POWERS VERSUS LAWS: GOD AND THE ORDER OF THE WORLD
ACCORDING TO SOME LATE MEDIEVAL ARISTOTELIANS

I. Presenting Regularities:

For medieval Aristotelians, it was uncontroversial that the world exhibits non-trivial regularities. They found it evident *a priori*: to count as a *uni*verse, the world cannot consist of a heap of things, but must be essentially ordered by hierarchies of excellence and dependence. Likewise, they took it to be *empirically* obvious that the world is structured by always-or-for-the-most-part regularities in the starry heavens above and in the sublunary world here below.

In what follows I will show how Aquinas, Scotus, and Ockham followed Aristotle in explaining natural agency in terms of internal formal functional principles or causal powers. In their treatises on physics, they do *not* reach for laws of nature. The order of the universe is more complicated, however, because natural agency is not the only contributor. God, the ultimate explainer, is an omnipotent voluntary agents, who governs the world by a variety of laws and policies and orders it to an end. Their story about how the different explainers relate to one another is distinctive and sometimes surprising.

II. Aquinas on Powers and Explanation:

Both as a philosopher and a theologian, Aquinas' thought is shaped by explanatory programs. ***Essences, Natures, and Powers as Explanatory Posits:*** Strictly speaking, natural philosophy has to do with changing things, with material things here below and with the starry heavens above. Aristotelian physics and biology begin with observed functional patterns in things here below. Aristotle applies his definitional axiom that

[A1] what happens always or for the most part, does not happen by chance,

to conclude that functional regularity must have an explanation: there must be something in nature or some aspect of the way things are that explains such quasi-uniformity. Theoretically, Aristotelian natural philosophers are opposed to (what they took to be) Plato's approach, which makes the explanatory entities (Platonic Forms) to be separate from the things that engage in the functions. No, Aristotle declares, the essences of things here below cannot exist separately from the things they are the essences of. Where changing things are concerned, Aristotle insists, natures are "inward principles of motion." Thus, the first move of Aristotelian natural philosophers is from quasi-uniform functioning to positing formal functional principles (*ratio formalis agendi* or *principium agendi)* or forms in the substances that so function.[1]

These forms either *are* powers, or they necessarily "emanate" the powers (Aquinas uses hydraulic imagery[2]) as well as static structures that are necessary for exercizing the functions. Thus, because fire always or for the most part heats, there must be in it a formal principle of heating, which necssarily emanates the quality heat which is calefactive power. Cows have digestion as an essential function. Therefore, there must be in the cow a formal principle of digestion, which either is digestive power, or necessarily emanates the static structures or the organs needed for digestion (the aliamentary canal, the

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[1]Aquinas says that the primary signification of *'potentia'* is 'the principle of action/acting' *(principium actionis, principium agendi)* and 'the principle of functioning' *(principium operandi)* (*Sent.* I, d.42, q.1, a.1 c & ad 1, 2, 3 & 4 [3033-3037]).
[2]Aquinas, *Sent.* I, d.42, q.1, a.1 arg.2 [3027]; *De Potentia,* q.3, a.11 ad 3. Ockham, by contrast, thinks the forms are the powers.

stomachs and intestines) and floods them with digestive powers as accidents. The formal principles and/or the powers are explanatory principles posited in the functioning thing to explain its explanatory regularities.

Where functions "always or for the most part" travel together, their formal functional principles are seen to constitute a nature. The scientists' job is to sort through the variety of functional principles to discover root functional principles from which the genus and differentia are taken. The genus and differentia constitute the core of the nature, because they explain why the other functions and characteristics are there. It is in order to function as a rational animal that humans have the static structures (the organic body) and dynamic functional principles (vital, sensory, and intellectual) that they do.

Aristotelian functional reasoning has the vices of its virtues: it keeps explanation "down to earth" insofar as it posits explainers in the functioning things. But by the same token, it "atomizes" explanation so as not to provide any account of coordination among different things. The formal functional principles of fire explain its capacity to heat nearby heatables; the formal functional principles of water explain its capacity to be heated. But neither the formal functional principles of fire nor the formal functional principles of water, separately or together, explain how the water comes to be nearby the fire. Things here below may have powers, but nothing will happen unless agent and patient get together! In general, Aristotle's strategy in physics and biology is to begin with functional principles here below and then posit functional principles in the heavens and other supra-lunary things to fill the explanatory gaps.[3]

This method is thoroughly integrated into Aquinas' picture of the world and comes out explicitly in his treatment of the human soul. Animals exhibit vital functions. The formal functional principle posited to explain them is called "the soul."[4] Since vital functions are essential to animals, the soul must be their substantial form. Because both understanding and sensation are essential functions of human beings, the human soul must be the formal principle of each and both, organizing the bodily structures and emanating the powers needed for each. Averroes' view--that intellectual power is lodged in a transcendent intellect and that humans understand only when they couple with it--is impossible, because the formal functional principle of a thing's essential actions must be its own form![5]

Aquinas is so convinced of Aristotle's conclusion--that things here below essentially include inward principles of motion for their own essential functions--that when he comes to consider a form of occasionalism that he attributes to "the Moors," according to which fire doesn't heat but God has instituted that God would never cause heat unless fire is brought close, Aquinas protests, "if natural things don't act, their forms and natural powers would have been conferred in vain!"[6] Evidently, it doesn't occur to him that "the Moors" might think things here below didn't have any natural powers, because Aristotle has convinced him that essential functions and hence formal functional principles are required for anything to be a thing!

God as an Explanatory Posit! Cosmological arguments rest on philosophical theories of explanation that identify explananda, indicate how strong the demand for explanation is, and specify what it would take to be an explainer. Aquinas' Five Ways (*Summa Theologica* I, q.3, a.2 c) look to features of the cosmos as a whole that call out for explanation and yet could not be explained by the formal functional principles of sublunary beings: why there is any change here below rather than none at all (the first way), why there is something rather than nothing (the second and third ways), why there is excellence in varying degrees (the fourth way), why everything is ordered to an end the best way (the fifth way). The arguments conclude to an ultimate explainer, which must have or be whatever formal functional principle or power it takes to explain the phenomena.

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[3]Aquinas, *De Veritate* q.5, a.9 c.
[4]Aquinas, *Summa Theologica* I, q.75, a.1 c.
[5]Aquinas, *Summa Theologica* I, q.76, a.1 c.
[6]Aquinas, *De Potentia,* q.3, a.7 c; *Summa Theologica* I, q.105, a.5, c.

Just as the soul is the formal functional principle posited to explain human intellectualizing, and just as reflection on the function of intellectualizing brings Aquinas to a further characterization of the intellectual soul as incorporeal and subsisting,[7] so God is an explanatory posit. From the second and third ways, Aquinas concludes that God is self-explanatory with respect to God's own being (necessarily exists through Godself) and is power to produce and conserve everything else that exists. The first and fourth yield the conclusion that God must be self-activating power to activate the causal powers of everything else, and a regular (always-or-for-the-most-part) activator of them. Likewise, the fourth way yields the conclusion that God is self-explanatory and paradigmatic excellence.

In the *Summa Theologica,* Aquinas famously conflates the conclusions of his arguments to compound a root notion of the ultimate explainer as a being that lacks all potentiality or a being that is all perfection *per se.* He then uses these root conceptions to infer a fuller characterization: that God is simple, perfect, good, infinite, immutable, eternal, one, all-knowing, just, merciful, and omnipotent (*Summa Theologica* I, qq.3-26). Aquinas concludes that the Divine essence as simple *is* omnipotence and *is* the formal functional principle that underwrites everything that God does or could do.[8]

Of course, what one can infer from "pure act" and "pure perfection" was and is philosophically contentious. Aquinas awards God omnipotence (roughly active power to bring about whatever is possible absolutely).[9] But what *is* possible absolutely? Aquinas is explicit that it does *not* include power to make contradictories true, because this is not really something to do.[10] For humans not to be rational or for a triangle not to have three sides is not possible absolutely, because the subject contains the opposite of the predicate.[11] Avicenna and Averroes mounted metaphysical arguments that the first cause was the immediate cause of only one effect, and produced other things only mediately by acting together with prior effects. Moreover, they thought that the first cause acted by natural necessity to the limit of its power.[12]

By contrast, Aquinas understood God to be a voluntary agent (from the fourth and fifth ways; see next section) and took Divine omnipotence to include power for Solo Divine Action (whatever God can bring about acting together a created efficient cause, God can produce all by Godself). Aquinas held-- following Pseudo-Dionysius--that

[A2] Goodness is by nature a positive tendency to share Itself out,

and concluded that since causal activity is an excellence (indeed the point of having a causal power), God would for-the-most-part refrain from solo Divine action.[13] On the other hand, cosmological reasoning works only because solo created action is *not* possible. What happens here below for the most part involves both Divine and created causes co-operating. Aquinas takes a further step to claim that God does not co-operate as a mediate but as an immediate cause. He declares that "God is within each created thing as a co-cause alongside the created power."[14] Aquinas explains this Divine action "within" and "alongside" in terms of three causal contributions: God as the source of being (cf. the second and third ways) [i] creates the created causal power (e.g., not only is God the cause of Beulah's and Ferdinand's bovine reproductive power, Divine action explains why bovinity exists at all) and [ii] conserves it in existence, while God as unmoved mover (cf. the first way) [iii] activates the created causal power or

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[7]Aquinas, *Summa Theologica* I, q.75, a.2 c.
[8]Aquinas, *Sent.* I,d.42, q.1, a.1 ad 2 [3035]; q.1, a.2 c [3046].
[9]Aquinas, *Summa Theologica* I, q.25, a.3 c.
[10]Aquinas, *Sent.* I, d.44, q.1, a.4 c [3193]; *Summa Theologica* I, q.25, a.3 c.
[11]Aquinas, *Sent.* I, d.42, q.2, a.2 c [3073].
[12]Aquinas, *Summa Theologica* I, q.25, a.5 c.
[13]Aquinas, *De Potentia* q.3, a.7 c.
[14]Aquinas, *De Potentia,* q.3, a.8 ad 1 & ad 2; *Summa Theologica* I, q.105, a.5 c & ad 3.

"applies" it to action.[15] In this sense, Divine power works "within" and "alongside" the created causal power enabling it to act.

Alternatively, Aquinas says that created causal powers are instruments of Divine power, analogous to the way that the saw is an instrument of the carpenter in cutting wood. When Elsie the cow is produced in existence, God causes the being *(esse)* of Elsie, but God uses the reproductive powers of Beulah the cow and Ferdinand the bull as instruments of Elsie's coming to be *(fieri)*.[16]

III. Aquinas on Voluntary Agency: A Law-Governed Universe?

Aquinas contends that God is the ultimate explainer not only of change and being, but also of goodness. As such, God turns out to be a voluntary agent that acts through intellect and will. ***Provident Governance:*** Aquinas calls Aristotle as his witness against ancient philosophers who think that the world as we know it can be sufficiently explained in terms of efficient and material causes. Aristotle replies that efficient and material causes can explain the *being* of an effect, but not the *goodness* of the effect. For example, the heat in fire can explain the destruction of the nearby combustible (say, the reduction of wood to ashes). But destruction is not good or fitting unless it is ordered to some end. Sublunary things in general are such that causal activity by one is apt to produce some defect in another.[17] Nevertheless, Aquinas insists--with Aristotelian optimism--that in the world as we know it things are always or for the most part done fittingly and well. By [A1] what happens always or for the most part does not happen by chance. Rather if things are mostly apt or useful it is because they are ordered to an end. But--Aquinas maintains--

> [A3] what lacks cognition cannot tend to an end without being ordered to the end by someone
> who has cognition.

Aquinas concludes that the world must be governed by the providence of an intellect that introduces into nature an order to what is best, indeed that orders things here below to the ultimate end (= God) the best way.[18]

College freshmen regularly join ancient and modern materialists to problematize such Design Arguments. Aquinas is nevertheless undeterred. Regarding his conclusion as secure, he proceeds to define 'providence' as God's cognition of things in the world *qua ordered to an end*.[19] Aquinas insists that Divine providence is comprehensive, extending not only to all created kinds, but to each and every individual. Just as within an army, one can distinguish the order of the soldiers to one another from the order of the whole to the duke or prince, so in the world one should distinguish the order of creatures to one another and the order of the whole to their end or first cause. If each creatable natural kind is inchoately aimed at God insofar as each creatable kind is at metaphysical bottom a way of imperfectly imitating the Divine essence, providence orders each and everything within the whole into the best collective Godlikeness that it can be. Even though incorruptible natural kinds like planets and stars are more excellent than corruptible natural kinds, the world as a whole is better for containing corruptibles as well as incorruptibles.[20] Likewise, defects in corruptibles may be the result of species variety (e.g., swallows eat insects and lions eat lambs, thereby detroying what is eaten). But such evils are acceptable

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15Aquinas, *De Potentia,* q.3, a.7 c; q.3, a.8 ad 1 and 2; *Summa Theologica* I, q. 105, a.5 c & ad 3.
16Aquinas, *De Potentia* q.3, a.3 ad 19.
17Aquinas, *De Potentia,* q.5, a.4 c.
18Aquinas, *Sent.* I, d.43, q.2, a.1 c [3126]; *De Potentia* q.5, a.2 c; *Summa Theologica* I, q.2, a.3 c.
19Aquinas, *De Veritate,* q.5, a.1 c; q.5, a.2 c.
20Aquinas, *Sent.* I, d.44, q.1, a.2 ad 6 [3173]; *De Veritate* q.5, a.4 c.

as the price of greater beauty in the universe.[21] Moreover, there is a distinction among those that are ordered for their own sake (rational creatures who uphold justice) and those that are ordered for the sake of others (non-rational animals and plants that exist for the sake of humans,[22] and rational creatures that refuse to uphold justice[23]).

  The Category of Law: What leads Aquinas to subsume the order of the world under the political concept of law,[24] is his comparison of God as provident governor of the world to a paterfamilias as heading his household or a king as ruling his realm.[25]   Law is a rule or measure of human action that is ordered to the common good and promulgated by one charged with the care of the community and/or who acts on behalf of the whole community.[26] Aquinas is imagining an analogy according to which the formal functional principles in natural things correspond to the thought principles of action in rational agents. Just as former aim at species preservation, so law orders action to the common good.[27] In the political context, a law must be promulgated to have binding force.[28]

  Applying the analogy, Aquinas reasons, the world is ruled by Divine providence. But law is only a dictate of practical reason in a prince who governs a perfect community. Therefore, the rationale of Divine government, insofar as God is the prince of the universe, is law.[29] Divine law is the eternal law insofar as it is ordered by God for the government of things foreknown by God.[30] But it is not eternal insofar as it is "heard" by a creature.[31]

  God promulgates the eternal law to humans by inserting it into their minds, so that it is naturally known, and by endowing them with a natural inclination to what is consonant with the eternal law. Because it is a participation in the Divine light intellectually and rationally, it is said to be *a law of nature*, properly speaking.[32] The precepts of natural law are to practical reasoning what the first principles of demonstration are to the speculative sciences.[33] Thus, for human beings, the proximate rule of action is human reason, but the supreme rule is the eternal law of which natural law is a participation.[34]

  Significant for present purposes is Aquinas' claim that God "promulgates" the eternal law in non-rational creatures by inserting natural inclinations or the essential principles that order them to their end. Non-rational creatures thus participate in the eternal by way of natural principles of action and passion (i.e., by formal functional principles internal to them).[35] *The impression of an active principle in natural things corresponds to the promulgation of the law in humans.*[36] *But since these creatures lack reason,*

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[21]Aquinas, *Sent.* I, d.44, q.1, a.2 ad 5 [3172]; *De Veritate* q.5, a.4 ad 4 & ad 10.
[22]Aquinas, *De Veritate* q.5, a.6 c & ad 1.
[23]Aquinas, *De Veritate* q.5, a.4 c; q.5, a.7 c.
[24]Aquinas, *Summa Theologica* 1-2, q.90, a.3, c & ad 2 & ad 3; q.90, a.4 c.
[25]Aquinas, *De Veritate* q.5, a.2 c; q.5, a.3 c.
[26]Aquinas, *Summa Theologica* 1-2, q.90, a.1 c; q.90, a.2 c; q.90, a.3 c & ad 2; q.90, a.4 c; q.91, a.1 c; q.93, a.2 c & ad 1.
[27]Aquinas, *Summa Theologica* 1-2, q.90, a.2 c; q.90, a.3 c.
[28]Aquinas, *Summa Theologica* 1-2, q.90, a.4 c.
[29]Aquinas, *Summa Theologica* 1-2, q.91, a.1 c.
[30]Aquinas, *Summa Theologica* 1-2, q.93, a.5 ad 3.
[31]Aquinas, *Summa Theologica* 1-2, q.91, a.1 ad 2; q.91, a.2 c.
[32]Aquinas, *Summa Theologica* 1-2, q.90, a.4 ad 1; q.91, a.2 c & ad 3; q.93, a.5 ad 1; q.93, a.6 c.
[33]Aquinas, *Summa Theologica* 1-2, q.94, a.2 c.
[34]Aquinas, *Summa Theologica* 1-2, q.21, a.1 c; q.71, a.6, c.
[35]Aquinas, *Summa Theologica* 1-2, q.93, a.6 c.
[36]Aquinas, *Summa Theologica* 1-2, q.93, a.6 c.

their participation in the eternal law can be said to be law only analogically.[37] Put otherwise, in creatures, the required order to an end is always measured by some rule. The "rule" in those that act according to nature is their nature's own power *(virtus)* that inclines them to their end. Therefore, when a natural agent acts by natural power according to its inclination to an end, it preserves uprightness in its act.[38] Non-rational natural agents do not participate the eternal law by way of reason but by way of obedience.[39]

Thus, Aquinas moves from the notion of providential governance that orders things to an end to the conception of the ultimate explainer as a voluntary agent that acts by intellect and will to the model of the ultimate explainer as a governor who promulgates laws to the subjects of its realm. The eternal law is God's conception of the world as ordered to an end. The natural law is created reason's grasp of self-evident first principles norming rational action. These principles *should* explain human voluntary actions, insofar as they are normative reasons for acting. The notion of law gets an analogical extension to non-rational creatures who act by natural inclination and natural power to perform their natural functions. Normal natural functioning is thus *analogically* "law-abiding," while right-reason normed rational created action is *literally* law abiding. *Not only does Aquinas insist that talk of law where non-rational creatures are concerned is analogical. His way of spelling out the analogy does not make formal functional principles and powers any the less fundamental.*

Cosmic Options? Avicenna and Averroes maintain that the first cause acts by natural necessity in creating the world and that everything here below emanates from transcendent causes by natural necessity. Natures both of the heavens and of sublunary things, with their nature-defining formal functional principles, could not be otherwise. God could not *make*, and the order of the world could not *be* otherwise than it is.

To say that Divine agency is voluntary, is not automatically to give God a choice. Origen and Ockham insisted that even though God acts by intellect and will, God acts necessarily--by the necessity of Divine nature--in producing the Divine persons. Anselm's God creates by expressing the Divine Word. Since Anselm understands the heart of Divine Goodness to be Justice and defines freedom as the power to uphold justice, Anselm's God turns out to be just and free whenever God acts in accordance with God's nature. Such freedom does not, by itself, imply any options. Likewise, Abelard seems to have argued that because God cannot do otherwise than justice demands, God cannot do otherwise than God does.[40]

Nevertheless, Aquinas does think both that God has power to have created a different world order, and that God has and in this world sometimes exercises the power to do miracles. *Alternative World Orders?* Aquinas himself felt the force of Pseudo-Dionysian arguments that because [A2] Goodness is a positive tendency to share Itself out, God could not do otherwise than creatures at their best in the best of all possible worlds.[41] Aquinas' response is to deny, on metaphysical grounds, that there is a best of all possible worlds. His argument is that because God is infinite, there is an infinite gap between Divine excellence and the excellence of any created congeries of things. Divine Goodness cannot create a heap. But the "size-gap" means that for every ordered congeries of creatures, there is a better one.[42]

Working out the details, Aquinas distinguishes the parts of a universe from its order. Where the things that are or could be parts are concerned, Aquinas explains that God could not make the things God has made and give *them* better essences, because a thing's essence clusters those features that it could not

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[37]Aquinas, *Summa Theologica* 1-2, q.91, a.2 ad 3.
[38]Aquinas, *Summa Theologica* 1-2, q.91, a.1 c.
[39]Aquinas, *Summa Theologica* 1-2, q.93, a.5 ad 2.
[40]Aquinas, *Sent.* I, d.43, q.2, a.2, args.1-3 [3132-3134]; *Summa Theologica* I, q.25, a.5 c.
[41]Aquinas, *Sent.* I, d.44, q.1, a.2, args.1-4 [3161-3164].
[42]Aquinas, *Summa Theologica* I, q.25, a.5 c.

exist or be itself without. But God can make other things with better essences.[43] Moreover, God could give the things that God has actually made better accidents (e.g., a human being, more intelligence or moral virtue or bodily agility).[44] Likewise, God could make more things of the kinds that God has made, and God could make things of other kinds, either in addition or instead. Indeed, the size-gap means that there are infinitely many other species that God could have actualized.[45] Had God done so, different packages of causal powers would have been exercised than are now.

Where the order of the universe is concerned, Aquinas recalls his distinction between the order of parts to one another and the order of the whole to the end. The order of the whole to the end could not be improved, because Divine providence orders the whole to God as its ultimate end, and there could not be a better end. So far as the order of parts to one another is concerned, Aquinas implies that--for any batch of creatures--there is a best way of ordering them, which Divine Goodness would impose. But if God added other and better creatures, a different order would be maximally fitting and God would impose it on them.[46]

Miracles: In fact, Divine providence does not confine Itself to the common course of nature or the established order of things. Aquinas distinguishes three categories of "transgressive" Divine action. [1] God does the supranatural (*supra,* i.e., above and beyond nature) when God produces effects that either [a] nature has no power to produce, or [b] nature has no power to produce that way. An example of [1a] is Divine production of the "theological" virtues--faith, hope, and charity--in pilgrim souls or glory (a special kind of brightness) in the bodies of the elect. An example of [1b] is giving sight to the blind or resurrecting the dead. Nature can produce life and sight (e.g., in the normal and natural generation of animals), but nature cannot--Aquinas reckons--produce life in a dead body or sight in blinded eyes.[47] [2] God does what is against *(contra)* nature, when God acts against the natural dispositions of created agents. For example, God acted against the natural function of fire so that it did not even singe the three boys tossed into the furnace (Daniel 3:1-30). God acted against the natural motion of water when God parted the Jordan and made the waters stand in a heap (Joshua 3:1-4:18). God acted against the natural principles of bisexual reproduction and the natural impenetrability of bodies to make a virgin bear a child (Luke 1:34-38; Matthew 2:18-25).[48] Aquinas is explicit, however, that Divine power to act against nature does not include power to alter a nature's formal functional principles. God can make water stand in a heap, but God cannot give water the natural tendency to stand in a heap. God can obstruct fire from burning the three boys, but God cannot alter the nature of fire to make it a natural coolant![49] [3] God does what is outside *(praeter)* nature, when God acts to produce effects that nature can produce, but not that way. Besides the plague of frogs in Egypt, turning of water into wine, immediate relief from a fever, and sudden rainfall, Aquinas cites a regular old-law liturgical miracle: the putrefaction of an adulteress's flesh when she drank the "water of jealousy."[50]

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[43]Aquinas, *Sent.* I, d.44, q.1, a.1 c [3154]; *Summa Theologica* I, q.25, a.6 c.
[44]Aquinas, *Sent.* I, d.44, q.1, a.1 c [3154]; *Summa Theologica* I, q.25, a.6 c.
[45]Aquinas, *Sent.* I, d.44, q.1, a.2 c [3167].
[46]Aquinas, *Sent.* I, d.44, q.1, a.2, c [3167] & ad 4 [3171]; *Summa Theologica* I, q.25, a.6 ad 3.
[47]Aquinas, *Sent.* I, d.42, q.2, a.2 ad 4 [3077]; *De Potentia* a.6, a.2 c & ad 3um; *Summa Contra Gentiles* III, c.101, n.2; *Summa Theologica* I, q.105, a.8 c.
[48]Aquinas, *Sent.* II, d.18, q.1, a.3 [5064]; *De Potentia,* q.6, a.1 c; q.6, a.2 ad 3; *Summa Contra Gentiles* III, c.101, n.2; *Summa Theologica* I, q.105, a.8 c.
[49]Aquinas, *Sent.* I, d.42, q.2, a.2 ad 4 [3077].
[50]Aquinas, *Sent.* I, d.42, q.2, a.2 ad 4 [3077]; *Sent.* II, d.18, q.1, a.3 [5064, 5068]; *De Potentia* q.6, a.2 ad 3; *Summa Contra Gentiles* III, c.101, n.2; *Summa Theologica* I, q.105, a.8 c.

Most of the time, Aquinas makes nature the standard of what counts as miraculous: to be miraculous is to be done by God above, against, or outside nature. In response to Augustine's suggestion that "a miracle is something difficult and unusual that seems to be beyond the power of nature and beyond the hope of one who admires it,"[51] Aquinas explains that miracles are beyond our comprehension only insofar as the exceed the order of nature,[52] are difficult in that there is no power in nature to produce them them,[53] unusual insofar as they are outside the common course of nature,[54] and beyond hope only insofar as hope is based on what is naturally possible.[55] Nothing is hard for Divine omnipotence, and Christian hope expands in the face of Divine power.

Aquinas explicitly says that effects that lie outside the range of natural causal powers, so that nature has neither power to produce them nor an inclination against them, are not miraculous. God alone can create. Rational souls can be produced only by Divine power. Theological virtues can be produced and infused only by God.[56] Yet, there is one passage in which Aquinas counts as miraculous something done contrary, not to nature, but to God's soteriological policies (i.e., the statutes by which God orders some of Adam's fallen race to God as a source of happiness and social companionship). Usually, God converts people gradually, but God converted St. Paul all of a sudden.[57] Here we have from Aquinas a reminder that the usual order of the world is not only a function of natural powers but also of God's policies regarding things with which nature is not concerned.

IV. Scotus on Orders of Natures:

Scotus takes it for *a priori* truth that a *uni*verse of many really distinct things has to be ordered, not only accidentally, but *essentially*. The essential order of individuals to one another is grounded on their natures. Natures here below are constituted by their defining properties (genus and differentia), which root the formal functional principles that characterize them. That they are so constituted pertains to them of themselves *(de se)*, independently of anyone's thought or choice. Essential orders among the natures are grounded in such features. Scotus' contention, then, is not simply that the many individual things that in fact exist are essentially ordered to one another, but that the fundamental natural kinds are essentially ordered to one another to constitute a *uni*verse.

Characteristics of Essential Orders: In his cosmological arguments, Scotus makes explicit certain *a priori* assumptions about what essential orders have to be like. First, in the orders of eminence and dependence, the ordering relations among the natures are *prior* and *posterior*. Significantly, he does *not* think of *equality* as a third ordering principle.[58] It follows that the essential orders of eminence and dependence are *not reflexive;* nothing is essentially ordered to itself.[59] The essential orders of eminence

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[51]Aquinas, *De Potentia,* q.6, a.2, arg.1.

[52]Aquinas, *De Potentia,* q.6, a.2 c & ad 2.

[53]Aquinas, *De Potentia* q.6, a.2 c & ad 1um; *Summa Theologica* I, q.105, a.7 ad 2.

[54]Aquinas, *Sent.* II, d.18, q.1, a.3 [5066].

[55]Aquinas, *Sent.* II, d.18, q.1, a.3 [5067]; *De Potentia,* q.6, a.2 ad 4.

[56]Aquinas, *Sent.* I, d.42, q.2, a.2 ad 4 [3077]; *Sent.* II, d.18, q.1, a.3 [5065]; *Summa Theologica* 1-2, q.113, a.10 c & ad 2 & ad 3.

[57]Aquinas, *Summa Theologica* 1-2, q.113, a.10, c.

[58]Scotus, *De Primo Principio,* c.II, n.1 (Wadding III.214); c.III, n.7 (Wadding III.232); c.III, n.11 (Wadding III.234); Wolter ed., 2.2-2.3; 3.26; 3.49. *Ord.* I.4.3.2.494-498 (Vaticana III.293-295); IV.1.2.14 (Wadding VIII.55); IV.13.1.37 (Wadding VIII.807).

[59]Scotus, *De Primo Principio,* c.II, n.1 (Wadding III.214); Wolter ed., 2.2-2.3.

and dependence are *not circular* either, because then everything would be prior and posterior to itself and to everything else thereby ordered.[60] The essential orders of eminence and dependence are *transitive*: what is not posterior to the prior is not posterior to the posterior.[61] Moreover, Scotus contends that the essential orders of eminence and dependence are *bounded.* Scotus' cosmological proofs use "no infinite regress" premises to draw the conclusion: not every being is posterior (the first is prior without being posterior) and not every being is prior (the last is posterior without being prior to anything else).[62]

Scotus' focus is on two, non-congruent essential orders: the order of eminence and the order of dependence.[63] ***The Order of Eminence:*** Eminence is a function of how much there is to a nature, of what Scotus calls its "intensive actuality," which is in turn a function of the excellence of the formal functional principles that constitute it. In the order of eminence, natures with more of it are more perfect and nobler and hence prior, and those with less of it are less perfect and noble and hence posterior. Since the domain of natures constitutes a *uni*verse, Scotus maintains that for every pair of natures Nm and Nn, either Nm is more perfect than Nn or Nn is more perfect than Nm. Against the modern estimate that deer appears no more superior to elk than the other way around, Scotus appeals to Aristotle's authority in *Metaphysics* 8: where species under a common genus are concerned, "forms are like numbers" thereby generating a hierarchy of perfection.[64] If some nature were not ordered to every other nature as prior or posterior in eminence, then it would not belong to the universe, but would be a stray or left over[65]--which is impossible. Scotus thus holds that the essential order of eminence is *comprehensive:* it unifies the domain of natures by ordering each and every nature. Once again, the order of natures is basic; of individuals, derivative. Scotus' corollary conclusion is that if one natural kind is nobler than another, every individual of the one kind is more excellent than every individual of the other.[66]

The Order of Dependence: Each nature is, has, or necessarily gives rise to a characteristic range of active and passive causal powers. The essential dependence between efficient cause and effect, and of efficient causes on one another in producing their common effect, is a function of the causal powers associated with each. Nm's cause Nn's, if Nm includes a formal functional principle and so gives rise to an active causal power to produce Nn's, while Nn includes a passive causal power to be produced by Nm's. Nm's depend on Nk's in causing Nn's, in case an Nm can't exercise its power to produce Nn's unless an Nk exercises its power to activate Nm's causal power to produce Nn's. The web of such dependence relations is a resultant of the formal functional principles that constitute the natures themselves. Scotus' cosmological argument moves at a high level of abstraction from the claim that some nature is producible by another ("externally producible") to the conclusion that some nature must be externally unproducible and independently productive (i.e., the first efficient cause).[67] Thus, both his argument from eminence and his proof from dependence ultimately rest on necessary features of natures and their powers.

Scotus thinks his arguments do not allow him to infer that the first efficient cause is power to produce anything producible immediately. He does not think that unaided natural reason affords a refutation of Avicenna's and Averroes' picture of God as the immediate cause of a single effect and the cause of everything else by being a cause of its cause. Nevertheless, Scotus endorses Divine omnipotence

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[60]Scotus, *De Primo Principio,* c.II, n.1 (Wadding III.214); Wolter ed., 2.5.
[61]Scotus, *De Primo Principio,* c.II, n.1 (Wadding III.214); Wolter ed., 2.6-2.7.
[62]Scotus, *De Primo Principio,* c.II, n.1 (Wadding III.214); Wolter ed., 2.6-2.7.
[63]Scotus, *De Primo Principio,* c.I, n.2 (Wadding III.210); Wolter ed., 1.6.
[64]Scotus, *De Primo Principio,* c.III, n.9 (Wadding III.233); Woleter ed. 3.38.
[65]Scotus, *De Primo Principio*, c.III, nn.7, 11 (Wadding III.232, 234); Wolter ed., 3.26; 3.49.
[66]Scotus, *Reportata* I-A, d.44, q.2, n.25; Wolter-Bychov 238.
[67]Scotus, *De Primo Principio*, c.III, n.3 (Wadding III.230); Wolter ed., 3.13.

in the sense of power to produce immediately whatever does not involve a contradiction,[68] and with it God's power for Solo Divine action. Scotus emphasises, what lies within the range of omnipotence is not *the constitutive content* of natures; once again, these pertain to natures of themselves. Rather what God ultimately controls is *the existence* of natures, whether in reality or as objects of thought, and whether creatures have the opportunity to "do their" natural "thing." Cosmological reasoning depends on claiming that solo created action is impossible. Scotus affirms Divine power to obstruct by refusing Divine concurrence with any creature's action. Likewise, he often asserts Divine power to produce the prior without the posterior (e.g., a substance without its accidents) and sometimes insists on Divine power to conserve the posterior without the prior (e.g., the bread accidents without the bread substance in the eucharistic rite).[69]

V. Perfect Productive Power as Will-Power:

Like Aquinas', Scotus' cosmological reasoning takes him to the conclusion that the first efficient cause operates by intellect and will. Like Aquinas, Scotus mounts arguments from final causality.[70] Unlike Aquinas, Scotus appeals to our alleged experience of contingency here below (i.e., of our own free choices) to contingency in the first cause.[71] Another route opens from the essential order of eminence: God as the most eminent nature includes all pure perfections (good-making features that imply no bad-making features), and--Scotus maintains--perfect productive power is a pure perfection.[72] But perfect productive power would be, not only self-activating, but self-directing. In Scotus' view, the most perfect version of self-direction is not that found in non-rational natures, whose natural powers act to their limit to produce individual or species perfection. The most perfect version of self-direction belongs to a fundamentally different kind of power: will-power, which Scotus understands to be a self-determined power for opposites without succession.[73] On Scotus' analysis, will power includes power to will things because they seem advantageous, power to will things because they seem just,[74] and executive power to determine between action versus inaction and between alternative directions for the will's acts. Because natural agents act by natural necessity to the limit of their powers, they need nothing outside their built-in powers to regulate them. By contrast, because will-power is a power for opposites it requires to be guided by right reason.

Reasons and Purposes: The paragon of voluntary agency, Scotus' God is the most reasonable of lovers. Right reason dictates that the end be willed first; then proximate, then remote means. Right reason also dictates that the best be loved the most. Scotus charts the means/end structure of Divine intentions as follows. Accordingly, God loves Godhead above all and for its own sake; the persons of the Trinity love Godhead, each in the others. Their goal in creation is to expand the circle of friendship love with co-lovers, pre-eminently the soul of Christ, Who would be the head of a community including angels and other human souls who would love God as much as creatures can. Next, God wills the means to suit

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[68]Scotus, *Ordinatio* I, d.42, q.u, nn.8-15; Vaticana VI.342-346; *Ordinatio* II, d.7, q.u, n.52; Vaticana VIII.100-101.
[69]For a full discussion of Scotus' account of separate accidents in the eucharist, see my *Some Later Medieval Theories of the Eucharist* (Oxford: Oxford University Press, 2010), ch.9, 197-206.
[70]Scotus, *De Primo Principio*, sec.4.13.
[71]Scotus, *De Primo Principio,* sec.4.14; *Ordinatio* I, d.38 p.2 & d.39, qq.1-5, nn.13-16 (Vaticana VI.414-419).
[72]Scotus, *Ordinatio* I, d.2, p.1, q.1-2, n.53 (Vaticana II.158-159).
[73]Scotus, *Ordinatio* I, d.38, p.2 & d.39, qq.1-5, n.16 (Vaticana VI.417-419).
[74]Scotus, *Ordinatio* III, suppl. d.26; ABW 178-181; *Rep.Par.* II, d.6, q.2.

created co-lovers for such high society: hypostatic union with God the Son for the soul of Christ, graces for all of the elect, and laws ordering human acts to eternal destinies. Next, God permits angelic and human co-lovers the use of their free will. Last and strikingly, God creates the material world for the sake of human beings, so that human souls can be metaphysically complete substances, "do their" human "thing" as rational animals, and reproduce enough to "fill up the number of the elect."[75] Scotus here endorses a view taken from Aristotle: that the material world exists only for the sake of human beings.

Laws and Policies: God, the Creator, is the law-giver. Once again, for Scotus, laws govern only voluntary agents, not natural agents. There is no *law* that fire heat nearby combustibles. Nevertheless, Divine laws have an indirect impact on natural agents insofar as God institutes policies for Divine concurrence with natural causes. Adam's fall (human sin) represents a plot complication that chapters human history into different states--Eden, after the fall but before the old law, under the old law, after the fall but under grace, heaven--distinguished by differences in the laws and policies that God institutes for them. Scotus reserves the term 'natural law' for necessarily true self-evident practical principles that apply to humans in every state,[76] and recognizes only one: 'if God exists, God alone must be loved'.[77] Not even God could make it false or dispense anyone from the obligation to observe it. But other commandments fail to count as natural laws, because they are relevant only in certain conditions: e.g., 'don't steal!' is otiose before the fall and in heaven, where there is no private property[78]; 'confess your sins!' has no application in the state of innocence before the fall.[79] Most laws instituted by God are positive laws that have effect only because they are made and promulgated by God.[80] Scotus emphasises that, not only *could* God have made alternative appropriate laws, God *has* issued different laws for human beings in different cultural situations: for example, the old law cult enjoined circumcision and animal sacrifice, but--with the coming of Christ--these laws have now been abrogated in favor of new law cult that requires baptism and eucharistic reception.[81] Likewise nullified with Christ's coming was--in Scotus' judgment--the Mosaic law's permission of divorce.[82]

What is important for present purposes, however, is Scotus' conviction that where Divine concurrence with natural causes is concerned, God has instituted different policies for different states. Scotus is explicit: the natures themselves remain the same in different states[83]; it is God's willingness to concur with them in their natural activity that changes. [1] Most dramatic cosmologically, is Scotus' declaration that in this mortal life, God, always or for the most part, co-operates with natural causes in generation and corruption, but in the immortal life God will no longer cooperate with natural causes in generation and corruption. This policy difference is explained by the fact that generation and corruption serve God's purpose in this mortal life (for filling up the number of the elect and for punishing sin). But it will no longer serve God's purpose after the judgment, when the number of the elect has been filled up, and humans and angels enter into their eternal destinies. Always-or-for-the-most-part natural functioning

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[75]Scotus, *Ordinatio* III (suppl.), d.32 (Assisi com. 137, fol. 174ra-va); ed. and trans. by Allan B. Wolter in *Franciscan Christology,* ed. by Damian McElrath (St. Bonaventure, NY: Franciscan Institute Publications, 1980), 154-157.
[76]Scotus, *Ordinatio* IV, d.17; ABW 264.
[77]Scotus, *Ordinatio* III, suppl. d.37; ABW 276.
[78]Scotus, *Ord.* III, suppl. d.37; ABW 276, 280.
[79]Scotus, *Ordinatio* III, suppl. d.37; ABW 270.
[80]Scotus, *Op.Ox.* IV, d.3, q.4, n.X; Wadding VIII.193-194; *Reportata* I, d.44, q.1, n.9; Wolter and Bychov.533.
[81]Scotus, *Ordinatio* IV, d.17; ABW 264-268; *Op.Ox.* IV, d.25, q.2, n.6 (Wadding IX.571).
[82]Scotus, *Op.Ox.* IV, d.33, q.3, n.5 (Wadding IX.71).
[83]Scotus, *Op.Ox.* d.49, q.12, n.6 (Wadding X.574).

of sublunary substances is a temporary "this worldly" thing. God cooperates now, because we are in "the era of motion," but God will not cooperate then, because we will be in "the era of rest."[84] Accordingly, Scotus declares, the Aristotelian tag "nothing violent is perpetual" is not true for theologians, because Divine power can conserve any particular perpetually under the opposite of that to which it is naturally inclined.[85]

[2] Nor are general Divine policies of withholding concurrence restricted to the immortal life to come. Some also are in force in this present mortal life. For example, Scotus maintains, the adequate object of a cognitive power must subsume any and all of the objects it can by nature cognize.[86] Scotus argues that if the elect will see God, Aquinas must be wrong in identifying the adequate object of the human intellect as the quiddities of material things. Rather the adequate object must be general enough to cover both material and immaterial things, so that being is the adequate object of our cognitive faculties. Scotus then faces the problem of why--if being is the adequate object of our cognitive faculties--we have no regular cognitive access to immaterial things in this mortal life. He explains that in this present state God does not concur with immaterial things in causing cognitions of themselves in us, whether as a punishment for sin or out of a desire to harmonize the intellectual and the sensory within the human being.[87] A similar explanation will have to be given if why, if being is the adequate object of the human intellect, we have no acquaintance with contracting differences (better known as haecceities). What these cases show is that we cannot validly infer from observed quasi-regularities here below to nature. There is another explanation for why human cognition in this mortal life begins with sense experience: viz., Divine refusal to cooperate with immaterial objects in causing cognitions of themselves.

[3] What regularly happens in the eucharistic rite represents a package policy of solo Divine actions and refusals of concurrence needed to produce the changes involved in the Christian mass: the bread substance ceases to be; the bread accidents exist independently of inhering in any substance; the same effects are observed in the bread accidents and in other nearby objects as would be produced if the bread substance were still there; the Body of Christ is really present under the consecrated host and goes wherever it does so long as the bread accidents remain.

When it comes to relating these policy differences in (1)-(3) to the concepts of "law" and "miracle," Scotus' discussion is muddy. On the one hand, in *Ordinatio* I, d.44, q.u, Scotus assumes that laws (as opposed to judgments) must be general.[88] He explains that even if God has laid down law L, God as law-maker cannot break law L. If God acted otherwise than prescribed by L, God would thereby abrogate L and establish an alternative law L*.[89] In *Op.Ox.* IV, d.49, q.12, Scotus cites Augustine in favor of the view that "God for this state disposed to act together with things and allow them their proper actions."[90] Yet, this general concurrence policy cannot have the status of a law as defined in *Ordinatio* I, d.44, q.u, because God did not concur with the fire to consume the three boys in the furnace (Daniel 3:1-30), and God did not concur with the heavenly spheres and bodies when God "stopped" the sun for Joshua (Joshua 10:12-14) and eclipsed it at the death of Christ (Matthew 27:45; Mark 15:33; Luke 23:44).[91] Neither did God concur with mortal bodies to produce effects causally incompatible with beatific vision and enjoyment in the soul of Christ throughout His earthly career or in the soul of St.Paul

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[84]Scotus, *Op.Ox.* IV, d.49, q.13, n.11 (Wadding X.587).
[85]Scotus, *Op.Ox.* IV, d.49, q.13, n.14 (Wadding X.592).
[86]Scotus, *Ordinatio* I, d.3, p.1, q.3, n.186 (Vaticana III.112).
[87]Scotus, *Ordinatio* I, d.3, p.1, q.3, n.187 (Vaticana III.113-114); *Quodlibeta*, q.14, n.12 (Wadding XII.373).
[88]Scotus, *Ordinatio* I, d.44, q.u, nn.9-11 (Vaticana VI.367-368).
[89]Scotus, *Ordinatio* I, d.44, q.u, nn.5-8 (Vaticana VI.363-366).
[90]Scotus, *Op.Ox.* IV, d.49, q.2, n.6 (Wadding X.574).
[91]Scotus, *Reportata* I-A, d.44, q.1, n.17; Wolter-Bychov 536-537.

when he was raptured.[92] Likewise, God does not concur with the human intellect and nearby immaterial objects to produce human acts of understanding immaterial objects in this mortal life. These exceptions mean that Scotus cannot consistently claim that general Divine concurrence is a law for this present state, although he might count it a "quasi-law" that--considering natural causes in the universe as a whole--God always or for the most part concurs in this present state.

Likewise, miracles are supposed to be exceptions to the common course. In *Op.Ox.* IV, d.49, q.12, Scotus suggests that the common course is determined, not by natural regularities alone, but also by Divine concurrence policies, and that--since Divine concurrence policies are different for different states of human nature--what counts as a miracle will change from state to state, too.

> "In this mortal life, the natural cause always does its effect unless it is obstructed by a contrary. If its action is suspended otherwise than through its opposite, it is a miracle. God cannot do such with respect to the common law. But in the immortal life, there will be no such necessity with respect to the natural effect. For this state, God has disposed to act together with things and allow them to have their proper actions... But in that state, God will not act together with them to corrupt one another and will not act together with them for many other effects. Therefore, it is not a miracle if they do not have their effects--especially their imperfect effects--then."[93]

Again, speaking of God's preservation of human bodies from corruption, Scotus remarks,

> "...Although this would *now* be a miracle regarding the body of the just, because now is the time of change and mutual interaction of bodies, nevertheless, *then* it will be a state of rest and lack of change in bodies and then it will be natural or usual, according to the common course that God acts for rest, just as now for motion."[94]

Scotus does not stick to this usage, however. If God's general policies shape what counts as the common course for a given state of human history, then God's package of eucharistic effects, which are regular during the state of grace, should not count as miraculous. But Scotus still worries about whether new or old miracles are involved when Christ's Body goes wherever the consecrated host goes.[95] Likewise, if God's non-cooperation with naturally corruptive action is general for the immortal life to come, then why is Scotus concerned about how many miracles are involved in preventing hell fire from burning up the bodies of the damned?[96]

Important for present purposes, however, is that--for Scotus--formal principles of action and causal powers are what fundamentally explain. God may have reasons for adopting different policies of Divine concurrence and solo Divine action in different states of human history. But it is Divine and creatable natures themselves that give rise to the web of dependence and independence relations that obtain prior in the order of explanation to anyone's thought or will, human or Divine.

VI. Ockham on Powers and Laws:

Divine and Other Powers: Ockham infamously embraces a metaphysics of power, pre-eminently of Divine power, of Divine omnipotence, not power to make contradictories true,[97] but unobstructible[98] power to act alone to produce whatever is producible, to destroy whatever is destructible, and to prevent whatever is preventable. Nevertheless, Ockham does not think that God has a monopoly on power.

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[92]Scotus, *Op.Ox.* IV, d.49, q.12, n.7 (Wadding X.574).
[93]Scotus, *Op.Ox.* IV, d.49, q.12, n.6 (Wadding X.574).
[94]Scotus, *Op.Ox.* IV, d.49, q.13, n.11 (Wadding X.587).
[95]Scotus, *Op.Ox.* IV, d.10, q.6, n.X; Wadding X. XXX.
[96]Scotus, *Op.Ox.* IV, d.44, q.3, nn.4-7 (Wadding X.150-152).
[97]Ockham, *Quaest. in I Sent.* d.20, q.1; OTh IV.36; *Quest. in IV Sent.* q.10-11; OTh VII.204.
[98]Ockham, *Quaest. in I Sent.* d.46, q.1; OTh IV.678-679.

Ockham wrote, not one, but four works on Aristotle's *Physics*. Aristotelian natural philosopher that he is, Ockham thinks that created causal power is to be inferred from experienced regularities: roughly,

> [A5] if whenever A's are posited, B's are posited, and when A's are not posited and all other relevant conditions are held constant, B's are not posited, then A's are efficient causes of B's.[99]

Ockham does not think such experienced regularities ground a *demonstration* of efficient causal power in A's to produce B's. There could be another explanation of the correlation between A's and B's: viz., the will-power of another. This is what Ockham thinks happens in Christian sacraments: when the prayer of consecration is said over eucharistic bread and wine, the substance of the bread and wine cease to be and the Body and Blood of Christ come to be present where the bread and wine accidents still are. This regular sequence is secured, not by any efficient causal power in the priest or in the words uttered or in the gestures made during the rite, but by God's will and established policy to transubstantiate bread and wine over which this rite is performed. Ockham says that when the regular correlation between A's and B's is explained by the will of another, we can say that A's are a *sine qua non* cause of B's. But A's are efficient causes of B's properly speaking only when the correlation is fixed by an exercise of A's efficient causal power *(virtus)* to produce B's.[100] Ockham acknowledges, God could have made it a rule that whenever fire comes near, God acts alone to produce heat in the nearby combustible. Nevertheless, Ockham refuses to take occasionalism seriously as a hypothesis about what really happens, or to recognize any *sine qua non* causes in nature. His reason is that if we didn't regard experienced correlations in nature as a sufficient condition of A's having efficient causal power to produce B's, we would have no other way of proving the existence of such powers or distinguishing cases where A's exercize of efficient causal power is the explainer and cases where it is not.[101]

So, for Ockham, God *is* efficient causal power, and creatures *are* (e.g., in the case of heat) and *have* (e.g., in the case of fire) efficient causal power. Always or for the most part, where effects here below are concerned, God and creatures exercize their efficient causal powers together to produce them. No created cause can produce any effect without Divine cooperation. But Ockham disagrees with Scotus regarding the shape of that cooperation. Scotus envisioned an essentially ordered causal series in the production of sublunary effects: Ferdinand the bull and Beulah the cow were proximate causes in the generation of Elsie. But essentially ordered to their action was the sun whose rotation causes the uneven heating of elements that makes generation and corruption here below possible at all. And essentially ordered to the heavens is God, the first cause. According to Scotus, the sun depends on God not only for its existence, but also in causing; and the bovines depend on the sun in causing. Thus, God is the prior and remote, while Ferdinand and Beulah are the posterior and proximate causes of Elsie. Ockham challenges Scotus to give a coherent account of just what such dependence in causing is. It is not that the prior cause always produces some quality in the posterior cause or moves the posterior cause (as when the hand moves the stick that moves the ball). In cases where neither of those happens, Ockham contends, dependence in causing is just a function of their each being immediate but partial causes of a common effect.[102] Ockham's own position is thus that always or for the most part, here below, God does not act alone but is an immediate partial cause of any and every effect, while the created cause is another immediate partial cause of the same effect.[103]

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[99]For a catalogue of variations on this formulation, see my *William Ockham* (University of Notre Dame Press, 1987), ch. 18, 741-750.

[100]Ockham, *Quaest. in IV Sent.* q.1; OTh VII.12-17.

[101]Ockham, *Quaest. in IV Sent.* q.3-4; OTh V.72-73; q.1; OTh 12, 17. See also *Ordinatio* I, d.42, q.7; OTh IV.618.

[102]Ockham, *Quaest. Phys.,* qq.132-133; OPh VI.754-759.

[103]Ockham, *Quaest. in Sent. II* qq.3-4; OTh V.66; *Quaest.Phys.* q.132; OPh VI.756; q.133; OPh VI.758.

As just implied, Ockham understands Divine power to include power to interfere with created natural causes in multiple ways: by suspending their action (as with the three boys in the fiery furnace), by acting alone to produce the effects that God could produce in cooperation with them (Solo Divine Action),[104] by making naturally united really distinct things to exist separately (notably, accidents without substance, substance without accidents, matter without form and vice versa).[105] God can make things distinct in place and subject to exist one without the other.[106] God can make all of the material parts of a substance and/or multiple distinct bodies exist in the same place at the same time (as in the Body of Christ in the eucharist[107] or in the virgin birth or the ascension of Christ's risen body through unriven heavens (Acts 1:9)[108]). Ockham repeatedly uses premises about what God can and cannot do in nature to make explicit the modal properties of things here below. But--except for miracles reported by the bible and the saints, and Divine policies to produce "special effects" in the sacraments--Divine interference is rare. God for the most part cooperates with natural causes to produce their natural effects. Aristotelian natural science can get on with its work.

By contrast with Aquinas and Scotus, Ockham is more pessimistic about what unaided natural reason can use cosmological arguments to prove. Natural reason cannot prove that there is only one first cause and not many or that the heavenly bodies and/or separate substances are not sufficient (together with sublunary causal powers) to cause generable and corruptible things here below.[109] Natural reason can't demonstrate that God is an immediate partial cause of all producibles,[110] or that the first cause is intensively infinite.[111] Moreover, Ockham argues that natural reason is double-bound when it comes to proving that God has surplus power to do more or otherwise than God does and/or proving that God is free in the exercize of Divine power in relation to creatures. Because unobstructed natural agents act to the limit of their power to produce their full effect, God could have surplus power only if God were not a natural agent but free. Yet, natural reason could prove that God is free only if it could establish that God

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[104]Ockham, *Ordinatio*, Prologue, q.11; OTh I.313; I d.1, q.3; OTh I.417; *Quodlibeta* IV, q.22; OTh IX.404; IV, q.25; OTh IX.419; VI, q.6; OTh IX.604-605; VI, q.12; OTh IX.632; VII, q.3; OTh IX.710.
[105]Ockham, *Quodlibeta* IV, q.23; OTh IX.409-412. Re the naturally prior without the naturally posterior, see Ockham, *Ordinatio*, Prologue, q.11; OTh I.313; I, d.1, q.3; OTh I.417; *Quodlibeta* IV, q.22; OTh IX.404; VI, q.6; OTh IX.604-605.
[106]Ockham, *Ordinatio*, Prologue, q.11; OTh I.313; I, d.1,q.3; OTh I.417; *Quodlibeta* IV, q.22; OTh IX.404; VI, q.6; OTh IX.604-605.
[107]For a full discussion of Ockham's views about the relation of bodies to place, see my *Some Later Medieval Theories of the Eucharist* (Oxford University Press, 2010), ch.7, 152-162.
[108]Ockham, *Quodlibeta* IV, q.31; OTh IX.453.
[109]Ockham, *Quodlibeta* II, q.1; OTh IX.108.
[110]Ockham, *Ordinatio* I, d.45, q.1; OTh IV.668; *Quaest in II Sent.* qq.3-4; OTh V.60-66, 72-73; *Quodlibeta* II, q.1; OTh IX.107.
[111]Ockham, *Quodlibeta* II, q.2; OTh IX.113; III, q.1; OTH IX.204; VII, q.11; OTh IX.742-743.

has surplus power.[112] In particular, Ockham rejects Scotus' attempts to prove that God is intensively infinite[113] as well as his inference from contingency here below to contingency in the first cause.[114]

Overall, Ockham thinks, there are numerous competing philosophical theories about what supplements the efficient causal powers of sublunary entities, and natural reason alone does not single out one as decidedly preferable to others. Besides critiquing arguments to the contrary, the best Ockham can do is give his own position rigorous formulation and furnish dialectical persuasions that display its competitive advantages.

Laws as Jurisprudential: Provable or not, Ockham's God is a free agent, possessed of the liberty of indifference, with no obligations to anyone other than Godself.   As for Scotus so for Ockham, law is a jurisprudential concept that is relevant only for voluntary agents. The notion of law comes up only once in Ockham's four books on physics, when he declares that the philosophers' tag 'nothing comes from nothing' is absolutely false and unsurprisingly leads to conclusions that are absolutely false, "speaking according to our laws"--i.e., laws about what Christians must believe to be saved![115] In his political works, Ockham is content to speak of strict-sense natural laws (self-evident principles of morals or evident inferences from them, such as 'a harmless innocent person ought not to be killed') as opposed to those it takes more reasoning or even special expertise to infer, and to contrast natural laws which hold in every state of human nature (Ockham instances 'do not commit adultery' and 'do not lie') from those that apply to some human conditions and not others.[116]

By contrast with Scotus, Ockham does not give much explicit attention to the way the world will be reordered in the immortal life, and so does not reflect on *actual* contrasting patterns of Divine concurrence with natural causes for different states. Instead, Ockham notoriously explores the modalities of Divine laws that order rational creatures to eternal destinies. Ockham insists that these are *positive* laws, both because God has no obligations to creatures,[117] and because nothing about rational creatures-- even exemplary moral performance--is intrinsically and naturally worthy of eternal life. [118] God could annihilate humans at death.[119] God could issue commands that would frustrate our highest function: viz., rational self-government that wills whatever right reason dictates because right reason dictates it. For suitably informed right reason dictates that God should be loved above all and for God's own sake and that any Divine commands ought to be obeyed for God's sake. But Divine liberty of indifference could issue a general command not to follow right reason and/or could command acts of the sort that the second

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[112]Ockham, *Ordinatio* I, d.43, q.1; OTh IV.632-33, 635-636, 638; *Quaest. in II Sent.* qq.3-4; OTh V.53-56.
[113]Ockham, *Quodlibeta* II, q.2; OTh IX.113; III, q.1; OTh IX.204; VII, q.11; OTh IX.743-743.
[114]Ockham, *Ordinatio* I, d.43, a.1; OTh IV.632-33, 635, 68; *Quaest. in II Sent.*, qq.3-4; OTh V.54-55.
[115]Ockham, *Brevis Summa Libri Physicorum,* Liber VII, c.1; OPh VI.117.
[116]Ockham, *Dialogue,* Part III, Tract II, Book I, ch.11, 261; ch.15, 273-274; Book III, ch.6, 286-290, in *William Ockham: A Letter to the Friars Minor and Other Writings*, ed. by Arthur Stephen McGrade and John Kilcullen, trans. by John Kilcullen (Cambridge, UK: Cambridge University Press, 1995).
[117]Ockham, *Quaest. in II Sent.* qq.3-4; OTh V.59; q.15; OTh V.342-343. *Quaest. in IV Sent.* qq.3-5; OTh VII.55; *De Connexione Virtutum,* q.7, a.4; OTh VIII.389-90; *Quodlibeta* III, q.4; OTh IX.219.
[118]Ockham, *Ordinatio* I, d.17, q.1; OTh III.445-466.
[119]Ockham, *Quaest. in IV Sent.,* qq.3-5; OTh VII.55.

table of the ten commandments forbids (e.g., what is now called 'theft' and 'adultery').[120] If God did, rational self-government would be stalemated, because right reason would issue contradictory dictates for the same agent at the same time. Worse still, Divine liberty of indifference could promulgate a paradoxical command not to love God[121] or to hate God,[122] where to obey is to love a little bit and so to disobey and to disobey is to obey a little bit. And God could send Hitler and Pol Pot to heaven and the St. Francis and Mahatma Gandhi to hell. Ockham probes these possibilities, neither to scandalise nor to threaten, but to amplify our amazement at what Divine soteriological laws actually do: viz., align merit and Divine acceptance with morally virtuous performance and sacramental participation, in such a way as to give it eternal significance.

VII. Powers, Laws, and the Order of the World:

Aquinas, Scotus, and Ockham were Aristotelians in natural philosophy. They took for granted that natural agency is to be explained in terms of formal functional principles and/or powers in the natural agents themselves. What sublunary agents don't explain, finds its explanatory ground in the causal powers of the heavens or the separate substances or ultimately in the omnipotent God. Even voluntary agency presupposes formal functional principles of intellect and will. When Scotus emphasizes the divide between natural and voluntary agency, he roots it in the contrast between two kinds of *power*.

Nevertheless, all three authors think that God is the principal determiner of the order of the world and is active in ordering it to an end. For Aquinas, Scotus, and Ockham, there is Divine agency that is both omnipotent and voluntary. Because omnipotence does not include power to do the metaphysically impossible, God does not have control over the contents of creatable natures (i.e., over the functional principles, causal powers, and natural inclinations that constitute them). But God does decide which natures exist as well as whether and to what extent they get to exercize their powers. Aquinas, Scotus, and Ockham all agree that Divine power could systematically suspend the activity of any and all created agency, so that God acted alone to produce everything that happens. They also concur that this is not what God does do in this present state. In this present state, God acts together with natural powers so that they get to "do their thing" always or for the most part--some always (say, the fixed stars), some for the most part (say, fire heating). There *are* miracles. Moreover, Scotus emphasizes that Divine policies of concurrence are different for different states of human nature. In this present life, he argues, God systematically refuses to cooperate with immaterial objects in causing cognitions in the human intellect. In the immortal life, God will systematically withhold concurrence with natural causes of generation and corruption. His predecessor Bonaventure insisted that many natures that exist now (plants and non-rational animals) will no longer exist then, and the heavens and the elements will no longer be permitted "to do their thing."

Divine power also orders created voluntary agents, not only by planting self-evident natural laws into their minds, but also by instituting and promulgating positive laws to organize communities, to order them to an eternal destiny, and to give their actions eternal significance. For Aquinas, Scotus, and Ockham, this is what interests God most in creation. And God has already issued different sets of positive laws for different states of human history.

Thus, according to Aquinas, Scotus, and Ockham, there have already been several different world-orders with a moral radical change yet to come. What differs in the different states is not the natures and their contents, but the stable system of laws or policies that God has establishes.

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[120]Ockham, *Quaest. in IV Sent.,* q.16; OTh VII.352; *De Connexione Virtutum,* q.7, a.4; OTh VIII.391.
[121]Ockham, *Quodlibeta* III, q.15; OTh IX.256-257.
[122]Ockham, *Quaest. in II Sent.,* q.15; OTh V.348, 352-353.

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