Thomas Aquinas on Natural Inclination: Nature, Human Nature, and Ethics

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[Note this is a draft of work in progress; it is not for publication or for quotation. I would welcome any comments or criticisms: sbaldner@stfx.ca.]

Let me begin by thanking sincerely Dr. John McCarthy and the School of Philosophy at CUA for extending the invitation to me to deliver this paper. I have the highest regard for the School's work in philosophy, and I have treasured friendships with a number of you that extend back many years. On both counts I want to try to justify the confidence you have placed in me, though if I fail to do so, please know that such failure is not from want of effort.

Natural inclination might be understood as an individual inclination for something. Given my individual make-up, which is a product at least in part of nature, I might have an inclination to like or to dislike certain foods, or I might have an inclination to certain emotions more readily than others. This is *not* the sense of natural inclination that I intend to discuss today. This sense of individual inclination would be most relevant, for example, to the problem of the *primo primi* movements of the sense appetite, and to many problems of sin and morality, but that is not the sense that I am going to discuss here.

Natural inclination, as I am taking it, is an inclination for an end that is good, and this end is recognized to be good for all members of a species or for the world as a whole. It is an inclination that is rooted in nature, and it is a nature that is shared by all individuals of the kind. This inclination is a tendency toward a good, and insofar as the good is not yet possessed it makes sense to talk about an "appetite" or a "desire" for the good. The Latin verbal form of appetite (*appetere*) means "to seek," and the natural inclination can be understood as a seeking

for the good end. Let me signal that "natural inclination," "natural appetite," and "natural desire" may be used somewhat interchangeably. Of course, when we are talking about natural substances without cognition, we do not mean that there is any conscious intending of the end – at least, not as far as the non-cognitive substance is concerned.

When I was asked for the title of this paper, I had rather vaguer and grander ideas in mind than I have seen fit to accomplish. I am going to talk mostly in this paper about nature, but I hope also to indicate the relevance of what I am saying to human nature and to ethics.

The first point that I wish to make about Thomas Aquinas' doctrine of natural inclination is that natural inclination, according to Thomas, pervades *all* of nature. Natural inclination is present in matter itself, insofar as it has a natural desire for form; it is present in the basic elements, each of which has a natural inclination to its own place; it is present in the heavenly bodies, which, although they are moved, have a natural inclination to circular motion; it is present in all living organisms, each of which has a natural inclination to achieve its own fulfillment or perfection; it is present in the angels, who, like human beings, have a natural inclination to happiness and union with God.[1] And natural inclination is present in a number of ways in human beings: we have, of course, a natural inclination to our ultimate end, which is happiness; each kind of human emotion has a natural inclination to an end, and hence there is a specific virtue to perfect the realization of that emotion; the natural law, of course, is derived from an analysis of natural inclinations; and even the incorruptible human soul when it is separated from the human body retains its natural inclination to be united with its body. The first point that I wish to underline is the *ubiquity* of the doctrine of natural inclination in the

[1] See, for example, Thomas' explanation of how angels, insofar as they are natural beings and like all other natural beings, have a natural inclination to their end, which is their own good. *ST* I, q. 60, aa. 1-2.

philosophy of Thomas Aquinas. It is as all-pervasive in Thomas' account of nature as is the doctrine of hylomorphism, with which it is closely related.

In what follows I am going to discuss natural inclination first in matter itself, then in form, and third in natural composites of matter and form. I shall thereafter extend my remarks somewhat to include natural inclination in animals, men, and angels.

I. The Natural Inclination of Matter

Thomas, as I say, thinks that natural inclination is fundamental even to matter itself. Hence, in the first part of the paper, I wish to consider the natural inclination of matter. In his *Commentary* on Book I of Aristotle's *Physics*, Thomas claims that matter – prime matter – has an appetite for form or desires form. By nature, Thomas tells us, matter seeks and desires (*appetere et desidere*) form.[2] It does not, however, desire only one form; it fact, it is restless, and no one form can satisfy its desire for form, except in the case of the matter in the heavenly bodies.[3] Prime matter is one in subject, but multiple in relation to other possible forms.[4] Aristotle had said that the desire of matter to form is like the desire of the female for the male.[5] If so, it has to be said that the matter in our world is not very faithful.

Explaining this natural inclination or desire of matter for form presents, however, a number of difficulties. For Thomas himself, there were two difficulties that he wished to avoid, one associated with Parmenides and the other with his own teacher, Albertus Magnus. The Parmenidean position is that matter is the equivalent of non-being. To be, according to Parmenides, has only one opposite member, and that is non-being *simpliciter*. Further, since to

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[2] *In Phys*. I, lect. 15, n. 136 (8).
[3] Vincent Edward Smith, *The General Science of Nature* (Milwaukee: Bruce, 1958) p. 117, has made the point that matter is restless, ever seeking to acquire new forms.
[4] *In Phys*. I, lect. 15, n. 131 (3).
[5] *Physics* 1.9 (192a23-25).

be is to be actual (that is, to be *form*), to talk about matter is to talk about what is not actual and, hence, is non-being.

This absurd Parmenidean conclusion is reached, Thomas tells us, because of the failure to distinguish matter from privation. Change is only possible because of a genuine lack or privation. If we do not affirm this, the change is not real but only apparent. Real change can happen only when in some real sense the change is from non-being to being. Hence, privation is an essential principle of all change or motion. The mistake of Parmenides, however, is to think that privation, non-being, is the principle *simpliciter* of change. The claim that motion or change is real is a claim that being in some way comes from non-being, and this of course is impossible, as Parmenides tells us. As Thomas explains, however, matter is not to be identified with privation. Rather, matter is something that *has* privation, but the two are quite distinct. However much change requires privation, the real potency for form is in matter. "The potency for form is not some property added beyond the essence of matter; rather, matter by its very substance is a potency for substantial being. The potency of matter is one in subject with respect to the many forms, but there are multiple potencies in meaning in relation to the many forms."[6]

Matter, Thomas tells us, has a natural appetite for form. But it cannot have such an appetite insofar as it already possesses some form. An appetite always implies some lack: "every appetite exists on account of a lack, because it is directed to what is not possessed." [7] Given an existing, actual form, there is no appetite or seeking. Nor can appetite exist because of privation as such. Since the privation is the contrary of the existing form, to suppose that the appetite is in the privation would amount to saying that something seeks its own destruction, which is absurd.[8]

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[6] *In Phys.* I, Lect. 15, n. 131 (3).
[7] "appetitus autem omnis est propter indigentiam, quia est non habiti." *In Phys*. I, Lect. 15, n. 136 (8).
[8] "similiter et [materia] non appetit eam [formam] secundum quod est sub contrario vel privatione, quia unum contrarium est alterius corruptivum, et sic aliquid appeteret sui corruptionem." *Ibid*.

Since there are only three principles of nature (form, matter, and privation), and since the appetite for form cannot be in matter because of form or because of privation, it remains that matter itself, prime matter, has an appetite, or a natural inclination, for form.

Avicenna, however, raises some very common-sense objections.[9] Matter cannot be said to have a natural appetite or inclination because, on the one hand, it is not an animal and hence does not have appetite in the sense in which animals do; nor is matter like earth, which is heavy and has a natural inclination downward, because matter lacks all form. Furthermore, matter in actual things does not really *lack* a form – it already has one – and it is absurd to talk about its appetite for many or all forms, as though matter were bored of its present form and seeking some new formal thrill. Such talk seems to be metaphorical rather than philosophical.

Thomas' responds to this objection as follows.

> "Whatever seeks something else (*appetit aliquid*) does so either because it knows what it is seeking and orders itself to it accordingly, or it tends toward it by the ordering and direction of something that does have knowledge, as the arrow is directed to the target by the directing and ordering of the archer. A natural appetite, therefore, is nothing other than the ordering of things according to their own nature to their end. Hence, not only can actual beings be ordered to their ends by their active powers, but also matter as a potential being [can be so ordered], because form is the end of matter. Therefore, for matter to have an appetite for form is nothing other than to be ordered to form as potency is ordered to act."[10]

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[9] *In Phys*. I, lect. 15, n. 137 (9).

[10] "Sciendum est enim quod omne quod appetit aliquid, vel cognoscit ipsum et se ordinat in illud; vel tendit in ipsum ex ordinatione et directione alicuius cognoscentis, sicut sagitta tendit in determinatum signum ex directione et ordinatione sagittantis. Nihil est igitur aliud appetitus naturalis quam ordinatio aliquorum secundum propriam naturam in suum finem. Non solum autem aliquid ens in actu per virtutem activam ordinatur in suum finem, sed etiam materia secundum quod est in potentia; nam forma est finis materiae. Nihil igitur est aliud materiam appetere formam, quam eam ordinari ad formam ut potentia ad actum." *In Phys.* I, lect. 15, n. 138 (10).

Significantly, Thomas uses the image here that he uses to talk about final causality in the Fifth Way. There he talks about things that lack intelligence and yet are still ordered to an end. Thomas here is telling us that the finality that is intended in such a proof for the existence of God is not only found in living organisms or in cognitive animals but it is found everywhere in nature, insofar as natural things are all composites of matter and form. The omni-potency for form, and hence inclination for it, belongs to prime matter itself, and prime matter must be distinguished from the privation that is necessary to change but not the subject of it, as Parmenides had seemed to have thought.

If Parmenides' mistake was that of failing to distinguish privation from matter, there is an opposing mistake in explaining the appetite of matter for form, and this is the mistake of supposing that there is some sort of inchoate or incipient form in matter that has an appetite for form. This mistake is that of attributing a kind of form as something imperfect but still active to matter; according to some, this is in fact the role of privation. Thomas criticizes this mistake in the following words.

> "It is clearly the intention of Aristotle that privation, which is taken to be a principle of nature *per accidens*, is not some aptitude for form, or an inchoate form, or some active imperfect principle, as some say. Rather, privation is the lacking of form or the contrary of form that belongs to a subject."[11]

This position of which Thomas is critical, the position, that privation is an aptitude for form or an inchoate form, is in fact the position held by Thomas' teacher, Albert the Great.[12] When Albert explains the three principles of nature, of course, he argues that matter, form, and privation are

[11] "Patet ergo secundum intentionem Aristotelis quod privatio, quae ponitur principium naturae per accidens, non est aliqua aptitudo ad formam, vel inchoatio formae, vel aliquod principium imperfectum activum, ut quidam dicunt, sed ipsa carentia formae vel contrarium formae, quod subiecto accidit." *In Phys*. I, lect 13, n. 113 (4).
[12] See Steven Baldner, "Albert on Matter, Motion, and the Heavens," *The Thomist* 78 (2014) 327-350.

all necessary to explain motion and change.[13] Albert, however, insists that matter cannot be entirely devoid of form; in order to explain motion there must be in matter already something of form.[14] This is so because Albert understands motion to be what he calls a "flowing of form" – a *fluxus formae* or *forma fluens*. When something is changing the terminus of the change must in some way be present already in the matter that is undergoing the change. Albert's example is a change of color.[15] If something black becomes white, the process of whitening (*albatio*) can only occur if whiteness itself exists as a proto form in the thing that is becoming white. Thus, at first there is a minimal whiteness and mostly blackness, but by degrees the whiteness increases and the blackness decreases. At the end, white is dominant and black is minimal, but still present, because the thing could, of course, become black again. Albert, thus, attributes to privation formal, active entities, none of which are numerically one or independent, but all of which are real as proto forms and capable of having relations with each other.[16] If the mistake of Parmenides and the early naturalists was to have denied the role of privation, Albert's mistake is to have given an active, formal role to privation that is too much. Thomas insists that matter has an appetite for form, but he rejects any notion that there is any sort of formal, active principle in

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[13] "Sciendum enim, quod sicut in antehabitis diximus, privatio secundum quod privatio nihil ponit et tamen non est reducibilis in omnino nihil, eo quod relinquit aptitudinem in subiecto, gratia cuius efficitur principium motus." Albert, *Physica*, bk. 1, tr. 3, c. 9 (Cologne ed., 4.1;54, ll. 39-45).

[14] "Sententia autem Aristotelis et Peripateticorum est, quod omne quod fit, est in eo ex quo fit, in potentia, quae non nihil est formae, quia potentia est habitualis, quae est essentia formae impefecta et quasi formae inchoatio, et fit, quando producitur ad actum per generationem." Albert, *Physica*, bk. 1, tr. 2, c. 12 (Cologne ed., 4.1:34, ll. 14-19).

[15] "Sumamus autem hic, quod in Tertio Libro huius scientiae probabimus, scilicet quod motus physicus non sit nisi aliqua forma fluens secundum suum esse et non secundum suam essentiam, sicut patet in eo qui albatur. Albatio enim non est nisi albedo fluens secundum esse, quod habit in materia, et exiens continue de esse in esse. Constat autem, quod sic fluens non flueret, nisi a permixtione nigredinis exiret; ergo fluit a contrario sibi permixto." Albert, *Physica*, bk. 1, tr. 3, c. 3 (Cologne ed., 4.1:42, ll. 72-80).

[16] "Si autem privatio sumatur pro aptitudine, quam relinquit in subiecto, sic iterum est principium unum numero cum materia, diversum in esse." Albert, *Physica* bk. 1, tr. 3, c. 10 (Cologne ed., 4.1:56, ll. 58-61). Albert explains the same doctrine of motion as flowing form in book 2 of the *Physics*. He says that form has being (*habet esse*) in three ways: one, as privation, which is an imperfect, indeterminate state of the form; two, as something in motion, which is a mixture of the forms of privation and of actuality; and three, as the terminus of motion, which is the perfect being of the form. In all cases, the form is essentially the same, although different in being. Albert, *Physica* bk. 2, tr. 2, c. 2 (Cologne ed., 4.1:99, ll. 8-22).

matter. Privation is necessary for change, but necessary as a lack. If matter and form are opposed as potency and act, it is impossible that matter be accorded form. Furthermore, Albert's description of motion as a "flowing of form" (*fluxus formae, forma fluens*) implies a confusion between motion and operation. For Thomas, when something moves from A to B, the motion between the two termini is not an imperfect form of, or half of, the intended terminus.[17] If I'm driving from New York to Los Angeles, when I'm half-way to Los Angeles, I do not have half of L.A.; what I do have is Kansas. In describing motion thus, Albert, from Thomas' point of view, is confusing operation and motion.[18] When an operation occurs, like speaking or thinking, even if the operation is somewhat imperfect in the beginning and more perfect at the end, nevertheless, it is true that the operation achieves its goal to some degree throughout the entire

[17] Thomas does describe motion as an "imperfect act," *actus impefectus*. By this he means that motion is something in between potency and actuality. He does not mean, as Albert had, that the moving thing has an imperfect possession of the terminus of the motion. If something is to be heated to 100 degrees but the process of heating is stopped at 50 degrees, then 50 degrees, and not 100, is the terminus of motion. On the other hand, if it is still in process of being heated toward 100 degrees, then it has an ordination to that end but it does not yet possess it. "Considerandum est igitur quod aliquid est in actu tantum, aliquid vero in potentia tantum, aliquid vero medio modo se habens inter potentiam et actum. Quod igitur est in potentia tantum, nondum movetur: quod autem iam est in actu perfecto, non movetur, sed iam motum est: illud igitur movetur, quod medio modo se habet inter puram potentiam et actum, quod quidem partim est in potentia et partim in actu; ut patet in alteratione. Cum enim aqua est solum in potentia calida, nondum movetur: cum vero est iam calefacta, terminatus est motus calefactionis: cum vero iam participat aliquid de calore sed imperfecte, tunc movetur ad calorem; nam quod calefit, paulatim participat calorem magis ac magis. Ipse igitur actus imperfectus caloris in calefactibili existens, est motus: non quidem secundum id quod actu tantum est, sed secundum quod iam in actu existens habet ordinem in ulteriorem actum; quia si tolleretur ordo ad ulteriorem actum, ipse actus quantumcumque imperfectus, esset terminus motus et non motus, sicut accidit cum aliquid semiplene calefit. Ordo autem ad ulteriorem actum competit existenti in potentia ad ipsum. Et similiter, si actus imperfectus consideretur tantum ut in ordine ad ulteriorem actum, secundum quod habet rationem potentiae, non habet rationem motus, sed principii motus: potest enim incipere calefactio sicut a frigido, ita et a tepido. Sic igitur actus imperfectus habet rationem motus, et secundum quod comparatur ad ulteriorem actum ut potentia, et secundum quod comparatur ad aliquid imperfectius ut actus." Thomas, *In Physic*., III, lect. 2, n. 3. In *In Physic*.,, IV, lect. 5, n. 803(17), Thomas states Albert's position with Albert's example, though in reverse (the process of blackening rather than of whitening). Some people say the following. "Dicunt enim quod hoc quod dicitur, quod id quod mutatur partim est in termino a quo et partim in termino ad quem, non sic est intelligendum, quod una pars eius quod movetur sit in uno termino et alia in alio, sed est referendum ad partes terminorum: quia scilicet id quod movetur partem habet de termino a quo et partem de termino ad quem; sicut illud quod movetur de albedine in nigredinem, primo non habet perfecte albedinem nec perfecte nigredinem, sed aliquid participat imperfecte de utroque. Thomas says of this postion: "Haec autem expositio extorta est, and contra opinionem Aristotelis." *Ibid.*, n. 804(18). I am thankful to Dr. Jonathan Buttacci of CUA for his comments on this matter.

[18] For the distinction, see Thomas, III *Sent*., d. 31, q. 2, a. 1, qcla. 2.

operation. Motion, on the other hand, only achieves its goal at the end, when in fact the motion is completed. Albert's ascription of proto form to privation involves, Thomas would say, a mistaken description of motion.

A third problem that arises in understanding the appetite of matter for form has to do with the cosmology of Thomas' day and the understanding of the heavenly bodies. As is well known, Thomas understood the material universe above the Earth's atmosphere (the Moon, the planets, the Sun, and the stars) to be very different from the sub-lunar world in that the heavenly bodies are completely ungenerable and incorruptible. They move locally (in circular motion), but they do so in completely regular, though very complex, patterns. The problem Thomas had was that of explaining how it is that, if prime matter is an appetite for form, the matter of the heavenly bodies has an appetite for only one form. The typical explanation of Thomas' position is that, to solve this problem, Thomas supposed that there are two sorts of prime matter, the sort of prime matter we have been talking about so far that is in all earthly substances, and a different sort of prime matter that makes up the ethereal substances in the heavens. The difference between these two sorts of prime matter focusses, again, on privation. Earthly prime matter is always accompanied by privation, but there simply is no privation in the heavenly prime matter; it is united to one form with a single-minded, unwavering fidelity. It never even looks at another form.

In my interpretation, Thomas did in fact hold this position, but he did not always hold it and, at the end of his career, he rejected it. In fact, I think that Thomas changed his mind about this twice. Early, when he wrote his *Commentary* on the *Sentences* and also his *Commentary* on the *De Trinitate* of Boethius, Thomas accepted the very odd position of Averroes.[19] According to

[19] For a discussion of Thomas' change of positions on this problem, see Steven Baldner, "Aquinas on Celestial Matter," *The Thomist* 68(2004) 431-467. Averroes' position can be found in *Sermo de substantia orbis* in *Aristotelis*

the Averroistic view, the heavenly bodies are not hylomorphic compositions at all. Each heavenly body is simply a luminous lump of ether that is moved by an associated but separate mover (or Intelligence). Averroes had argued that the composition of form and matter is given to explain generation and corruption; since generation and corruption are absent from the heavens, there is no reason to suppose any hylomorphic composition in those bodies, and hence there is no prime matter in them.

Later, when Thomas wrote the First Part of the *Summa theologiae*, he rejected this Averroist position as an absurdity.[20] If something is a material substance it must be a composite of prime matter and substantial form. If a substance is not composed, it could only exist as a form, like an angel, but clearly the heavenly bodies are perceptible and hence composed. At this point Thomas expressed what most take to be Thomas' position: that the prime matter of the heavens is simply by nature matter with an appetite for one form only.

His very latest accounts of this, however, in the *Commentary* on the *De caelo* and the *De substantiis separatis*, show a shift in position.[21] In these works, Thomas again affirms that the heavenly bodies are indeed composites of prime matter and substantial form, but here he explains that the incorruptibility of these bodies is explained by their substantial forms. These bodies are composed of prime matter, and their prime matter Thomas tells us, is just in itself pure potentiality, but the substantial forms of these bodies are very different from those of earthly substances. The heavenly substantial forms are "total," unlike the earthly forms that are "partial."

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opera cum Averrois commentariis, Vol. 9 (Venice: Apud Junctas, 1562), fol. 3-14. See especially chapters 1-2, fol. 3-6. For Thomas' early Averroistic position, see II *Sent.* D. 12, Q. 1, A. 1, Resp. & Ad 5; *In Boeth. De Trinitate*, lect. 2, q. 1, q 4, qd 4.

[20] *ST* I, q. 66, a. 2.

[21] *In de caelo*, I, lect. 6, nn. 59-63.

These total substantial forms are total because they totally fulfill the potentiality of prime matter, leaving no potency behind for some other form.

The case of the heavenly bodies is interesting as a sort of limit case, or thought experiment, to help us understanding hylomorphism. Averroes is right that hylomorphism is proposed to us as a solution to the problem of change; we wouldn't need the doctrine if nothing moved. But can the doctrine adequately explain the case of something that *only* moves locally and never corrupts or changes quantitatively or qualitatively? Arguably, hylomorphism does not in the end do so well in such an odd case, but the important point for us is that the principle of matter's natural inclination to or appetite for form is unwaveringly maintained by Thomas in all of his attempts to explain the incorruptibility of the heavenly bodies. It is, in fact, this natural appetite of matter for form that makes the incorruptibility of the heavenly bodies so hard to explain.

We have looked at the natural appetite of matter for form in the light of three difficulties. First, contra Parmenides, the natural appetite for form only makes sense with the concomitant recognition of privation; without privation, such an appetite is self-contradictory or self-destructive. Second, although privation is needed to account for this natural appetite, it is a mistake to accord any active or formal power to privation, as Albert had done. Privation is essential to change, but it is a pure lack and there are no proto or inchoate forms in matter. Third, the natural appetite of matter is *always* in prime matter and, if my interpretation is correct, Thomas finally recognized that the natural appetite is in all prime matter, even in that of the heavenly bodies. In fact, there are not two kinds of prime matter. Rather, the total forms of the heavenly bodies so satisfy the omni-potentiality of prime matter that there is no resultant privation in them, but this does not negate that potentiality. On the contrary, this doctrine affirms

that potentiality in strong terms. In all three problems, the natural inclination of matter is strongly affirmed: prime matter is naturally inclined to substantial form as to its most perfect fulfilment.

II. The Natural Inclination of Form

If matter is inherently restless, form provides a principle of stability. Like matter, it is part of what is needed to explain change and motion; it is, however, the part that allows us to grasp the intelligibility of the natural world. Thomas follows Aristotle in defining nature as the "principle of motion and rest in that in which it is found primarily and *per se* and not accidentally."[22] There are two things that are important here. First, nature is a *principle* of motion and of rest, not a *cause*. As my mentor, Fr. Weisheipl, labored so hard to show, the Aristotelian understanding of nature that Thomas adopted is one according to which natural things are different from artificial things in being *spontaneously* active.[23] They are not, just *qua* natural things, self-movers, although *some* natural things are self-movers. Any natural thing has an inherent tendency – a natural inclination – according to which it moves until it reaches its natural place, and then it comes to rest.

The second thing to notice is that nature is both matter and form, but it is more the form than the matter. From the substantial form of any natural thing, a natural inclination flows. It is important, again, to insist on the fact that the form is not a mover – it is not an efficient cause. From the formal cause of the natural substance, a set of properties and tendencies flow naturally. The substantial form is not the efficient cause of these tendencies, though it is their source. Consider what Thomas says in his *Commentary* on the *De anima*.

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[22] "principium motus et quietis in eo in quo est primo et per se et non secundum accidens." *In Phys*. II, lect. 1, n. 145 (5).

[23] James Weisheipl, "The Concept of Nature," in *Nature and Motion in the Middle Ages* (ed. William Carroll), pp. 18-22; and "the Specter of *Motor Coniunctus* in Medieval Physics," in *Nature and Motion*, pp. 99-120.

> "Because everything [*omne esse*] exists through some form, it is necessary that sensible being exists through a sensible form, and intelligible being exists through an intelligible form. From each form, furthermore, some inclination follows, and from each inclination an operation. For example, from the natural form of fire, the inclination to an upward place follows, and from this fire is called light. And, from this inclination an operation follows, namely, the motion in an upward direction. Therefore, from both sensible form and intelligible form an inclination follows, and this inclination is called either a sensitive or an intellectual appetite. In the same way, the inclination that follows the natural form is called a natural appetite. From appetite, thus, operation follows, and this is local motion."[24]

This is the standard pattern that Thomas sees throughout nature. Substantial form gives rise to a tendency that can be called inclination or appetite, or sometimes a desire or an impetus; this inclination is an inclination to some end that is good for the substance. From this inclination arises an operation or motion toward this end.

The Thomistic-Aristotelian position on nature, and especially on the natural inclination that arises from form, has been often misunderstood. There are many examples of this misunderstanding, but Descartes can be taken as representative. In the *Sixth Replies*, Descartes explains that as a youth he attempted to understand the Scholastic idea of form.[25] When presented with the notion of heaviness (*gravitas*), he thought that there must be some identifiable

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[24] "Sed quia omne esse est secndum aliquam formam, oportet, quod esse sensibile sit secundum formam sensibilem, et esse intelligibile secundum formam intelligibilem. Ex unaquaque autem forma sequitur aliqua inclinatio, et ex inclinatione operatio; sicut ex forma naturali ignis, sequitur inclinatio ad locum qui est sursum, secundum quam ignis dicitur levis; et ex hac inclinatione sequitur operatio, scilicet motus qui est sursus. Ad formam igitur tam sensibilem quam intellegibilem sequitur inclinatio quaedam quae dicitur appetituts sensibilis vel intellectualis, sicut inclinatio consequens formam naturalem, dicitur appetitus naturalis. Ex appetitu autem sequitur operatio, quae est motus localis." Thomas, *In De anima* II, lect. 5, n. 286.

[25] Descartes, *Sixth Replies* (AT 7:441-442). See also Daniel Garber, *Descartes' Metaphysical Physics* (Chicago: University of Chicago Press, 1992) 95-103.

thing that would efficiently make the body fall down. Heaviness, he thought, was a kind of substance itself that could be affixed to a body, just as clothing can be worn on a body. He was at that time uncertain as to whether this "clothing" was identifiable at some one part only or was in some way diffused throughout the entire body. Similarly, he thought of the human soul as an efficient cause that moved the body. Because of consciousness, Descartes was able to offer an account in the case of the human soul, but in the case of non-human substantial or accidental forms, he was at a loss to find any empirical evidence for the efficient causes that the forms were supposed to be. Finding none, of course, Descartes, and other modern philosophers, cheerfully gave up all Scholastic forms and left matter completely inert and inherently motionless. The role that they thought had been played by forms now had to be supplied directly by God, and many instances of occasionalism can be found in modern philosophy.[26]

For Thomas, however, it is wrong to confuse formal and efficient causality. Nature as form does not efficiently move anything. Substantial form is a *principium* or a source of operations in the sense that any specifically different substance has automatically a range of inclinations or tendencies. The actuality and intelligibility of any substance is its form, and in this sense form is the source. Form is not an efficient cause.

III. Natural Inclination in Non-Living, Natural Substances

For Thomas, natural inclination is present in all natural substances. One might think natural inclination is most clearly seen in living organisms, but the principal example that Thomas most often uses of natural inclination is the inclination of the four elements to their natural places:

[26] See, for example, Daniel Garber, *Descartes' Metaphysical Physics*. Chicago: U of Chicago Press, 1992; Stephen Nadler, *Occasionalism*. Oxford: Oxford U Press, 2011; and Peter Machamer & J.E. McGuire, *Descartes's Changing Mind*. Princeton: Princeton University Press, 2009.

earth to the center, water to the place around earth, air to the place above water, and fire to the highest place in the sub-lunar world.[27] It is on the basis of this natural inclination of the simple elements to their natural places that Thomas argues by extension that other natural things, such as animals, human beings, and angels, also have natural inclinations. The pattern is the same everywhere: substantial form gives rise to natural inclinations; natural inclinations give rise to operations or to motions; and motions lead to ends. The ends of such natural motions or operations are good, and good for the substance that is moving toward the end.

When Aristotle is discussing the doctrine of place in book Four of the *Physics*, Thomas points out that the places to which the simple, natural bodies incline are real places and that they have in some sense a power (*potentia vel virtus*).

> We see that each one of the elements is borne to its proper place, provided that it is not blocked: the heavy element going down, and the light one going up. From this it is clear that place has a kind of power of preserving that which belongs in a place; for this reason, the thing belonging to a place tends to its own place by a desire for its own preservation. This does not show, however, that place has a power of attraction, except insofar as the end is said to attract."[28]

Note first that the natural place is an end that is good for the simple body: the element is best protected or preserved when it is in its own natural place, and not when it is out of that place and liable to the corrupting influence of other, contrary elements. All natural ends are perfective of natural substances; this is true of the most basic of all natural substances. Note, second, that the

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[27] See, for example, *In De caelo* I, lect. 12, n. 4; *In De caelo* I, lect. 17, n. 8.

[28] "Videmus enim quod unumquodque horum fertur in suum priprium locum quando non impeditur, grave quidem deorsum, leve autem sursum. Ex quo patet quod locus habet quandam virtutem conservandi locatum: et proper hoc locatum tendit in suum locum desiderio suae conservationis. Non autem ex hoc ostenditur quod locus habeat virtutem attractivam, nisi sicut finis dicitur attrahere." *In Phys*. IV, lect. 1, n. 412(7).

end does not function like an efficient cause: it does not have the power of pulling the element toward the place. Gravity on the ancient and mediaeval view was not a "pull" by which heavy things were brought down. Rather, heavy things by their own nature tend in a downward direction and to their natural place, just as light things tend by their own nature in the opposite direction. In the *Commentary* on the *De caelo*, Thomas elaborates on this in distinguishing between natural and violent motion. Natural motion is natural because of natural place; violent motion is violent because of places where bodies are not at rest. The distinction, however, implies the corruptibility of the bodies. Where bodies are not corruptible – in the heavens – there is no violent motion at all. Again, the idea is that the natural place is inherently good for its natural body.

This doctrine of natural place is important because it is the starting-point for Thomas in understanding the natural inclination of more complicated natural substances, like human beings. Thomas asserts that human beings have a natural inclination to happiness, and that all natural desires have inclinations to natural objects, because he is convinced that this fact is generally true of all of nature. If it is true of all of nature, it must, especially, be true of the simple, elemental, natural bodies – the four elements. For the purposes of understanding human nature, human volition, and natural law, the doctrine of natural inclination is fundamental. Again, the two crucial points are that the end toward which there is an inclination is good for the natural thing, and the inclination is intrinsic to the natural thing.

This, however, raises a problem. In general, I think that we can easily distinguish features of the mediaeval cosmology that are irrelevant to the natural philosophy and metaphysics, which are true (or not) independently of the cosmology. We don't have to accept geocentrism in order to be Thomists. The doctrine of natural place, however, presents a special problem. In order to

make the strong case for natural inclination, which I think is the basis of Thomistic human nature and natural law, it must be the case that, as Thomas says, natural inclination is really fundamental to all of nature. This means that it is found in the basic elements, of which every natural substance is composed. The problem is that it is difficult to find what in our cosmology would correspond to natural place. If we think of elements or non-living compounds as we understand them, there are no natural places or ends that are preservative of such natural substances towards which the substances tend. It is surely true that our elements and compounds have many tendencies, activities, properties, etc. by which they are known and are usefully a part of the natural and artificial world. They conduct electricity or insulate; they are malleable or not; they can bond with other elements or compounds, or not, and so forth. None of these, however, describe what might be taken as natural ends for the elements or compounds, and none of these seem to indicate an end that is perfective or good in some way for the element itself, however good these properties might be for other substances or for the cosmos as a whole.

The analogue to the ancient and mediaeval natural motions might be found in the four basic forces that we would recognize today: gravity, electro-magnetism, and the strong and weak nuclear forces. Gravity, especially, seems relevant, because we are talking about motion, and certainly gravity is a universal force that is used to explain motion. On our view, gravity simply accounts for the spontaneous attraction of any two (or more) masses. It does not explain motion to a *place* as Aristotle and Thomas had understood natural motion, but it does explain basic motions that are of fundamental importance for the cosmos as a whole. If it were not for gravity, no stars, constellations, or planets would ever have formed, and it would be hard to recognize any order at all in a universe of matter scattering without gravity. Gravity, thus, has a tendency to an end that is a very good end, *for the universe as a whole*. The difficulty that I am trying to raise

is that it is very hard to see how the force of gravity is in any way good for the force itself or for any given body that is subject to this force. The gravitational attraction of two masses toward each other does not result in anything that is good for the individual masses; in fact, it can destroy either or both.

It might help to make this problem clearer by considering the argument Thomas gives for the existence of God that is called the Fifth Way, the teleological argument. This argument is really based upon the natural inclination that is found in non-living, and hence non-intelligent, natural substances. There are at least nine different versions of the Fifth Way in Thomas' writings, including, of course, the Fifth Way itself in *Summa theologiae* I, q. 2, a. 3.[29] In the nine different versions, the argument is expressed differently, but in all cases the argument is an argument from final causality. In most cases, but not all, Thomas focuses the argument on natural, non-intelligent things or bodies that by their own natural inclination move to ends that are reliably achieved and are also useful or beneficial. The best-known version is the Fifth Way itself. "We see that some things that lack intelligence, namely natural bodies, operate for the sake of an end. This is apparent from the fact that they always or usually operate in the same way, with the result that is best. It is therefore clear that they hit their end not by chance but by intention."[30] Thomas says that natural bodies always or usually operate in the same way, achieving their end regularly, and this results in what is best. This applies to all natural bodies and hence, I would say, especially to the fundamental natural bodies, the elements.

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[29] Nine versions of the Fifth Way: II *Sent*. d. 1, q. 1, a. 1; *De veritate*, q. 5, a. 2; *SCG* I, c. 13, n. 36; *SCG* I, c. 44, n. 7; *De potentia*, q. 3, a. 6; *In Metaph*. XII, lect. 12, n. 2632-2637; *Super Evangelium Johannis*, Prol., n. 3; *In Symbolum Apostolorum*, a. 1; *ST* I, q. 2, a. 3.

[30] "Videmus enim quod aliqua quae cognitatione carent, scilicet corpora naturalia, operantur propter finem; quod apparet ex hoc quod semper aut frequentius eodem modo operantur, ut consequantur id quod est optimum; unde patet quod non a casu, sed ex intentione perveniunt ad finem." *ST* I, q. 2, a. 3.

When Thomas gives other versions of this argument, he makes two things clear. First, the natural inclination of the natural, non-cognitive bodies is toward an end that is *good for the natural substance itself*.[31] These natural bodies tend to ends that conduce to the preservation of the natural bodies themselves. Second, the achieving of these natural (selfish) ends is also good for the universe as a whole. The universe is an ordered perfected whole because of the natural inclinations of the fundamental natural bodies. The natural inclinations are given to the natural bodies as their endowment by the giver of their substantial forms, but these natural inclinations communicate good order to the whole universe. My point in bringing in the Fifth Way is to say that we have to do something parallel in thinking about the Fifth Way to what we need to do in thinking about natural inclinations in human nature and ethics. I think that we can save the Fifth Way by thinking about the good of the order for the cosmos as a whole, but I am not sure that we can save the part that was so obvious to Thomas: that the natural inclinations of natural bodies achieve an end that is good for the bodies themselves.

If no analogue to natural place can be found in our cosmology, I don't think that this failure is fatal to Thomistic understandings of human nature or of ethics, but the argument as given by Thomas is at least different. Note, also, that I am not denying final causality in the non-living realm. I follow the late Fr. Wallace in seeing three levels of final causality that are relevant to the study of nature.[32] At the most basic level, a final cause is simply a stopping-point or a terminus: a stable point at which a process or motion ends. At this most basic level, the coming together of masses, the bonding of elements in new compounds, and the radioactive decay of elements with high atomic number would all be examples of motions or processes that tend

[31] See especially *De veritate*, q. 5, a. 2 and *In Metaph.* XII, lect. 12, nn. 2632-2637 (6-11).
[32] William A. Wallace, *The Modelling of Nature: Philosophy of Science and Philosophy of Nature in Synthesis* (Washington, DC: The Catholic University of America Press, 1996) pp. 16-18.

toward ends. The importance of final cause at this level is the regularity and stability of nature, in a world of individuals that qua individuals might not suggest such regularity and order.

There is, however, a second, higher level of final causality, insofar as the final cause is the good that is perfective of the substance that achieves the end. Achieving the end at this level means achieving what is good for the individual substance. Fr. Wallace points out that it is difficult at this level to see the achievement of final causes that are good for non-living substances or perfective of them. It is good that hydrogen and oxygen can bond to form water, but how is this good for the hydrogen and the oxygen? On the other hand, it is much clearer to see ends that are perfective of living organisms – all of their activities and operations are, in fact, so ordered and understood.

At the third and highest level, the final cause involves the conscious intention of the agent. This level, of course, applies to human and some animal intention. It is easiest to see final causality in relation to animal or human conscious purposes.

With this division of final causes in mind, my point is that Thomas Aquinas saw final causality at the first and second levels as operating in *all* of nature, whereas we would think that only at the first level is final causality present everywhere in nature. Thomas' doctrine of natural inclination to natural place made it possible for Thomas to argue from what was true about *all* of nature to help explain what is specifically true in the human case. For us, to make the argument from natural inclination in nature to human nature and to natural law, I think that we have to restrict the argument to what we know about the nature of living organisms, that is, to Fr. Wallace's second level of finality.

IV. Natural Inclination in Living and Intellectual Creatures

Having talked about natural inclination in matter, in form, and in natural, non-living substances, I want to turn briefly to consider natural inclination in living and intellectual creatures. I want to focus only on one feature of Thomas' argument. When Thomas argues for the natural inclination of the sense appetite or of intellectual creatures, such as men and angels, the argument that he makes is from the general consideration of natural, non-living substances – that is, from a consideration of what is true generally about natural inclination – to what is true about living substances. This is true, I think, from the text that I quoted above from the *Commentary* on the *De anima*.[33] It is also made clear in the *Summa theologiae*, when Thomas introduces the sense appetites.

> "It is necessary that in natural, corruptible things there be an inclination not only to pursue things that are helpful and rejecting things that are harmful, but also an inclination for resisting what is contrary and corruptive, which block helpful things and bring harmful things. Fire, accordingly, has a natural inclination not only to recede from a lower place, which is harmful to it, and to seek a higher place that is suitable for it, but also to resist what would block and corrupt it. Since, therefore, the sense appetite is an inclination following upon sensitive apprehension, just as the natural appetite is an inclination following upon natural form, so it is necessary that in the sensitive part there be two appetitive powers."[34]

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[33] *In De anima* II, lect. 5, n. 286. See p. 12, n. 18 above.

[34] "oportet quod in rebus naturalibus corruptibilibus, non solum oportet esse inclinationem ad consequendum convenientia et refugiendum nociva; sed etiam ad resistendum corrumpentibus et contrariis, quae convenientibus impedimentum praebent et ingerunt nocumenta. Sicut ignis habet naturalem inclinationem non solum ut recedat ab inferiori loco, qui sibi non convenit, et tendat in locum superiorem sibi convenientem; sed etiam quod resistat corrumpentibus et impedientibus. Quia igitur appetitus sensitivus est inclinatio consequens apprehensionem sensitivam, sicut appetitus naturalis est inclinatio consequens formam naturalem; necesse est quod in parte sensitiva sint duae appetitivae potentiae." *ST* I, q. .81, a. 2.

What is true about any natural substance, such as the element fire, must also be true about the sense appetite.

Thomas makes the same sort of argument about intellectual substances, such as men and angels. Question 60 of the Prima Pars of the *Summa theologiae,* about Angels' love, provides a good place to consider this. Do angels have a natural love (*dilectio naturalis*)? Yes, they do, but the principle is the important thing for us. Natural love is really another way of talking about natural inclination, and natural inclination is common to the whole of nature. Angels, of course, are intellectual beings, but nature is prior to intellect, because intellect comes from nature. What is true about nature is therefore true about intellectual natures. "This is common to all of nature, that every nature has a natural inclination, which is a natural appetite or love."[35] This natural inclination is found differently in different natures. In beings that lack cognition, it is found in the order of the thing's nature to its natural end. In beings of a sensitive nature, it is found in sense appetite. In intellectual natures, the natural inclination is through will (*secundum voluntatem*). Do angels have an elective love in addition to the natural love?[36] Yes, and here again the principle is the same: nature is prior to what is founded on nature. Hence, for angels and for man, the natural love, which is the love of the end, or the natural inclination to it, is prior to elective love, which is the love of goods as a means to the ultimate end. "The love of the good that man naturally wills as his end is a natural love; the love derived from this, however, which is of the good that is loved for the sake of the end, is an elective love."[37] Do angels love themselves

[35] "Est autem hoc commune omni naturae, ut habeat aliquam inclinationem, quae est appetitus naturalis vel amor." *ST* I, q. .60, a. 1.
[36] *ST* I, q. 60, a. 2.
[37] "Dilectio igitur boni quod homo naturaliter vult sicut finem, est dilectio naturalis; dilectio autem ab hac derivata, quae est boni quod diligitur proper finem, est dilectio electiva." *ST* I, q. 60, a. 2. In man the reasoning about means to the end is distinct from the understanding of the end, whereas angels grasp both the end and the means to the end in a simpler act of understanding. The human cognitive powers are weaker in this regard, but this weakness does not affect the distinction between natural and elective love, which is present in both sorts of intellectual creature.

with both a natural and an elective love?[38] Yes, they do, and once again, the principle is exactly the same: nature is prior, and what is prior will be found in the intellectual nature. In natural things that lack knowledge, each thing naturally seeks to obtain that which is good for it. Fire, for example, seeks its own natural, higher place. Likewise, human beings and angels naturally seek their good and perfection: and this is to love themselves. Finally, angels love themselves with a natural love that is the basis for their love of other angels.[39] And, once again, the principle, and even the example is the same. Fire seeks both to obtain its own good (its natural, upward place) and also to communicate its good (heat and burning) to other things. In like manner, human beings and angels love themselves with a natural love, by which they wish their own perfection, and they also, by a natural love, wish to communicate the good to their kin, as we do to those we love. The natural inclination is fundamental to all human and angelic loves, and the primary analogue of this love is the natural motion of the elements.

The point that I wish to stress is that, in q. 60 of the Prima Pars, Thomas argues from what is true in a prior way about nature in general to what is true in the more specific natures of man and of angels. Because it is true that nature in general has an inclination to ends that are good – witness the four basic elemental bodies – it is therefore true that men and angels have such inclinations, because they are natural substances, too. What is true generally of nature must be true of them, too.

V. Conclusion

I have tried to show the following.

[38] *ST* I, q. 60, a. 3.
[39] *ST* I, q. 60, a. 4.

1. The natural inclination operates *everywhere* in nature, according to Thomas. It is in matter itself, in form, in elemental non-living substances, in animals, in man, and in angels.
2. In each case, the natural inclination is to an end that is good for the thing that has the natural inclination. Matter is perfected by being united to form; elements move to natural places that are good for them; the emotions are inclined to good things; human beings and angels naturally desire their own happiness.
3. This natural inclination is also good for the larger collective. The inclination of matter to form and of the elements to their places is also good for the universe as a whole, and the natural inclinations of animals and men are good, when properly regulated, of course, for the good of the world and of human society.
4. Thomas argued from what is true generally or universally about natural inclination to what is true specifically in the case of man. That is, Thomas argued that *because* natural inclination in general has the character of a tendency toward the good, and because human emotions are natural inclinations, they therefore are inclinations to what is good.
5. Thomas thought that this argument could obviously be made from what we know about the non-living, elemental bodies, which have natural inclinations to natural places. I think that it is harder or impossible for us to make the same argument. For us, it is certainly true that elemental material bodies have tendencies to ends that are good for the universe as a whole. It is harder or impossible for us to see how non-living nature intends ends that are good for the non-living substances themselves. Rather, for us, the argument from nature has to be made, I think, from what we know about *living* beings. The natural

inclinations of other living beings are to ends that are good for them. And this provides a natural basis to argue about natural inclination and the natural law in the human case.

6. Finally, I think that natural philosophy is fundamental for understanding all philosophy, and it is especially so for understanding Thomas Aquinas. In general, natural philosophy that promises a perennial truth should be distinguished from temporally-bound cosmologies. I want to save the natural philosophy and not medieval cosmology. However much it might pain me personally to give up geo-centrism, I do accept that the earth orbits around the sun, and not the other way around. In fact, our current cosmology, with only one chemistry for the whole of the universe, makes the Thomistic understanding of prime matter easier rather than harder. The same cosmology, however, has also required that we give up natural place, and that, as I have tried to argue, is somewhat problematic. Problematic, but not fatal. The argument that we can make from nature still supports the case for the natural inclinations involved in natural law, but the basis of our argument must be more restricted than was Thomas'.