efficient causality than on his recognition of purposive activity in nature. Indeed, for Buridan, as for Ockham, looking for purposes in nature by observing natural results is a fruitless endeavor. For Buridan, because the actual goals of natural movers are so obscured by the results of their interactions with other natural agents, one can only appeal to God’s direction as a basis for claiming that what happens in the world is for the sake of anything at all. That natural agents, of themselves, move for the sake of something (i.e. themselves) is both certain and almost trite since we have no experience of a natural agent acting without the influence of other agents.

Essentially, Buridan denies the arguments of the material reductionists with regard to natural wholes (as all our thinkers have done). But, in the face of the complex interactions of natural agents, he makes an argument that parallels the reduction he refuted, except he makes his argument on the level of the results we experience. Natural individuals are like atoms, interacting with each other to bring about an effect or result that cannot be naturally explained in terms other than the necessities of the parts that happened to be interacting. But the results of those
interactions are all we have in human experience. What happens by nature is just as unexplainable for Buridan in terms of natural final causality as it is for Ockham.
Chapter 4: Appropriation of Ockham’s Critique by John Buridan

4.1 Introduction

In the thought of John Buridan, we see the threads of the earlier Parisian thinkers incorporated with the ideas of Ockham to provide a doctrine that is definitely Ockhamistic, while, at the same time, pays respect to the metaphysical principles that the earlier Parisian conceptions of natural final causality depended upon. In fact, Buridan disagrees with Ockham on issues related to both the recognizability of final causality in natural agents and the way a final cause causes, yet he effectively maintains and, in fact, expands the reduction of final causality to efficient causality found in Ockham.

Regarding the recognizability and causality of natural final causes, Buridan accepts a main point we found in Ockham: namely, with regard to recognizability, Buridan maintains the disassociation between natural regularity and natural activity for ends. What happens with regularity is not necessarily what a natural agent was trying to bring about. But despite his affirmation of the disassociation of regularity and finality, he thinks (contra Ockham) that it is possible to naturally recognize that nature acts for the sake of something even if philosophy does not provide certainty of the extent to which the regular results of nature are for the sake of their causes. Buridan recognizes that God, the efficient cause of the world, is the final cause of everything in it.

As to the existence and causality of the natural final cause, Buridan affirms the principle that a cause, even a final cause, must exist to be a cause. But an actual cause (and so including all
natural causes) will be an efficient cause. For Buridan, all motion must come from efficient causality. And he affirms that every efficient cause is a final cause, as well, since it is determined to its effect. So, while he can affirm that there is final causality in nature, it must be recognized as efficient causality. Such an identification might seem to be a boon for one who wants to provide a more robust explanation of natural activities through finality (since one needs only to point out an efficient cause to point out a final cause), but it is not, as the reader will see below.

Buridan does not think that one can naturally recognize that every effect has a proper final cause through observations of regularity. Likewise, he does not think one can naturally recognize that every effect corresponds to its own proper efficient cause. Most occurrent effects, in fact, are brought about by the convergence of a complexity of efficient causes, where no single cause in the complexity is sufficient to produce the given effect and no single cause is properly determined to bring about that given effect.

So, Buridan’s conception of natural final causality, even though he asserts that natural final causes are real, would not be met with great enthusiasm by the Aristotelian, Thomist or Scotist. Aside from his reduction of final causality to efficient causality, Buridan buries natural final causes so far under the results of interacting efficient causes that one cannot know whether what actually happens through natural motion is properly the effect of a given agent through regularity. (In fact, there is good evidence that what happens is not the proper effect of a given natural agent that contributed to it.)

497 He avoids the problem of determinism, which Ockham used final causality to address, by finding room for freedom even in a world that is moved entirely by efficient causes. Needless to say, Buridan’s position does not give the priority to freedom that the voluntarist sees.
God’s role as the first final cause is not established through observation of the regularities of natural activities. It is established through God’s efficient causality, to which Buridan gives priority over God’s finality in the order of argumentation for both God’s existence and God’s role as final cause of the world. As it was for Ockham and Scotus, the determination of natural activities is not evidence of divine ordering. One must have prior knowledge of God in order to be sure of divine order in nature. The major difference between Buridan and Ockham here is that Buridan thinks the philosopher has access to knowledge of God’s efficient causality.

4.2 Recognizability of Final Causality for Buridan

Buridan’s position on the natural recognizability of natural final causality is, for the most part, laid out in his Questions on the Physics, 2.13, “Whether the necessity of natural operations comes from an end or from matter,” where he directly addresses the issue. In this question Buridan recognizes the regularity of complex natural wholes that Aristotle saw. He agrees in part with Aristotle’s arguments regarding the source of regularity in natural movers. Buridan affirms that Aristotle’s arguments refute the material reductionism of the Ancients. But

498 Joël Biard’s “The Natural Order in John Buridan,” (in The Metaphysics and Natural Philosophy of John Buridan, ed. J.M.M.H Thijssen and Jack Zupko (Leiden: Brill, 2001), 77-95) provides a helpful illustration of the distinction between the natural and supernatural orders in Buridan’s thought, and the extent to which one can be certain of what is concluded through natural investigation (induction). He sees Buridan recognizing that through rational reason one can be conditionally sure of necessities that are recognized in the world through intellectualization of sense experience. The certainty depends (as do the necessities known) on the will and power of God, which are not guaranteed to remain the same. Natural necessity is an object of natural knowledge for Buridan. That natural necessity is evident through experience, but not absolutely guaranteed by it, will be evident in Buridan’s treatment of the recognizability of natural final causality.

natural regularity is not, itself, evidence that what happens with regularity in nature happens for
the sake of anything. For Buridan, as for Ockham, direction behind regular natural results can be
posited only after one has shown there to be a higher power directing nature. According to
Buridan (who is in harmony with Ockham here), one cannot recognize activity for ends in
natural results alone because one cannot recognize rational intentions behind the results of the
natural agents. However, contra Ockham, Buridan recognizes regular natural results as being for
ends because he philosophically recognizes a first efficient and final mover of nature.\footnote{500}

At the beginning of q. 13, Buridan entertains nine objections that assert that matter
explains natural necessity. They fall into two basic categories. One group (objections 1 and 6 - 9)
relies on the explanatory power of matter to give a satisfactory causal account of nature. The
second group (objections 2 - 5) relies on pointing out that ends cannot be found in nature, giving
support to the position that matter, as the only other tenable option, is the source of regularity.\footnote{501}
I will address the individual objections in this second group, since they speak directly to the issue
at hand.\footnote{502}

The second objection posits that rain does not act with the purpose of bringing about the
effects that result from its falling. Sometimes rain helps and sometimes rain ruins crops. But one

\footnote{500} Because of the way he argues for the recognizability of purposiveness behind natural activity, we find a
discussion of God’s and the heavens’ causal powers in Buridan’s treatment of Physics II that we did not get in our
previous thinkers’ treatments of Aristotle’s Physics II.

In fact, the issue of the recognizability and causality of natural final causality in Aristotle seems to be
more of a nuisance than a compelling topic for Buridan. It is clear to him that Aristotle’s Physics lacked the
important role God plays as orderer of the world. Causality on the level of the complex whole can be attributed to
nature. But direction of the results of natural agents, if it is to be seen, must be seen to come from God.
\footnote{501} Each objection essentially plays out as a disjunctive syllogism.

\footnote{502} I will say, in brief, that the first group of objections contend in their own ways that matter, as necessary in itself,
must be the source of necessity in nature. Buridan responds to these that the necessity of matter itself is not
sufficient to explain the necessity found in complex natural wholes.
does not think that the rainfall that ruined crops actually tried to ruin the crops, so it is not right to say that it tries to help them grow, either.\textsuperscript{503} This formulation of the materialist objection from rain highlights the fact that rain is not taken as having the ability to act of itself to bring about opposites, a type of action proper to rational agents. The effects of rain are not planned by rain, but what rain does (i.e. falling) can be explained by matter.

In the third, he notes that an end is said to be what is best. That means, then, that if activities come from the end, nothing less than the best should happen. There would be no errors in nature if natural activities came from the end because the end is the best way of existing in what is ordered. But we know we see errors in nature, so there must not be ends directing nature.\textsuperscript{504}

Fourth, natural operations would have to be ordered from the intention of an end if they were going to be directed by an end. But it is clear that nature does not intend an end and does not understand ends, either.\textsuperscript{505} (Buridan will not defend the presence of ends in natures in the way Aristotle did, but will steadfastly reject the disjunctive conclusion of this objection that matter directs nature because nature does not intend ends.)

\textsuperscript{503} “\textit{Ita sicut nullus diceret quod pluvia esset ex intentione perdendi frumenta ita nec debet dici quod sit ex intentione crescedo eorum}” (Buridan, \textit{Physics} 2.13, 39\textsuperscript{a}).

\textsuperscript{504} “\textit{Tenet quia finis est quid optimum modo in his que ex parte optimi habent ordinem et proventum nichil debet esse malum}” (Ibid.). This third objection does not seem particularly strong to me if one is here considering ends as the best state of a given agent acting with that state in view. Rational agents know from their own experiences that their activities come from ends, yet there are often errors in what they do.

\textsuperscript{505} “\textit{Item sequitur quod operationes nature non haberent ordinem et necessitate ex fine nisi natura intenderet finem, sed ita est quod natura non intendit finem cum non cognoscit ipsum ergo etc}” (Ibid).
And, fifthly, it is objected that since natural agents do not intend anything, the ordering that natural agents have cannot come from an intention. One would have to say that the dispositions of nature are nothing if one says that such dispositions must come from ends. So, there is no source in nature for the regularities of natural activities if there is no intention in that nature. But since the regularity cannot be caused by nothing, matter is a likely source.

Buridan’s general response points out that Aristotle, of course, would not abide these objections. It is clear that for Buridan the question of the recognizability of final causality in natural activity follows the question of just how a final cause causes, as it did for Ockham. But without addressing the causality of the final cause at this point, Buridan makes his reply with a series of eight related arguments that assert and support the position that matter cannot be the source of natural regularities. Buridan begins with his metaphysics-based surety that God is the first cause of nature and so moves nature in accord with divine ends. He then lays out his physics-based case against material reductionism, in support of the presence of ends on the level of natural wholes. He then argues that one cannot recognize natural final causality through natural regularity as Aristotle thought one could.

Buridan begins his response in his *Questions on the Physics* by jumping to the *Metaphysics* and referring to the first final (and efficient, for Buridan) mover of book XII. This mover is the first cause and the source of all good order in the world. “All good and fitting order

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506 And they are, indeed ordered and disposed to certain operations and necessities, otherwise they would be nothing.
507 “Et dispositionum materie precedentium nichil est quod quando fiunt ille dispositiones et terminaciones precedentes illum formam ergo etc” (Buridan, *Physics* 2.13, 39r).
508 “Oppositum videtur determinare Aristoteles in isto secundo contra antiquos; sine dubio ista quaestio est satis difficilis quia concomitatur vel sequitur illam que facta fuit de causalitate finis que erat satis difficilis” (Ibid.). The causality of the end is addressed in 2.7, which will be addressed in the next section.
in the operations and dispositions of natural things comes principally and firstly from that best end that all other things are for the sake of. And those natural things act or undergo action of first intention namely by God Himself and for God Himself. And that end truly is the first cause and principle of the good of the whole world.”

Buridan says here that God is ultimately the end of all ordering in the world. God causes as end of the world so it is clear that natural activities have ends. All natural activities happen for the sake of God, the most perfect end.

In his second thesis, Buridan posits that, while the first final cause is also the first efficient cause, God is not the only efficient cause. In fact, he finds that the variety of necessary actions we experience in nature cannot be explained without positing causes other than God. God could cause all the differences and opposed activities in the world by Himself because He is omnipotent and infinitely free. But causing such effects would conflict with God’s simplicity and immutability. It is more important to consider that simply positing God as the direct

509 “Omnis ordo bonus et conveniens in operationibus et dispositionibus entium naturalium provenit principaliter et primo ab illo fine optimo gratia cuius omnia alia sunt et agunt vel patiuntur prima intentione scilicet ab ipso deo et illo deo et ille finis vere est prima causa et principalis boni totius universi” (Ibid.). Buridan is speaking of efficient and final causality together in the first mover. This is not how Aristotle saw the first mover in his Physics. Buridan is talking about God here in a way that is in line with the other Parisian thinkers addressed here. (Although, again, Ockham did not think he could naturally know of a first final and efficient mover).

510 His appeal to Metaphys XII for treatment of God is fitting as Buridan takes the position that the existence of God is properly addressed in the study of metaphysics, not physics (cf. Buridan, Physics, 8.1 “Utrum ad scientiam naturalem pertinet considerare de primo motore” (109)). In this question Buridan notes the disagreement between Averroes and Avicenna on whether or not God’s existence can be proved in physical or metaphysical investigation. He takes an Avicennian position himself, asserting that metaphysics, not physics, is concerned with demonstrating the existence of the first cause, the existence of a first efficient cause, and a first final cause.

511 Buridan appears to be speculating that there could be no natures and that what appears to be caused by natural agents acting with their own powers could simply be brought about directly by God.

512 “Licet deus per suam infinitam potentiam et voluntatem liberam, posset fine alii causis concurrentibus producere et creare effectus contrarios in eodem tempore sive in diversis et hoc modo super naturali et miraculoso, tamen modo naturali non esset possibile que ab eodem simplici et invariabili proveniret effectus diversi et contrarii, et nunc tales et cras alii nisi essent alie cause concurrentes diverse” (Buridan, Physics 2.13, 39”). The line of reasoning Buridan is defending here is Averroistic. However, there was no need to present the related argumentations in our treatment of Averroes’ doctrine of the recognizability of natural final causality
source of diversity, conflict, and opposing activities in the changes in the world would be providing a theological explanation. It would be miraculous if God caused such results directly. So, a philosophical explanation will recognize different causes producing the variety of effects we experience in the natural order.\textsuperscript{513}

Thirdly, it is evident to him that neither prime matter itself nor God, when used to explain natural diversity, could be the sources of diversity in nature, at least in terms of what unaided reason may discern. Matter does not diversify itself. In a similar way, matter is like God who is not, in Himself, determined to produce a variety of effects. (God is free to do so while matter requires an outside agent to determine it. Nonetheless, neither is, of itself, determined.) So, God does not satisfactorily explain natural change and motion (again, when explaining it through natural knowledge, without appeal to the miraculous). Also, even if one tries to philosophically explain the differences in the world through both God and prime matter, such an explanation would not be sufficient. Matter is only determined when it has form. It does not inform itself, so

\textsuperscript{513} On this second point of Buridan, Biard says, "The problem is clearly that of moving from the one to the many" ("The Natural Order in John Buridan," 83). I cannot disagree with that, but I will suggest a clarification. Biard finds it curious that God’s power and will would come into play here. I think it is relevant because Buridan may see natural movers that appear to be in conflict with each other. They appear to have opposing ends. If everything had the same end, everything would work together harmoniously to bring it about. But we see an agent in nature try to survive when another natural agent tries to kill and eat it. Both do not appear to be acting for the same end. Of course God is not conflicted, but it is within God’s power to bring about two natural agents that act in opposition to each other for God’s sake. The problem for Buridan is not merely the emergence of variety, but the activities of such various agents that at first glance appear directed toward conflicting ends. The presence of conflicting ends points to a variety of ends, which points to a variety of agents or wills (or at least a conflicted will if there is just one).

Overall, Biard’s treatment of 2.13 guided this section’s interpretation of the role Buridan’s assertions of God as first final cause play in his treatment of naturally recognizable natural final causality.
something else must be the source of the different forms that matter takes and thus something else must be the source of the differences in natural ordering and necessity than matter.\footnote{\textit{Non est possibile dicere quare ex ea sit hic aer et illic aqua vel hic equus et illic capra nisi concurrant aliae causae diversae quorum ex se fuerunt aliquae determinatae ad aquam generandum et non ad aerem vel ad aquam generandum et non ad capram et aliae sint determinatae eversa"} (Buridan, \textit{Physics} 2.13, 39\textsuperscript{r}).}

With his fourth thesis, Buridan claims that it is right to look to astronomy to see that the celestial bodies are causing the variety of effects we experience, such as the lengthening and shortening of the days and the fluctuations in the temperature in a given day or from season to season. Positing God as the only cause does not make sense when we see what appear to be causes of change that are not God. In philosophical inquiry we have access first to these mediate causes before we have access to God. We see that the heavens are causes, acting in determined regular ways. Observation tells us these are mediate causes bringing about their own effects in the world.\footnote{\textit{Certum est enim quod non posset reddi rationem naturalis quare dies sunt longiores uno in corpore quem in alio in uno clmate quem in alio quare etiam est multo maior calor in aestate quem in hieme nisi diceretur hoc provenire ex corporibus celestibus"} (Buridan, \textit{Physics} 2.13, 39\textsuperscript{r}).}

Observation tells us, fifthly, that the heavenly bodies are fixed in their activities, which bring about effects here on earth (such as the seasons and weather). But we see a variety of living things on earth that flourish in a meadow which has been subject to uniform celestial effects. So, there must be earth-bound causes that are a source of diversity among plants and animals. The motions of the heavenly bodies could not explain this variety.\footnote{\textit{Quinto etiam dicendum est quod ad multas diversitates et ordinationes transmutationum et effectuum naturalium in hoc mundo salvandas, modo naturali non sufficient Deus corpora celestia et prima materia nisi ponuntur alia agentia particularia diversa hoc ordinantia, quia in eadem plaga terre ubi per totum quasi consimiles sunt celorum influentiae, generantur hic asini hic capre et his quercus et hic pomus in eodem prato commixtit diverse species arborum generantur et harum diversitatum non sunt corpora celestia sufficientes esse; secundum ibi sunt aliae causae particulars quorum hoc determinat ad hoc et ille ad illa et hec sunt semina animalium aut plantarum"} (Ibid.).
active principle in plants and animals that determines the matter to become an animal or plant of a particular kind. This happens through the seed produced by individuals of a given species. It is because of such earth-bound causes that one bit of matter becomes a goat and another becomes a frog.

Buridan’s explanation of the variety of (sometimes conflicting) effects is important for his denial of material reductionism. Natural reason recognizes not only a variety of movers, but a variety of types of movers. There are celestial movers and earth-bound movers. Some of these movers appear to be in conflict with each other. Two movers that are subject to the effects of the same cause might react in very different (or even opposite) ways. (He uses the example of the seeds in the field, but one could even think of an egg and ice that are both exposed to the hot sun. One would become firm, the other would melt.) Different natural agents appear to be determined in their own ways. They act on their own with regularity that cannot come from matter only. They must have their own principles of motion.

Sixthly, if the diverse dispositions of matter come through agency, clearly matter neither diversifies itself nor explains its own diversity. Determined matter cannot generate something of a different type then itself. Once matter is determined, it cannot, of itself, even change itself into some other kind of thing. It is not right to attribute the variety of natural things in the world to the necessity of matter. Even though matter is necessary and matter is configured differently in necessary ways, the fact that matter is configured in a variety of necessary ways does not mean that matter is the source of that necessity or of the variety of necessary natural activities we can
observe. Matter is not a source of diverse dispositions, but is indifferent to its disposition.\textsuperscript{517} It is passive.

Clearly now, seventh, Buridan concludes that diversity must not come from what is passive (i.e. matter), but what is active. The diverse activities of nature are caused by active principles that direct natural agents to be the best they can be. While the source of natural agents’ activities can, furthermore, be traced back to God, one can through philosophical considerations only, see that natural agents act for ends.\textsuperscript{518}

Buridan concludes, eighth, that all order and diversity of natural change and being comes from an order and diversity of ends. When agents act, they are the final causes of their own actions.\textsuperscript{519} There is an active principle on the level of the complex whole that is the source of a natural agent’s motion. Matter cannot account for the diversity of results in the world. In response to the dichotomy set up by the question, Buridan is clearly saying that regularity of results in nature is caused by ends, not matter. In arguing for his conclusion, Buridan first posited the existence of God as a free first final and efficient cause.\textsuperscript{520} However, Buridan argues that, even though all is directed by God and for the sake of God, philosophical investigation reveals natural activity that is caused by and, to some extent, ordered by the principles of those natural

\begin{itemize}
\item \textsuperscript{517}“Materia sit de se indifferens ad omnes dispositiones necesse est si hce materia et illa fuerint diversimo de dispositione quod hoc fuerit per agentia diversa sic eas diversimode disponentia” (Ibid.).
\item \textsuperscript{518}“Sed ultra considerandum est quod agenta naturalia agunt finaliter propter se...sed ad finem quod se habeant in isto statu nobilissimo et optimo in quo possunt esse naturaliter, et ultra etiam agunt finaliter propter deum ut ei assimulentur quantum natura eorum permittit” (Ibid.).
\item \textsuperscript{519}“omnis ordo et diversitas transmutationum et effectu"em naturalium proveniret ex ordine et diversitate finium cum enim proveniant ex agentibus ut dictum est et agentia sint cause finales suarum actionum prima intentione” (Ibid.).
\item \textsuperscript{520}See Buridan’s first thesis above.
\end{itemize}
things. The variety of irreducible causal activities that he observes in nature is evidence of a variety of ends among the principles of natural things.

One might rightly ask how Buridan is able to maintain both that natural agents are the final causes of their own actions and that all natural results are for the sake of God. The argumentation that Buridan follows to support his conclusion that all natural results are for the sake of God requires that a distinction be drawn between the effect an agent is determined to bring about and the results that actually occur in nature through the interactions of multiple determined agents acting for their own sakes. If there is an order to the interactions of determined agents that is beyond the causality of the individual agents that directly bring about that order concretely, there must be some cause beyond those determined agents that is responsible for ordering them. Buridan worked his way from God through the heavens to the earth-bound movers to describe these causes. He was doing this, of course, in support of his argument that denies the reduction of natural activity to material necessity. Buridan’s affirmation of the presence of an active principle of motion on the level of the complex natural whole (that causes for its own sake) allows him to affirm that there is activity for ends on the level of the complex whole. Further support for this position will be presented in the next section which addresses the causality of the natural final cause.

But for Buridan it is not as simple as coming down on the side of “ends” over “matter” in the explanation of nature. Buridan’s argumentation for the recognizability of activity for ends in

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521 In his analysis of this question and, in particular, Buridan’s explanation of the motion of the world through the convergence of the effects of multiple causes, Biard notes, “We are faced with a different, more horizontal order of causality, where the aforementioned influences intervene in the production of the effect, but are not of themselves sufficient for it” (“The Natural Order in John Buridan,” 85).
2.13 is not like Aristotle’s arguments in *Physics*, II. This difference points to a disagreement that Buridan addresses in the second half of 2.13. Even though regularity in nature points to active principles in nature, regularity of results is not evidence that such results are the ends of the natural agents that bring them about. In other words, despite his affirmation of activity for ends in natural activity and natural results, he maintains the disassociation of regularity and finality that was the basis for Aristotle’s (and Aquinas’ and Scotus’) position. The problem Buridan sees with Aristotle speaks directly to the issue of the recognizability of natural final causes in natural agents.

Aristotle thinks the regularity of natural results points to natural ends because of the regularity of those results. As far as Buridan can tell, Aristotle thinks that the results arising from the interaction of multiple natural causes (which include essentially all natural results on earth) are what natural agents act for the sake of. So, are those results somehow causes of natural agents or not? Do the results of natural agents’ activities determine the activities that will be done in any way? Does a chick-to-be-made somehow cause a swallow to act in a particular way? Even in rational agents, does health that does not exist move a doctor? Do the operations that precede an effect depend on that final and ultimate effect? Buridan’s answer, at least as far as natural (non-rational) agents are concerned, is “no”.522

Buridan thinks such results are not ends for natural agents. Regular results are not ends simply because they happen with regularity. If one does not posit an ordering cause of all of nature, one would have to say that the results of natural activity (which are nothing other than the

522 “Et ego credo quod ‘non’, sicut dixi prius in questione de fine non enim appareb michi quod ex eis quo non sunt dependeant et ordinentur actualiter ea que sunt; immo de necessitate quantum ad actiones, non liberorum agentium.” (Buridan, *Physics* 2.13, 39vb).
combined effects of many natural agents) are not what any agent acts for the sake of. If one relied solely on observations of natural regularity, they would be able to trace the source of regularity to the heavenly spheres, but observation would tell them that those spheres have their own limits. (These limits are evident through the presence of the earth-bound movers and their independent activities.) If one does not posit a cause more noble than the heavens, all natural results must be seen as merely the results of the necessary motions of natural movers. We would have no basis for recognizing that the results of natural motion are for the sake of anything, even though we could be sure that the sources of motion act in accord with their own ends. One needs to appeal to the proper causality of an agent in order to appeal to an explanation through ends. If one accepts that natural agents are guided by natural causes that are determined to a particular end, one still cannot be sure that these causes regularly bring about their effects.

Buridan believes he is drawing on Aristotle to support his position, but he is aware that he is making an important break with Aristotle on how helpful the recognition of regular results is as an indicator of natural finality. For Aristotle, regular results are sufficient evidence of final causality. Buridan argues, however, that the Aristotelian argumentation for natural final causality, based solely on the results of natural activities, does not appeal to the actual directing

\[523\] “Ex eis que sunt et procedunt sequetur esse et ordo omnium que posterius eveniunt intantum quod si deus poneretur movere semper corpora celestia sicut nunc moventur et nunquam agerende cetero nisi modo naturali sine miraculo speciali et non ponerentur alia agentia libere voluntatis, tunc de eo, omni quod eveniret necesses esset ex nunc quod ipsum eveniret est inevitabile est quod ipsum eveniret” (Buridan, Physics 2.13, 39\(^{va}\)).

\[524\] Everything still happens with the same regularity whether God is posited as always moving the heavenly bodies as they are moved now or not. There is no need to posit God or miracles or other free agents to recognize regularity. And if we posit God as the source and end of nature, there is no need to rescind any causal activity that would be attributed to lower natural movers. Any such attempt at reducing the causal power of natural agents would have to coincide with an increase in miraculously causal activities of God in the everyday course of nature.
or determining causes that are responsible for the results in question and so are not evidence of natural final causality.

Buridan lays out seven Aristotelian arguments that purport to show that final causality can be recognized through the regularities of nature without first positing the existence of God. I will consider all seven. The first three appeal to the similarity between natural activities and skill (or rational production for ends) to convince the reader that nature must have final causes just like rational agents do. The fourth through the seventh are different formulations of the argument that what is not by chance (or what happens with regularity) must be for the sake of an end.

The first Aristotelian argument is that final causality is required to give a full causal explanation of nature. One needs to posit a cause that answers the question, “for the sake of which” in nature. This cause can be seen in the operation of a natural agent. Just as a doctor acts for the sake of generating health, so does a swallow build a nest for the sake of having chicks, and bees make honey so they can eat it later. Because a complete causal explanation of rational activity includes a final cause, we should look for it in nature as well. It is useful in giving a causal explanation of nature.\footnote{\textit{Illud est causa a qua res dependet in esse et operatione quod respondetur ad questionem quaerentem ("querentis") propter 'propter quid' vel 'propter quam causam de huiusmodi esse' vel, operatione certe videtur quod sic, sed finis ille ultimo producendus" (Buridan, \textit{Physics} 2.13, 39\textsuperscript{60}).}

Second, it is clear that a doctor acts because of the intention of health to make medicine. In fact, if the doctor did not intend health, he would not make any medicine. So the intention of health causes the intention to make medicine, so the health that is to be produced is a cause of the making of the medicine. What does not exist that is intended must be a cause of what is sought
since what is sought is sought only because of that which does not exist. Buridan does not mention nature in this objection, just future health (sanitatem producendam) as a cause of a doctor, i.e. a doctor acting as a doctor, but not as a cause of his existence.

In the third, Buridan sees that Aristotle points out that for both skill and nature, differences in activity come from differences in ultimate effect. A blacksmith takes particular actions when making a nail and takes different actions when making a hammer. Nature does the same thing. It acts in one way to make an ear and in a different way when an eye must be made. (Or, we might say, nature acts in one way to put sharp teeth in front and another to put flat teeth in the back of the mouth). It must be that it acts like skill, with an ultimate effect, yet to be produced, that is guiding production.

The fourth Aristotelian argument notes that the means that nature uses lead to results that are so fitting, that those results must somehow be directing what brings them about. We always see natural operations proceed with the ordered means that fittingly produce a particular end. Surely this would not happen unless the end to be produced was somehow ordering what was done. Regular activities leading to regular results are evidence of activities for ends.

Fifth, regularity cannot be by chance. Buridan’s Aristotle thinks that the dispositions preceding the last end to be generated are either intended for the sake of that end, or they are

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526 “Ergo sicut intendit compositionem medicine propter intentionem sanitatis, causaliter ita componit medicinam propter illam sanitatem producendam causaliter” (Ibid.).
527 “Ex illis dependet, et proveniunt actiones, et ordo actionum ipsorum agentium secundum quorum diversitates diversificantur actiones agentium, et ordo eorum, sed secundum diversitates finium ultimo producendorum diversificantur actiones agentium” (Ibid.).
528 “Iterum semper videmus in operibus nature quod operationes ordinate procedunt per illa media per que convenientissime produci potest ille finis et hoc non esset ita nisi ex illo fine producendo proveniret ille ordo” (Ibid.).
fitting and ordered fittingly by chance. But the activities of nature happen always or for the most part; therefore they are for the sake of an end.\textsuperscript{529}

The sixth argument relies on the structure of rational argumentation (premises necessitating a conclusion) and its parallels with natural motion (activities leading to results). Activities that lead to results are like premises that lead to conclusions. If a conclusion is true, the premises supporting that conclusion must point to that conclusion. Likewise, if some result is to happen, the activities preceding that result must lead toward that result. Also, similarly, the necessity of a demonstrative conclusion comes from the necessity of the premises. So, if the means necessarily bring about the end, the end must be a necessitating cause, influencing the means that bring it about, just as the conclusion of an argument influences the premises of an argument that must be ordered in a certain way so that the conclusion is reached. What is brought about must be what the activities were directed towards doing.\textsuperscript{530}

Finally, seventh, since complex wholes are not ordered according to matter, they must be ordered according to ends. It is clear that animals are not ordered according to matter. He refers to Averroes who pointed out that the heaviest parts of animals are not on the bottom with the lightest parts being on top. There are lighter parts on the bottom which help the animal to survive. And it is clear that animals are ordered for the sake of survival and health, not merely in accord with matter.\textsuperscript{531} This last argument is not as concerned with connecting the regularity of activities and results with activities for the sake of ends, as it is concerned with distinguishing the

\textsuperscript{529} "Quam hoc est semper vel ut in pluribus ergo fiunt sic propter illum finem" (Ibid.). This is closest to the classic Aristotelian formulation, but Aristotle does not think an end needs to be intended.

\textsuperscript{530} "Rationabile est quod illi fines sint sicut premisse in demonstrativis" (Ibid.).

\textsuperscript{531} Cf. Buridan, \textit{Physics} 2.13, 40\textsuperscript{a}.
regularity that comes from matter itself from the regularity that is evident in complex natural wholes. Still, though, the argument depends on the reader seeing that the regularities of nature cannot be explained except by ends on the level of the complex whole. Regularity at the complex level points to ends at the complex level.

In responding to the Aristotelian position, Buridan first wants to make some observations on free will, where activity for ends is most evident to us. Then he can address the recognizability of final causality in nature through regularity of natural results. Here we see similarities between Buridan and Ockham. The lack of rational powers in nature is an insuperable barrier to one’s recognition of natural results (i.e. the intention of natural results) as natural final causes. His line of argumentation here amounts to a defense of the distinction between rational and natural activities. Buridan leaves room for the final causality of effects (in a certain way) in rational activity only.\(^532\) Rational activity is so different from natural activity that natural results cannot be evidence of natural activity for ends. The results of natural activities are not sufficient evidence of what natural agents act for the sake of and should not be mistaken for causes.

First, Buridan points out that rational agents act because of their intentions.\(^533\) They do not act because of results that may or may not be brought about.\(^534\) He illustrates with the doctor

\(^{532}\) Buridan’s two comments on final causality here are in harmony with, but less detailed than what he gave in *Questions on the Physics*, 2.7. Buridan is assuming that the reader has already read it, since we are looking at 2.13. Indeed, these points will come up again in the below section on the way a final cause causes, which treats 2.7. An underdeveloped account of the way a final cause causes will be sufficient for this section because Buridan shows enough to make it clear that final causality is properly recognized in rational agents, and not through mere regularity of effect.

\(^{533}\) Peter Sobol notes three ways Buridan uses “intention” in his psychology in “Sensation, Intentions, Memories, and Dreams” (in *The Metaphysics and Natural Philosophy of John Buridan*, ed. J.M.M.H Thijsen and Jack Zupko (Leiden: Brill, 2001), 183 - 198) One is as a species in the nervous system. The second, most common use is as a
and health example. It does not make sense to say that Socrates’ becoming healthy depends on or is caused by Socrates’ resulting health. If Socrates needs health, his health does not exist, so it could not be the cause of anything. If Socrates has it, he does not need it to be caused and, in fact, it could not then be caused since it already would be.  

Secondly, it is clear that an effect cannot be the cause of its own existence. If that was the case we would have to posit ourselves as causes of God’s activities. But of course we did not cause God to act. Neither do the heavens cause God to act. The things of the world do not cause God to intend them. It is true that the things of the world, when known, are causes of our intentions, but not everything intended is a source of action. In fact, knowledge does not, of itself, cause us to act for the sake of anything. What causes intentions causes awareness. It is possible to intend what is not real. We can even intend something that was not previously given to the senses. Buridan mentions a golden mountain, which could be intended. The intending of it does not mean that it is or was real. But regardless of whether what is intended is real or not, we must intend a result before we act. Of course, rational production occurs after knowing and willing. A rational agent must have an intention before it can act for the sake of anything. If an

reference to the feature of a sensed object that is not sensed per se by an external sense or the common sense. For example, the intention of harm comes with the perception of a wolf. The third sense refers to the sense of time that must accompany a memory, which keeps us from thinking that what is remembered is actually being sensed. I see Buridan using intention here in the first sense. He takes this first sense of intention in two respects here. One is as a simple awareness without appetite being taken into consideration. The other is an awareness of what is willed. It is in being an intention in this second respect that an intention causes action. He mentioned already that not all intentions are sources of action; only those that are willed are.

534 “Declaro ergo quod intentio et voluntas medici volentis sanare Sortem non dependet ex sanitate Socratis producenda” (Buridan, Physics 2.13, 40ra).

535 Clearly on the issue of the existence of the final cause, Buridan does not agree with Ockham. See the below section for more.

536 “Non propter hoc oportet quod celum vel motus celi vel ista inferiora sint cause intentionis dei” (Buridan, Physics 2.13, 40ra).

537 I.e., worldly things cause knowledge of universals.
agent has no intention, there is insufficient evidence that its activity is for the sake of anything. Insofar as a non-existing effect can be intended, we can say that an effect is a cause. The intention of the effect is real; the effect is not.

But animals, trees, and other natural movers do not understand and so do not intend effects as rational agents do. He illustrates with the example of a swallow. When a swallow builds a nest and lays eggs in it, it does not think of the chicks to be born any more than a tree thinks of nuts or than flowers think of seeds to be generated. If a swallow were thinking of chicks while it was building a nest, then we could say that the nest depended in some way on those chicks for its existence and ordering. It would be as it is when we say that the intention of health-to-be-produced is a cause of the intention of making medicine. But birds do not act as rational agents act. And of course, the laying of the egg causes the chick, not the other way around. Such is what we see in nature.

Intention and appetite are not distinct in nature as they are in rational agents (humans). Intentions are prior to appetites for rational activity. That is, humans want to do something

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538 “Sed tunc est dubitatio de intentione hyrundinis utrum hyrundo proprius intendit pullos generandos quam ova ponenda et quam nidum faciendum, vel econtra et utrum intentio pullorum generandorum sit causa intentionis ovarum ponendorum et nidi faciendi sicut intentio sanitatis producende est causa intentionis medicinarum componendarum vel econtra” (Buridan, *Physics* 2.13, 40).

539 “Ad hoc videtur michi esse dicendum quod magna est differentia de nobis et de natura quantum ad intentiones et appetitus in nobis enim intentiones et appetitus sunt distincti ab intendentibus et appetentibus in natura autem non” (Ibid.).

540 I mentioned that Buridan and Ockham are similar on the recognizability of natural final causality. There is, however, a significant difference that cannot go unmentioned here. Intention in both Ockham and Buridan points to a rational having of what is not possessed. For Ockham, it is connected with the will. For Buridan, it is an intellectual holding. Ockham, a voluntarist, says non-rational agents cannot desire a distant end. Buridan, an intellectualist, says they cannot know and subsequently desire a distant end. This is an important difference between Ockham and Buridan in connection with the assertion they have in common, namely, that natural agents do not act as rational agents. Jack Zupko’s “Freedom of Choice in Buridan’s Moral Psychology” (in *Mediaeval Studies*, 57 (1995), 75–99) highlights Buridan’s intellectualism, pointing out that he was not a voluntarist. Fabienne
(i.e. have an appetite for something) after they conceive of an object worthy of desire. This is fitting for us as rational agents. We know and then we choose what to do. Natural agents do not know and cannot choose. If the last effects to be brought about are known to us and wished by us, it does not follow that it is the same way in nature. In fact, that rational agents can know and choose is part and parcel of what humans can do because humans are rational. Rational agents have the species of what-might-be while non-rational agents do not. An intellect can hold the species of what does not exist and a rational agent can subsequently desire what is intended. But for non-rational agents, the species of non-existing future events cannot similarly be held and subsequently desired.

In 2.13 Buridan clearly rejects material reductionism. And even though he thinks it is certain that natural agents act for the sake of ends, he clearly rejects the possibility that we can naturally recognize what natural agents are acting for the sake of outside of the general observations that they act for their own sakes and for the sake of God. The regularity of natural results does not give this to us and we have no reason to think that they can act as rational agents do, who have intentions guiding their actions. An animal, like a bird, acts without forethought. It only has the capacity to take in its immediate tasks. Animals would have to plan courses of action if they acted like we did, not simply act with regularity. One can recognize that a given nature has a determined potency, but the way that potency is held is not the way that rational

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Pironet’s “The Notion of ‘non velle’ in Buridan’s Ethics” (in The Metaphysics and Natural Philosophy of John Buridan, ed. J.M.M.H Thijssen and Jack Zupko (Leiden: Brill, 2001), 199 – 220) also addresses this.
agents intend distant ends. If there is “natural intention” of some sort, it will not be discovered in the science of physics.\textsuperscript{541}

Buridan’s specific responses to the seven Aristotelian arguments are in line with the above general response, denying that the similarities between rational agency and natural agency for regular natural results should be taken as evidence of activities for intended ends in nature. He points out that natural agents then should not be said to move themselves in accord with distant ends since they have no way to grasp what does not exist and deliberate on how to achieve distant ends. Even though natural activities are not by chance, Buridan is not pushed to concede that regular natural results represent what natural agents are acting for the sake of. Natural agents do not act by chance, but necessity. His responses are based on the position that distant ends (non-existing results) must be intended and desired to be causes. (But then it is not those non-existing results that cause, but the intentions of them.)

To the first argument (that a final cause needs to be posited in order to give a causal explanation of the activities of natural agents, just as final causes explain the activities of rational agents), Buridan refers us to q.7 from Bk.II, where he explains how an end is a cause. This will be addressed in detail in the next section. Essentially, Buridan allows us to call results final causes so long as we know that results are not truly final causes.

To the second argument (that an intended result causes what happens; and thus what was intended must be a cause), Buridan gives a very brief response. In rational agents, the intention is

\textsuperscript{541} \textit{Si autem sit alius modus intendendi in naturalibus ille est intellectus divinus simplex et indivisibilis qui quomodo cum tali simplicitate intelligat omnia distincte et quodammodo ordinate discutiendum est in duodecimo metaphysice vel in alia facultate” (Buridan, \textit{Physics} 2.13, 40\textsuperscript{b}). This explains why Buridan appeals to the \textit{Metaphysics} for argumentation regarding the final cause of the results of nature. Otherwise, he would have been able to say nothing about it.
a cause of action. There is not some non-existing thing (whatever that could be) that causes them to act. The desired intention is the cause, not what is intended.  

To the third argument (that skill and nature are similar in that they take different courses of action in bringing about different results, so, like skill, nature must be intending those results), Buridan responds that differences of effects of natural agents come from their souls or natures, not from any effect that is to be brought about. Natural agents do not intend effects. The different operations of skilled rational agents do not come from the different things that are produced by them, but from different intentions and different desires. Those different intentions and desires neither come from nor depend in being (or in coming to be) on what is intended. Clearly art operates differently than nature. Natural agents move because they have been made to move as they do by God. Rational agents are not determined in the same way and this difference supports the conclusion that rational agents are moved by final causes in a way that natures are not.

In both natural and rational agents, however, operations are not properly caused by effects. It is the other way; effects are caused by operations. Operations that have yet to be done are not caused according to different ultimate effects, but are consonant with them. And the effects are consonant with the cause. Just because a cause causes its effect does not mean that the effect somehow causes the cause.

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542 “Ad aliam dictum est quod in nobis est econverso de intentione ad intentionem et de intento ad intentum“ (Buridan, Physics 2.13, 40r).

543 “Non ex diversitate rerum producendarum a nobis proveniunt nostrae diverse operationes sed bene proveniunt ex nostris diversis intentionibus” (Buridan, Physics 2.13, 40v).

544 “Ego dicam quod non secundum diversitatem effectuum ultimorum causaliter est diversitas operationum procedentium sed econverso“ (Ibid.).
To the fourth argument (that the means to the results of natural activities so fittingly bring about those results that the means must be done for the sake of those results), Buridan argues that the means to some effect do not depend on the effect in any way. Nature is determined to whatever means it uses to achieve its effect and these means are determined to some effect.\textsuperscript{545} The means are only ordered to an ultimate effect to the extent that the ultimate effect is achieved. The desire to do some activity that would aid in the completion of some future result does not depend on that future result or ultimate effect. Nature is determined to those means through which the ultimate effect is determined.\textsuperscript{546} But nature does not intend or desire anything beyond what it is immediately determined to do. Even though a natural agent will move to another task if it is not hindered in completing a given task, it is not right to say that the natural agent did the first task for the sake of what came after. One can see order, regularity, and necessity in nature, but this does not mean that nature acts for the sake of what results.

To the fifth argument (that what is not by chance is for the sake of something, and since natural activity is not by chance, therefore, etc.), Buridan responds similarly to this as to the fourth argument. It is clear that nothing is itself by chance because nature acts according to itself, first determined to those dispositions and preceding operations and to those means for the ultimate effect.\textsuperscript{547} The classical Aristotelian argument does not hold water for Buridan because he can acknowledge natural regularity without being compelled to acknowledge activity for the

\textsuperscript{545} I.e. the appetite and intention are not distinct in nature.
\textsuperscript{546} \textquotedblleft Ad aliam conceditur quod ordinate per illa media procedit per que talis ultimus effectus attingitur non quia illa media ex illo effectu ultimo dependeant sed quia natura prius erat determinata ad illa media per que ultra determinatur ad talem effectum ultimum (\textquotedblleft ultimatū\textquotedblright)\textperiodcentered (Buridan, \textit{Physics} 2.13, 40\textsuperscript{va}).
\textsuperscript{547} \textquotedblleft Manifestum est quod nichil ibi est a casu quia natura agens est secundum se determinata primitus ad illas dispositiones et operationes praevias et eis mediantibus ad illos ultimos effectus\textquotedblright\textperiodcentered (Ibid.).
sake of what regularly results. He simply needs to note the complex causal interactions behind natural results and note the distinction between rational and natural activity. It is acceptable to say they act for ends, it must be clear, however, that what happens is what those natural agents were determined, of themselves, to do. Buridan, like Ockham, recognizes that complex natural results come about due to the activities of efficient causes that were, themselves, efficiently caused.

To the sixth argument (that, just like the premises in a demonstration necessitate and point to the conclusion, so too is a necessary effect the product of necessary means; i.e., a necessary effect or conclusion comes from means or premises that are directed towards the effect or conclusion), Buridan replies that sometimes an argument that is from the ultimate effect is said to be an argument showing final causality, but effects are only called final causes; effects are not actual final causes.\(^{548}\)

To the seventh argument (that what is not ordered according to matter must be ordered according to ends, and natural agents are not ordered according to matter, therefore, etc.), Buridan gives only a brief response, asserting that Aristotle has the position that matter is not a source of operation, but nature is.\(^{549}\) This is a gentle way for Buridan to end his disagreement with Aristotle, pointing out that nature and not matter is a source of order. But as Buridan has made abundantly clear -- and, accordingly he did not see the need to repeat in his response here - - he does not see final causality in the results of nature unless God is posited as the cause of

\(^{548}\) “Illi effectus ultimati solent vocari cause finales” (Ibid.).

\(^{549}\) “Ad ultimam conceditur bene quod non ex materia principaliter provenit talis ordinatio et diversificatio operationum sed a natura agente que vere est causa finalis operationum aliarum sequentium” (Ibid.).
nature. Natural results, considered only in themselves, are the necessary outcomes of determined activities.

Buridan was just as tenacious in his attack on the identification of natural final causes with natural regular results as he was in his attack on the position that matter is the source of natural regularity. He concludes question thirteen with responses to each of the initial objections, affirming that nature acts by necessity on the level of the natural whole, not necessity on the level of matter. We see in his responses to objections two through five that the reduction of the Ancients does not work, even though Buridan agrees with a number of the Ancients’ objections. He is careful to deny materialism and affirm that natural agents act for ends without taking the position that he can recognize just what any given natural result is for the sake of, outside of being able to identify it as God, the first efficient and final cause, the director of nature. Aristotle, in his own treatment of the Ancients, recognizes natural final causality but essentially asserts that the final causes of natural results can be recognized as the most proximate natural agents that brought about the regularly occurring results. Of course, Buridan thinks such a connection between natural results and the finality of the most proximate cause of those results is misguided since a given natural result arises from a variety of causes, each acting for its own sake. So natural results do not aid in the recognition of just what a particular contributing agent is acting for the sake of.

To the second reductionist objection attributed to the Ancients’ position (that nature does not intend what it does, because sometimes it does what is helpful to us and sometimes it does not, as illustrated by the rain), Buridan responds that it can be said that the end of rain is the growth of plants, but only because the growth of plants results from rain fall (i.e. *dicti*
That is, we can say that nourishing crops is the ultimate effect, but not that it is what the rain is determined to do of itself. His response to the objection actually upholds the objection that nature does not intend its results.

To the third objection (that there should be no errors in nature if nature is acting for an end, since an end is what is best), Buridan explains that natures can end up not bringing about their determined results because they can come into conflict with other natural agents acting in accord with their own determinations. He returns to his point though, that nature does not intend anything, but it is determined.

To the fourth objection, (that since nature does not intend anything, it must not act for the sake of any end) and the fifth objection, (that this lack of intention would require you to say that natural effects are caused by nothing), Buridan reminds the reader that God, a good and infallible judge directs everything.

Buridan affirms that one can naturally recognize activity for ends in nature, but he denies that we can see them in the way that Aristotle (and, following him on these points, Aquinas and Scotus) thought. When he argues in 2.13 that necessity comes from ends and not matter, he is defending the presence of nature in complex wholes. He is saying that the activity of complex natural wholes is for the sake of those wholes and not for the sake of their parts. Insofar as necessity in nature comes from ends, he is saying that necessity in nature cannot be reduced to the necessity of matter, but must come from the necessity of an efficient cause originating in the

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551 “Sed illa disconvenientia non provenit ab illa natura sed ab impediente eam intendente dispositionem convenientem illi nature que esset conveniens illi impedienti” (Ibid.).
552 “Ad aliam dicitur quod si natura non cognoscit tamen dirigitur a cognoscente optimo et infallibili” (Buridan, *Physics* 2.13, Ibid.).
complex whole. This is how Buridan recognizes activity for ends in natural agents through recognition of their natures.

However, one can recognize that the results of natural agency are for the sake of an end only insofar as it can be recognized that all of nature is caused by God. Once one knows that all natural things were efficiently caused by God, one can know they are for the sake of God. Since he sees no good reason for believing that non-rational agents act as rational agents do, it is not fitting to say that results (i.e. intentions of results) are causes in non-rational agents. It is wrong to think that the regular results of the interactions of natural movers were planned by the natural agents that caused those results. (And, again, even the most basic results of individual natural agents are the results of interactions of multiple natural agents acting with their own ends. 553)

The regularity of variety and conflict in nature is evidence of a variety of causes at work. But those results are not evidence of just how those causes are trying to work for the sake of what brings them about. One would need to better understand God’s causal activity to understand how what happens is for the sake of the natural agent or God. Regularity of results does not provide the answers that Aristotle and others are trying to find in them.

It appears that Buridan is pushing back against Ockham in two ways. First, Buridan affirms through philosophical investigation that natural agents, insofar they act in accord with

553 Just because one can recognize activity for the sake of something in natural agents does not mean that one can be sure that just because a natural agent regularly produces some result that it is acting so that the observed result would come about. For example, rain regularly waters plants, but this is not evidence that rain tries to water plants. Likewise, because acorns regularly grow into oak trees, one cannot be sure that acorns are trying to grow into oak trees. Perhaps they are trying to do something else, but because of other forces in the world acting on them with their own regularities, the acorns regularly grow into something different from what they would without those influences (that we might not consider to be an oak tree). What is certain, however, is that the acorn is doing something. Even though it is acting under the influence of other earth-bound and celestial influences, insofar as it is doing something of its own accord, it is doing that something for its own sake.
their own active principles, act in accord with ends. (Ockham recognizes that natural agents act in accord with natural principles, but does not think natural determination reflects the presence of ends.) Buridan also accepts a conditional that Ockham thinks is not satisfied. Buridan recognizes that the results of natural activities are for ends because he naturally recognizes that God is the efficient and final cause of the world. For Buridan this affirmation of God’s existence is proper to metaphysical investigation, while Ockham did not think natural knowledge of God could yield this conclusion.

Even though these differences may appear significant, Buridan’s similarities to Ockham on his overall approach to discussing the topic are more striking, especially in the important role the distinction between natural and rational activities plays in framing questions of natural final causality, as well as their subsequent agreement on the value of natural results as indicators of corresponding natural direction.

Ockham and Buridan each use a Scotistic groundwork for their treatments of natural final causality. Both rely on his distinction between what is natural and what is voluntary. Scotus does not introduce this distinction into his own discussion of the recognizability of natural final causality, and avoids taking issue with Aristotle on recognizability. He draws the distinction as a way of clearly demarking different motive powers and does not pursue the extent of applications that he could have.

Ockham, however, applies this distinction to the issue of natural final causality, introducing a break with Scotus and earlier Medieval thinkers (not to mention Aristotle) and shaping the discussion for Buridan. Ockham and Buridan both focus on drawing the proper

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554 Again, see Buridan’s Physics, 8.1.
distinction between natural activity and rational voluntary activity as the way to recognize errors in Aristotle’s argumentation. For Ockham and Buridan the differences between rational and natural activity are more noteworthy than their similarities when it comes to final causality. For both Ockham and Buridan, rational purposive activity is the proper model for final causality.

For Ockham, any discussion of natural final causality essentially requires attributing properly rational activities to non-rational agents, which is nonsensical. When results are called final causes for rational agents, it is because rational agents intend what they will bring about. But natural agents exhibit no such rational activity. Ockham and Buridan see no evidence that natural agents act with the intention of bringing about a given result. Yet both must explain how natural agents act with regularity.

Ockham shifts the discussion of the source of natural agents’ regularities to one of natural necessity, but not the materialist or reductionist necessity that Aristotle works to refute. Ockham recognizes an irreducible necessity on the level of the natural whole. His terminological and conceptual shift is appropriated by Buridan, whose discussion of natural ends addresses the source of natural necessity. He traces regularity to natural moving causes. Buridan’s recognition of ends in nature proves to be no more than an affirmation of natural necessity that is traceable to natural efficient causes.

Buridan’s discussion relies on clearly distinguishing our ability to recognize, first, that there is a variety of natural causes (which must surely have their own proper determinations), and second, that what actually results from natural activities is what those natural causes were directed or determined to bring about. He affirms that philosophical investigation can recognize the first. But he denies that it can recognize the second.
Aristotle, followed by Aquinas and Scotus, does not address the possibility that regular results may not be what the underlying natural causes are directed to bring about.\textsuperscript{555} Aristotle clearly does not propose the strong dissimilarity between natural and rational causality that influences Ockham’s and Buridan’s approaches to this topic. Ockham and Buridan’s fidelity to the Scotistic distinction requires obscuring the basis for almost all of what Aristotle recognizes of natural final causality, as they rely on common characteristics of natural activities and rational activities. For Ockham and Buridan, natural results can not directly point to rational-like natural final causes.

Buridan’s simple affirmation of the presence of ends in nature is as far as he takes his argumentation. He does not claim to recognize what any natural cause, of itself, is acting for the sake of based on the results associated with that cause. He is simply sure that there is a variety of natural agents, which do not act simply by material necessity. While Ockham does not describe natural determinations as ends, he would approve of Buridan’s disagreement with Aristotle on the recognizability of ends through results, due to the proper distinction between natural and rational agents.

While Buridan thinks one can naturally know that nature is guided by God, he does not think natural investigation yields additional details regarding the motives or direction of this guidance, aside from the fact that all results in nature are for the sake of God. He also does not use natural direction as a basis for arguing that God must be the first final cause. Buridan’s positions on the recognizability of natural final causality and God are closer to Scotus’ treatment than to Ockham’s. Scotus gives priority to God’s role as efficient cause as the basis for

\textsuperscript{555} Errors, which are not intended for Aristotle, are not counted as regular natural activities.
recognizing God’s role as final cause. Buridan does this, as well.\textsuperscript{556} Like Scotus, Buridan does not appeal to natural directedness as evidence for divine direction. Essentially, the disassociation of natural regularity and natural finality found in Ockham (based on Scotistic principles), is maintained by Buridan. For both Buridan and Ockham, any recognition of final causality behind natural results must come through the recognition of a source of order for all of nature. While Buridan stipulates the philosophical recognizability of God as first final cause, which Ockham did not, his position reflects a Scotistic focus on divine efficient causality as the basis for recognizing divine direction of nature. Like Scotus, Buridan finds philosophical knowledge of natural directedness to be insufficient for recognizing God’s direction of nature.

\textbf{4.4 God as Final Cause}

The role of the First Final Cause (i.e. God) in the activities of natural agents had to be established for Buridan before he would stipulate in his \textit{Questions on the Physics} that all results in nature could be recognized as being for the sake of anything. In fact, his answers to questions seven and thirteen in Book II have already shaped a response to the question of God’s (i.e. the first final cause’s) role in natural motion. Buridan’s reductive account of natural final causality to efficient causality allows for a simple characterization of his position: insofar as God is the first efficient cause of all that happens in nature, God is the first final cause of all that happens in nature. His justification and further elaboration of this in his \textit{Questions on the Metaphysics} is somewhat complicated, but it meshes with the above characterization.

\textsuperscript{556} See the section titled, “God as Final Cause,” below.
In his *Questions on the Metaphysics* Buridan directly asks about God’s role as final cause. On the issue of whether or not natural agents, of themselves, act for the sake of God, Buridan gives the same answer as Ockham and Scotus. Namely, he holds that insofar as God is not intended by natural (i.e. non-rational) agents, God should not be called the final cause of natural agents’ proper activities. Indeed, the proper determinations of natural agents do not point to a determination ‘for the sake of God’. (One can also see that natural final causality, as Buridan understands it, is not evidence of the existence of God). Natural agents act of themselves for their own sakes. Nonetheless, Buridan holds that God’s causal power causes natural movers to do what they do.

We will consider his *Questions on the Metaphysics*, 12.5, “Whether the first intelligence (i.e. God) moves what is moveable as an efficient cause and as a final cause (*causa finalis*).” In this question Buridan confirms that God is both efficient and final cause. While his arguments for God’s role as efficient cause are not important here, it is important to see that he finds God to be a final cause first in rational agents that intend God. God is a final cause in this way for the movers of the heavens and God Himself. In the context of this argument, Buridan sees the activities of non-rational agents also to be for the sake of God to the extent that they are moved by rational agents that are acting for the sake of God.

I will also consider two objections and responses from 12.6, “Whether Aristotle and Averroes think God moves as an end only.” The first objection, “that motion comes from two movers, one efficient and one final,” gives Buridan the opportunity to confirm that God is both efficient and final. In his response, Buridan also begins to explain how one can recognize the directedness of nature through the efficiency of God. The second objection from q. 6, “that God
is a final cause only because all things desire a greater good,” is where he more fully supports his position that God can be known as the end of natural activities through His efficient causality.

Buridan responds to the question of whether the first intelligence moves as an efficient and final cause (question 12.5) that it causes as both. His first argument, that the first intelligence moves as an efficient cause, is based on the argument that the heavenly spheres cannot move themselves. Buridan summarizes an argument for the dependence of heavenly motion on efficient intelligent agency by seating efficiency primarily in intelligent (as opposed to corporal) causality. He first sees support coming from Aristotle’s Physics, VIII.557 The heavens do not simply move themselves because everything that is moved is moved by another. Buridan then draws support from Metaphysics XII to complete his point.558 An infinite mover is required for the infinite motion of the heavens. But since no extended mover could be infinite, the heavens must be efficiently moved by intelligences. So, the first intelligence will be an efficient mover.

But here Buridan establishes the first intelligence’s final causality by establishing God’s role as a rational final cause. That is, for an agent to have God as the final cause of its own activities, it must know and desire God. Again, to the extent God is both known and desired by an agent, God is also rightly called an end of that agent.559 God must be intended. This is the way

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557 “Dicendum est breviter quod intelligentia movet per modum agentis. ... Et tamen orbis non movet se ipsum. Quia omne quod movetur movetur ab alio; ita est orbis non movetur active a virtute ipse inherente. Quia sicut probat Aristoteles in Physicis VIII. (Buridan, Metaphysics 12.5, 47th).

558 “Et in isto XII. Virtus movens pro tempus infinitum est infinita. Et talem non potest esse in magnitudine nec extensa. Igiter orbis celestae active moventur a virtutibus separatis. Et non habentibus magnitudinem. Et tales virtutes vocamus intelligentias. Igitur intelligentiae movent corpora celestia active.” (Ibid.).

559 “Intelligentia movet per modum finis. . . . Movet sicut appetibile et intelligibile movent” (Ibid.).
that God is the final cause of the heavens. The heavenly movers are rational and order themselves in accord with the intentions they have of what is better than themselves.\textsuperscript{560} One can also see that God is the end of human beings who intend God. In fact, God is God’s own end, as well, although not in exactly the same way as God is the end of created movers.\textsuperscript{561} But the importance of rational activity in what acts for the sake of God does not keep Buridan from further concluding that even what does not have reason, but is moved by the heavens, is in motion for the sake of God.

After all, when a heavenly mover actively desires to be like God, it moves the heavens. Even though heavenly motion is the result of activity on the part of a heavenly intelligence that

\textsuperscript{560} \textit{Non enim aliquod appetimus nisi tamquam finem intentum vel gratia finis intenti. . . . Et omnino manifestum est quod intelligentia est nobilior et melior quam celum et motus eius. Et tamen in per se ordinatis melius et nobilius, deum esse finis aliorum" (Ibid.).

\textsuperscript{561} To the question of just what God intends when God acts for the sake of Himself, Buridan takes the opportunity to distinguish three kinds of end, or, to be more exact, he distinguishes three different ways an end can be intended. Buridan uses this distinction to point out that God does not intend Himself in the same way that rational creatures intend God.

First is an end of acquisition. An end of acquisition is an end that one does not have, but intends to accrue to oneself. This is illustrated in a doctor’s desire to heal so that he might gain money for himself. The second end he distinguishes is that of conservation. An end of conservation is what has been attained that one intends and desires to preserve. Buridan illustrates with the example of the person who walks daily to maintain health already present. The third is an end of assimilation. An end of assimilation is better than what holds it as an end. The one who intends an end of assimilation wants to be like an end that is nobler than the one desiring. It is in this way that God is the end of other agents.

Of these three, of course, God intends God’s Self as an end of conservation. God intends to conserve Himself. Buridan gives the reasons why God is not either of the other kinds of end with respect to Himself, which will not be considered here. It suffices for him to say that God is primarily in perfect action. Nothing can be added to perfect God. God knowingly endures as God. God’s perpetual perfect activity is God’s primary activity. So, God’s primary activity is not the activity of causing the world, but existing as God, being perfect. Moving the heavens is a secondary activity.
desires to be like God, and passivity on the part of the heavens themselves (which are put in motion), it is right to say that the heavens are in motion for the sake of God. So, again, what is passively moved by an agent acting for the sake of an end can is also moved for the sake of the end of its mover. With this accepted, Buridan can say that all natural activity, that is caused by the motion of the heavens, is for the sake of the end of the mover that moved it (or was responsible for its motion if it was not a direct mover). The end of the mover of the heavens becomes the end of what the heavens, in their turn, move.

This is one way to see that God is the final cause. One needs only to recognize that God is intended by an intelligent agent. (And God could be intended by God acting in self-conservation or by a created agent acting to assimilate itself to God.) If one can establish that the heavenly movers are in action for the sake of God, one can also say that God is the end of nature insofar as the effects of the movers of the spheres occur for the sake of God. Natural agents do not intend God, but are passively moved by agents that do.

While Buridan’s case here appears to parallel the line of argumentation that Ockham thought was required to establish God’s role as a final cause, it does not do justice to the account of final causality that we attributed to Buridan in the previous section. For Buridan, of course, every efficient cause is a final cause, so it should simply be a matter of establishing God’s primal role as efficient cause to establish that all that is caused by God is caused for the

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562 I.e. God must be intended by a rational agent to be a final cause.
563 It also does not establish that natural agents move themselves for the sake of God in any way. After all, heavenly motion that moves other things for the sake of God must be passively received by what the heavens move.
sake of God. This is the approach that Buridan uses as he affirms and deepens his explanation of God’s role as the first efficient and final cause in 12.6.

In fact, Buridan points out some limitations of not taking his position when he asks whether motion comes from two distinct movers, one that is efficient and one that is final, in one of 12.6’s objections, which asks, “Whether God moves only as a final cause or as an efficient cause.” Buridan responds to the “two distinct movers” objection by asserting that there is properly one first mover. It is God, who is both efficient and final. God is called an end insofar as the heavenly movers desire to be assimilated to God’s self as much as possible. The heavens would assimilate themselves to God by participating in the same action as God.564 (I take this “same action” to refer to the efficient causal activity of God.) The heavens move and generate what is below in their attempts to be as much like God as possible. But the heavens themselves would not move as they did if not for God’s efficient causal power having made them.565 It is in doing what God made them to do that the heavens attain their end. But the very existence of the heavens and their powers is for the sake of God, who made them to have the powers and limitations they have.

So the existence of the heavens is for the sake of God, and so is the activity that the heavens do of their own created accords. Thus, movement is said to be from two movers insofar as, first, a natural mover moves itself and, second, the natural mover’s motion has God as its


565 “Dicitur enim efficiens inquantum intelligitur producere motum de non esse ad esse” (Buridan, *Metaphysics* 12.6, 48vb).
final cause. The natural mover, as a source of its own motion, is distinct from God, who made natural movers to do what they do for His own sake. But the efficient causality we see in nature must be tied back to a first mover that is both the first active mover and the first final cause.

In the objection that follows, “that God is only a final cause because all things desire a greater good,” Buridan wonders whether he can save the assertion that all things that act (or are moved) for the sake of an end also act for the sake of a greater good. Buridan here presents his argument that God can be recognized as first final cause insofar as God is the first efficient cause.⁵⁶⁶ Aside from pointing out that the objection is wrong when talking about God’s purposive activity, Buridan argues that even if it is accepted that natural agents act for the sake of a higher good, it is not evident from natural motion that they act for the sake of the highest good (i.e. God). So it is not evident that God is the final cause of nature from natural motion. One can conclude that natural agents are made by a perfect cause and are determined to act so as to assimilate themselves to the perfect mover only through analysis of the active causal power that brought the natures into existence.

First, to point out that not all activity that is for the sake of something is activity for the sake of something greater, Buridan wonders how God could move anything if activity for an end is for a greater good.⁵⁶⁷ There is nothing more perfect than God that God could make or act for the sake of. So, this cannot be true. God acts for the sake of God’s self. Nothing extra is referred

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⁵⁶⁶ I.e. God is recognized as the best because of God’s role as first efficient cause.
⁵⁶⁷ “Deus autem non potest appetere aliquid magis bonum seipso, nec movere propter aliquid magis bonum” (Buridan, *Metaphysics* 12.6, 48⁶⁶).
to when one says that God acts with final causality. The first final cause and the first efficient cause both mean “God”.

It is said that God is more noble when called the first and principal final cause than when called the first and most principal active or efficient cause. But is it possible to prove greater nobility through one predication than it is through the other? First of all Buridan finds that it is not possible to see God’s goodness and nobility through creation itself, even though we can know of a first omnipotent efficient cause of all things. If we look only at the nobility of nature, we will not be able to see nobility greater than a donkey or a rock, and so we certainly will not be able to predicate greater perfection of God than of those things we see. Clearly, circular or regular motion is not sufficient evidence for Buridan that nature is imitating a divine mover.

And even if it were possible to see that nature acts for the sake of what is more perfect, Buridan argues further that there are difficulties with trying to say that God is the first final cause without arguing that God is the first efficient cause. It is clear that human beings readily distinguish agency from end in their own activities, positing that the rational end (what a person wants) is more noble and better than what the person actually does (which is an attempt to match actions to intentions). One might then conclude that more nobility is being attributed to God insofar as God is called “the first and principal final cause,” as opposed to being called “the first

568 “Tamen possibile est quod pro unum illorum predictorum intentum et probatum de illa re possumus rem illam arguere multo nobiliorem et meliorem quae possemus per aliud predictatum” (Ibid.).
569 “Non possemus de deo conclude tanta nobilitatem et bonitatem per hoc quod ipse est ens, vel per hoc quod ipse est substantia vel actus sicut possemus per hoc quod ipse est causa prima et potentissima omnium rerum” (Ibid.).
570 “Immo per hoc quod ipse est ens vel substantia non possemus deo conclude maiorem nobilitatem quam de asino vel lapide” (Ibid.).
and principal active cause.” We see greater nobility in ends than in activities in ourselves, so perhaps this is how it should be with the conception of God.

But Buridan does not think that the arguments that purport to show that there is a first final cause actually prove God’s nobility. In fact, argumentation for a first final cause that is based on the perfection sought by earthly agents (i.e. argumentation from finality that does not come from efficiency) creates a divide between finality and efficiency, such that the first efficient cause and first final cause are not seen as the same mover.

He sees the argument going thus: The only way to recognize that anything desires a greater good is to recognize through an agent’s results that it acted in accord with a greater good that was desired and loved. So, through results, we conclude that all agents acted with the desire to bring about those results. And since all things apparently act for the best, there must be a best being in existence that is loved by all beings. Buridan’s problem here is that such a desired or most perfect being is not clearly recognized as an efficient cause through this argumentation. And if the most perfect being is not clearly an efficient cause, then the first agent may or may not be most perfect. (One cannot say the first mover is best unless one knows the first mover to be the first end.) One could be stuck arguing that the first final cause is more perfect than the first

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acting cause when neither has more nobility than the other since they are both God. God does not act for a better end than God’s self. \(^{572}\)

The line of argumentation that asserts that God is a final cause because all agents act for the sake of what is best are not worth pursuing because that line of argumentation cannot provide the conclusion that God is the first efficient cause, as well. One can posit only a being that is more perfect than every acting agent. But the First Agent should be identified as the most perfect being. \(^{573}\) So, one must argue for God’s perfection through God’s agency. Only through this line of argumentation can one identify the perfect mover both as what is best and as what is intended by the first mover. One knows the first end and the first agent are the same thing because the first agent is the highest good. (I.e., one can see that the First Mover is perfect. From there we can see that It moves everything for Its own sake.)

So, for Buridan, the first efficient mover of the *Physics* is the same mover as the first final mover of the *Metaphysics*, but one can be sure of this only by recognizing that the motion of the first efficient cause is perfect and so that first mover is best. If one relied only on the arguments from final causality, from observations that agents appear to act for what is best, one would conclude that there are two different movers, one of which (the first final cause) is more noble than the other. Buridan thinks the approach taken that leads to a two-first-cause conclusion is wrong.

\(^{572}\) “*Sed adhuc tu replicabis quia tale argumentum esset falsum. Sed quo argueremus maiorem nobilitatem ubi secundum veritatem non est maior nobilitas*” (Ibid.).

\(^{573}\) “*Et sic volumus dicere quod ex eo quod ipse est primus finis infertur predicatum magis experimentis arguitive summam bonitatem quae sequeretur ex eo, quod dicitur primum agens*” (Ibid.)
For our purposes, his arguments point to the priority of God’s efficient causality in explaining natural activities. One misses the proper cause of natural motion when one says only that all things act for the best through their necessary activities. One should not argue for the existence of a first mover through final causality. Such arguments do not lead to the actually perfect cause. (We are not really getting to God.) One should argue through agency.

God’s role as first final cause for Himself, for rational agents, and for nature, is evident, as well as how we can recognize it. God is the final cause of his own activities insofar as God preserves his perfect self. God is the end of all activities. He is the efficient cause of all insofar as God made creation to assimilate itself to God. Some of what God created (e.g. rational agents) can choose to assimilate themselves to God. (And the very existence of such agents, made by God, is for the sake of God.) Insofar as agents such as the heavenly movers intend to assimilate themselves to God, they perpetually do the limited activities that God made them to do. These activities, which move the heavenly spheres as well as natural agents on the earth, are done for the sake of God, since the agents bringing about the motion are in motion for the sake of God. So, whatever is moved by the heavens is moved for the sake of God, even if what is moved does not knowingly move for the sake of God, but from necessity (i.e., that is necessitated by the perpetual motion of the heavenly spheres). So, what receives its motion from the heavenly spheres is in motion for the sake of God, even though it has no intention itself of God. These natural regularities can only be traced back to their ultimate source by working back through the chain of efficient causes that led to the motion. Once we recognize this first efficient cause, we can recognize the final causality ultimately causing natural activities.
4.5 Buridan: Conclusion

With Buridan we have the return of the recognizability of activity for ends in nature and in natural results. The recognizability of activity for ends in nature ultimately comes from Buridan’s reduction of natural final causality to efficient causality and his affirmation that one can recognize efficient causes in nature. He allows the affirmation that a natural agent of itself acts for the sake of something to the extent that it acts for the sake of itself.

Buridan’s explanation of final causality in nature does not include an appeal to “final causality” as its own special type of goal-determining causality. Final causes are ends (or objects of desire) that are efficient causes. So, to say that a natural agent acts for its own sake is to say nothing more than, “a natural agent is determined to act of itself”. Pointing to a natural end, for Buridan, points to a source of motion on the level of a complex natural whole. It also specifies that what a natural agent does is done for the sake of the natural agent itself. This is the way in which the natural agent is an end. While Buridan’s affirmation of final causality in nature comes with the reduction of final causality to efficient causality, it serves as a full-throated rejection of the reduction of natural activities to activities of the material parts of a natural whole. There is an efficient cause on the level of the natural whole that is determined to its own proper effect.

This recognition, however, does not, of itself, give further evidence for asserting that the regularity of natural results provides insight into just what natural agents are determined to do of their own powers. The recognition of regularity in nature does not show whether or not what happens with regularity is what natural agents are acting for the sake of. Almost all that happens in nature, whether regular or not, results from the interaction of multiple causes that were almost
surely not, of themselves, determined to their given results. But even in the face of such an objection to the recognizability of order in the world, Buridan argues that the regular results of natural activities are for the sake of an end insofar as such results can be recognized as the effects of the first efficient and final cause of nature (i.e. God). Again, insofar as a natural agent contributes to a result that is brought about by other natural causes as well, the result can be recognized as being for the sake of something insofar as it is for the sake of God. In this way, all results of natural agents are for the sake of God. But this simply points to the fact that all things were made by God, who causes for the sake of Himself. Buridan’s assertion of the recognizability of final causality behind all natural results depends on prior certainty of God’s causality.

With regard to God’s causality, Buridan clearly gives priority to God’s efficiency. God’s efficient causal power needs to be acknowledged first by one who wants to grasp the fact that God is an efficient and final mover. It needs to be acknowledged first also by one who wants to see that God is the final cause of the world and all that happens in it. While rational agents can act for the sake of God by intending to imitate God, natural agents (which are not seen to act for the sake of God from their own activities) can only be understood as moving for the sake of God through two lines of argumentation. One points out that natural agents are moved by rational agents intending to imitate God. The other requires an appeal to God’s efficient causality of the natural causes themselves. In their very existence and ordering all natural agents are for the sake of God. As it was for Scotus and Ockham, the determination or direction of natural agents does not tell us about God’s direction. One needs to recognize God’s efficient causality to complete the picture of natural order.
It appears to me that Buridan’s argumentation on God’s final causality of nature differs from Ockham in two significant ways. Firstly, Buridan acknowledges that the final causality of God (vis-a-vis natural agents) can be philosophically known through the efficiency of God. Ockham thought that God intended and brought about natural motion, but he thought this was known only through faith. This leaves room for Buridan to say, secondly, that all determined natural activities have God as their end, even though it cannot be recognized directly through observation of natural regularities. The activities of natural agents imitate God insofar as they are caused by God. Ockham, by not allowing the first point, could not allow the second.

Surety of God’s role as originator of nature also provides a way to be sure that philosophical inquiry will provide no firm grasp on the purposes of the regularities of nature and the way natural activities fit into God’s plan. (After all, this is exactly what one would need to know in order to grasp just how natural activities are for the sake of God.) One can be much surer of what actually happens in nature. One can recognize activities. This gives the natural philosopher a ‘what’ but it does not provide the ‘why’ that Aristotle thought could be given. Buridan argues that the explanation we look for in nature is not available to us naturally, even though we can be certain that such an explanation underlies everything that happens.

4.6 General Conclusion

Examination of key thinkers at the University of Paris from 1250 – 1360 reveals the appropriation and subsequent critique of Aristotelian arguments underpinning natural final
causality. The critique arises after thinkers began viewing the arguments through the lens of John Duns Scotus’ distinction between will and nature.

Aristotle recognizes through regularity in nature that natural agents act of themselves for their own sakes and in imitation of the perfect (divine) first mover, rejecting material reductionism. While Parisian thinkers received Aristotle’s supporting arguments in his *Physics* and *Metaphysics*, they were appropriated under the influence of Aristotle’s earlier Muslim readers and commentators, Avicenna and Averroes. The Muslim thinkers provided Thomas Aquinas with the tools to adapt Aristotle’s doctrine to allow for a creator God, without impugning the natural recognizability of natural final causality or changing its unique causal activity. For example, (1) the identification of the first efficient cause with the first final cause, (2) the recognition that efficient causality is a source of being, not just locomotion, and (3) the change in the notion of perfect motion from ‘cyclicality’ to ‘completion in accord with Divine Desire,’ are evidenced in the Muslim interpretations of Aristotle, but not found in Aristotle. These considerations are more closely aligned with medieval philosophical thought than Aristotle’s original positions. However, Averroes explanation of divine final causality through efficiency, which was not appropriated by Aquinas, provides a model for using efficient causality to account for finality, which becomes a helpful tool for the Parisian thinkers critiquing Aristotle.

While John Duns Scotus essentially maintains the Aristotelio-Thomistic doctrine on the recognizability and causality of the natural final cause, he plants the seed for Ockham’s and Buridan’s reduction of finality to efficiency through the distinction he draws between nature, a determined cause, and will, a free rational cause.
Aristotelian argumentation supporting the recognizability of final causality in nature stems from the causal similarities between natural and rational agency. However, the Scotistic distinction between nature and will denies that a nature and a will are similar causal principles. This leads thinkers following Scotus to argue that one cannot depend on the Aristotelian arguments to make the case that final causes can be recognized in nature. Commentaries on Aristotle’s *Physics* on this point become opportunities to emphasize the difference between rational and natural activities. For William of Ockham, final causality is proper to rational (free) causes and, for this reason, cannot be found in natural causes. While natural agents have a determined, internal, efficient principle of direction, final causes are proper to rational agents. For him, a final cause can be a non-existing (or non-held) result that a rational agent freely choses to pursue. Only rational agents can be moved by final causes because only rational agents can know and desire distant ends.

Ockham’s position that a final cause is proper to rational agents makes philosophical recognition of proper natural final causality impossible. His discussion of the causality of the final cause in rational agency makes it clear that attribution of final causality to natural agents involves a category mistake of confusing the rational and the natural. Since he allows final causes to be non-existing causes, Ockham eliminates the need to explain the odd way that a final cause exists for the likes of Aquinas and Scotus.

Aquinas and Scotus hold that a final cause cannot be ‘nothing’ or it would not be a cause. Yet it cannot be too ‘real’ because then it would already be achieved. But, for Ockham, a final

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cause does not need to be an existing cause. He argues, though, that if the final cause is a real cause, it must be determined to its effect, which would mean that the final cause would determine the will to choose it, which would eliminate free will, essentially making rational causes into natural causes. Insofar as final causality explains the causality of free agents, it must be a non-determining, and thus, non-existing, cause. He appeals to the experience of free action for support. People often desire what does not exist. For Ockham, the final cause can determine the will without compelling the will to act.

Ockham’s doctrine of final causality is susceptible to attacks by those, like John Buridan, who hold that what does not exist cannot be a cause. However, despite his arguments on this issue, Buridan maintains the primary association of final causality with rational activity. In addition, Buridan maintains Ockham’s affirmation that natural direction should not be explained through natural final causes, but through the determinations of natural efficient causes.

Buridan recognizes direction in nature through active natural principles of motion. While this makes the simple affirmation of direction in each natural agent fairly straightforward, he has significant reservations about claiming to recognize just what any given natural results are for the sake of, outside of affirming that each natural agent does what it does for its own sake and for God’s. Since results in nature are typically brought about by the complex interactions of multiple natural agents acting for their own individual sakes, it is difficult to discern whether a given natural agent is attaining what it is determined to attain. However, the ends of rational agents can more easily be separated from the complexes of causal activity surrounding the results of rational agency, making the recognition of rational final causes possible. Indeed, to recognize the ends of
natural results, Buridan needs access to the motivations of the first cause of all nature, God, which he does not have.

While, for Ockham, the absence of rationality in natural agents keeps them from acting of themselves in accord with final causes, Buridan sees the absence of rationality as keeping philosophy from providing anything other than the most general answers to questions of just what natural results are for the sake of.

Essentially, between 1250 and 1360 in Paris, natural final causes cease to be recognized as unique metaphysical principles of causality. They are reduced to the natural efficient causes that exhibit activities for the sake of ends. The critique is subtle, however, because even though natural final causality is all but eliminated as a metaphysically unique cause of natural activity, natural direction is never in doubt. Natural teleology remains, even though final causality is eliminated. The reduction of final causality to efficient causality does not entail a loss of natural direction as the Parisian thinkers reject materialistic explanations of complex natural wholes.

Even for parsimonious thinkers such as Ockham and Buridan, who squeeze proper final causality out of their causal explanations of the activities of nature, a good philosophical explanation of a natural mover must include direction at the level of the complex whole, even if natural principles have no metaphysically distinct “final cause” among their own principles of motion. It becomes difficult to impossible for philosophy to provide teleological explanations of results brought about by the intersection of multiple natural causes because of this reduction. However, the explanations of complex natural wholes are not made without an appeal to natural direction.
So, while Aquinas would hold that the oak tree exists virtually in the acorn as a natural final cause, Buridan would emphasize that the oak is not somehow in the acorn as a unique principle of activity. An oak-to-be does not exist and so in no way moves the acorn. Any directedness within an acorn to grow into an oak does not come from its possession and desire for a non-existing future state. Only rational agents can be moved in such a way. Any determination within an acorn is simply an element of its efficient causal nature, which is called a final cause insofar as it is acts for the sake of the acorn.

Nonetheless, Buridan’s disassociation of the regularity of results and purposiveness provides a way to discuss the limitations of the recognizability of purposive activity in nature without appealing to a reduction to matter. Buridan’s arguments point out, at least, that the disassociation of observed regularity from finality does not require the discussion of direction in nature to be abandoned. Even if one does not think it is possible to recognize just what a given natural thing is acting for the sake of, one can be sure it is acting for the sake of something. Buridan’s position affirms direction in nature without making assertions about the specific ends of particular agents.

The criticism of natural final causality between 1250 and 1360 is presented here as developing in a medieval context and representing a culmination of the increasingly thorough application of the Scotistic distinction between will and nature to the question of natural final causality. While similarities are evident between Buridan’s position and related points addressed by early modern thinkers, consideration of the modern appropriation of medieval argumentation on this issue is beyond the current project.
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