

Can Creatures Create?

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A Family of Problems

Medieval Christians confess, Almighty Power is creative, *de facto* Creator of everything other than Godself. But can creatures be creators? For medieval latin school theologians, this question subsumed a number of philosophical issues about causal power and the metaphysical structure of causes and effects.

Aristotle's philosophy was full of reasons why it would be impossible for anything to create. For Aristotle, the *existence* of the basic furniture of the universe does not require an explanation: the existence not only of the unmoved mover but also of heavenly spheres, sublunary species, and prime matter are necessary, metaphysical givens. What demands an accounting is change. Against Parmenides, Aristotle argued for the intelligibility, the metaphysical possibility of change, by analyzing it in terms of form, privation, and substrate that persists through the change. Aristotelian physics focuses on locomotion and transformations (substantial, quantitative, and qualitative changes) all of which presuppose a patient subject that changes places and/or is transformed.

By contrast, *The Book of Causes*, Arab philosophers including Avicenna and Alfarabi, shared the dissatisfaction of earlier Neo-Platonists with the notion that the first being is only an unmoved mover, a final cause that moves by being desirable and desired, and is not also and more fundamentally a source of the existence of everything other than itself. They held that the first being acts by natural necessity, necessarily emanates its effect. But – they reasoned – since the first being is altogether simple, it necessarily emanates only one simple effect-simple, not in the sense of being identical with its own *esse*, but in the sense of being another intelligence rather than a matter-form composite. As Avicenna says, natures other than the first being are possible of themselves, but exist necessarily because produced of natural necessity by what exists and acts necessarily. They drew the obvious

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conclusion that the first being produces everything other than the second being *only indirectly* by means of its immediate effect. But since they envisioned a hierarchy of ‘separate’ intelligences descending from the first being at the top, down to the Agent Intellect at the bottom, the intelligence produced by the first being will be the immediate cause of yet another intelligence which is not composed of matter and form. Hence, in their attempt to make the first being somehow account for the being of other things in the universe, they also posited that a creature (an effect of the first being) produces another substance without presupposing any pre-existent matter. Does this not mean that a creature can create?

Further reflection on Aristotelian physics challenged the idea that natural causes necessarily presuppose material ingredients or left-overs. In some accidental changes, one material form acts to make another material form altogether cease to exist (become *purum nihil*) (e.g., when a very high degree of heat causes a low degree of cold no longer to be; when heat rarifies air and so makes the smaller quantitative form no longer to be). Likewise, in substantial change, the initial substantial form altogether ceases to be (becomes *purum nihil*). Nor can it be said that these are reduced to the potency of the matter in which they were previously actual. For in an Aristotelian universe, nature does not return numerically the same thing again. So even if the matter is in still in potency with respect to forms of the same species, it will not be in potency with respect to *numerically* the same form. The individual forms we started with have been reduced to nothing! Does this not imply that creatures can annihilate?

The doctrine of transubstantiation – according to which bread- and wine-accidents remain after eucharistic consecration but without existing in any subject – spawned further putative counter-examples. For experience suggests that natural causes interact with what remains on the altar or in the tabernacle in all of the usual ways: constant room temperature conserves the warmth, while cold corrupts it; worms and mold are spontaneously generated, vinegar produced where wine used to be. Again, what if God annihilated the medium through which light is transmitted? Wouldn’t, couldn’t the sun still produce light without any patient–subject presupposed?

Medieval Christian theologians wanted to go beyond their Neo-Platonist and Arab philosophical interlocutors in promoting God’s sovereign independence over creation. Not only does the existence of everything other than God find its source in God. Not only does Divine power not depend on any other *prior* cause in acting. Divine power is *sufficient by Itself* to produce any creatable *immediately and directly*, and to produce a whole universe of creatables immediately and directly, all by Godself. This is metaphysically possible because God – though simple – does *not* act by *natural necessity*, but by *free and contingent Divine choice*. Moreover, if God acts by intellect and will, God does not – like Plato’s Demiurge – get Divine ideas by looking to things independent of Godself. For Aquinas, God knows creatures as a result of knowing Godself. For Henry of Ghent, the Divine essence necessarily emanates the Divine ideas into *esse essentiae*. Scotus follows Avicenna in supposing that creatable natures are what they are of themselves, but insists that the Divine intellect produces them in *esse intelligibile*. Likewise, Divine activity does not – like human artisans or Plato’s Demiurge – presuppose matter on which to act, but creates the matter simultaneously with its forms. Nothing other than God is necessarily existent – not Platonic forms, not the receptacle, not the heavens. Nothing is coeternal with God either, in the sense of existing all the while God exists.

At the same time, medieval Christian theologians stood against Moslem theologians who embraced occasionalism: that God is the only real efficient cause of anything; that observed correlations among creatures do not indicate any real causal power and/or activity on their

part. Aquinas suggests, secondary causality is a sign of Divine generosity, of Goodness sharing Itself out. Metaphysically and physically, Christian school theologians imitated Aristotle in inferring from observed correlations to explanatory entities (natures, or inward principles of motion) within sublunary things themselves. This raised further philosophical questions. If – as Aristotelian physics says – natural causes are involved in the generation and corruption of things and of substantial change, can God still be said to create them? Even if natural agents could not create all by themselves, could they somehow cooperate with God? Could they, do they make some sort of efficient causal contribution to the creation of another?

Aquinas' Assessment

Must Creatures Create? Countering Avicenna

Here as elsewhere, Aquinas found much philosophy to be learned by wrestling with Avicenna. Aquinas agrees that Divine simplicity combines with

[T1] God acts by the necessity of God's nature;
and

[T2] One simple thing can have only one immediate effect.¹
to imply that

[C1] God produces only one effect immediately, and produces other things by means of creatures.

If God acted by natural necessity, God's effect would be determined by God's nature. Avicenna elaborates:

- [a] the first being understands itself and thereby produces one caused thing (= the first intelligence) by its one simple act of understanding (by T2);
- [b] the first intelligence is not a composite of matter and form but is not so simple as God because it is a mixture of potency and act;
- [c] by understanding the first being, the first intelligence produces the second intelligence;
- [d] by understanding itself, the first intelligence produces the heavenly body that it moves.

Thus, the diversity and plurality of things arises from the necessity of the natures of the active powers in the descending chain.²

In *De Potentia* 3.16.c, Aquinas diagnoses the philosophical problem behind the question – could many effects proceed from the first cause – as that of what determines a cause to its effects.

The principle that *like causes like* suggests that diversity among the effects would have to be traced back to some diversity or difference within the cause. But there is no such diversity or difference in a *simple* cause. Therefore, there can be no diversity in its effects.

Moreover, the principle that *like causes like* dictates that a simple cause would have effects that resembled it at least in not being composed of matter and form. But matter is the

¹ Aquinas, *De Potentia* 3.4.c.

² Aquinas, *De Potentia* 3.16.c.

principle of individuation. So where there is no diversity of effects, there will be no *plurality* either. Hence [T2]. If Avicenna were right about [C1], then – given the empirical reality of many and diverse effects – creatures *would have to* create, at least in the sense of producing effects without presupposing any material component!

Avicenna has begun top down, with the first being, and with [T1] and [T2]. By contrast, Aquinas begins bottom up, with his contention that

[T3] the universe is a plurality of things organized in the best way they could be organized and for the best end.

Even on Avicenna's modified Aristotelianism, natures explain piecemeal: specifically, natures explain why things of given kinds act and suffer in certain ways. The nature of fire explains why fire burns up nearby combustibles, melts wax, boils water, etc. The nature of wood explains why it is reduced to ash, of wax why it melts down, of water why it heats up in the presence of nearby fire. But none of these natures explains why the fire and the wood/wax/water are spatially proximate to one another. On Avicenna's picture, the diversity of natural agents explains the plurality and diversity of effects piecemeal, in terms of their being the term of the active powers that produce their effects. But on Avicenna's picture, there will be no *explanation for the teleological ordering of the universe as a whole*. For Aquinas, such coordination of natural agents, the ordering of the whole universe to the best end, requires an intentional agent, one that acts not by natural necessity, but by intellect *and will*!³

Moreover, the application of the principle *like causes like* is problematic where Divine causality is concerned. True, God is one and simple. This means that God's *agere* (God's *intelligere* and God's *velle*) is identical with God's *esse*, so that God understands by one simple act and wills by one simple act.⁴ But where God is concerned, the only cases of adequation between producer and product are among the persons of the Trinity: e.g., the Son perfectly imitates the Father; presumably the Holy Spirit, the Father and the Son.⁵ It is impossible that there should be an *adequation* between God and creatures⁶: even the single effect of Avicenna's simple God is not so simple as God is, because it is a mixture of potency and act; although the first intelligence exists necessarily, its essence of itself is only possible. For Aquinas, creatable natures just are – at metaphysical bottom – ways of imitating the Divine essence; God knows them all by knowing the Divine essence and conceiving of how many ways it is imitable. But it is metaphysically necessary that each and all of them imitate the Divine essence *only imperfectly*.⁷

Therefore, Aquinas finds it necessary to reassess the way in which God's effects may or must resemble their cause. Like the Divine essence, each creature is numerically one in itself (*unum convertitur cum ente*). But because it takes diversity and hence plurality to make a tolerably rich collective Godlikeness, it isn't necessary that God's whole output be numerically one, so long as the *universe* has a unity of order.⁸

³ Aquinas, *De Potentia* 3.16.c; cf. Aquinas, *Summa Theologica* 1.2.3: the 5th way.

⁴ Aquinas, *De Potentia* 3.16.ad 11 $\mu\mu$, 13 $\mu\mu$, 15 $\mu\mu$, 23 $\mu\mu$.

⁵ Aquinas, *De Potentia* 3.16.ad 12 $\mu\mu$.

⁶ Aquinas, *De Potentia* 3.16.ad 7 $\mu\mu$.

⁷ Aquinas, *Summa Theologica* 1.15; cf. Aquinas, *De Potentia* 3.16.ad 13 $\mu\mu$.

⁸ Aquinas, *De Potentia* 3.16.ad 1 $\mu\mu$, 2 $\mu\mu$, 10 $\mu\mu$.

Moreover, on Aquinas' understanding, the lack of adequation applies not only to individuals, but also to congeries or universes of creatures. Aquinas agrees with the claim he attributes to Plato and gets from Pseudo-Dionysius –

[T4] that Goodness by nature is self-diffusing, shares Itself out.

But he denies the conclusion drawn by many⁹

[C2] Divine Goodness would always share with creatures as much goodness as they can receive.¹⁰

The incommensuration between Divine Goodness and any created *universe* is such that there is no best created congeries of things: for every one, there is a better one. So it is not the case that Divine Goodness would oblige God to create the best and hence determine what God would will.¹¹

Rather what omnipotent voluntary power creates is determined by the order of Divine wisdom, and creatures conform to their cause, not by assimilating themselves to the Divine essence directly, but by conforming to Divine intentions, the way artifacts match up to the artisan's plan.¹²

Created Creators – A Metaphysical Impossibility

If Avicenna is wrong to conclude that creatures *must* create (in the sense of producing something without presupposing matter), Aquinas thinks there are decisive metaphysical reasons for holding that

[C3] it is impossible for creatures to create.

Aquinas explains that strictly speaking

[Def 1] Creation is active power [a] by which things are produced in being (*esse*) [b] without any matter's being presupposed (*ex nihilo*) and [c] without any prior agent's being presupposed.¹³

Elsewhere, Aquinas observes that – since *esse* belongs properly speaking only to subsistent things and not to matter or material forms or accidents that exist only insofar as they are constitutive principles of or exist in a subsistent thing – properly speaking only subsistent things are creatable.¹⁴

Aquinas begins by arguing that creatures cannot satisfy condition [a] by being the principal cause of *esse* in something else; then that creatures fall short of condition [b] insofar as they presuppose a material cause in acting. Finally, he probes creatures' failure to meet condition [c] by explaining the relation between primary and secondary causes.

Only the first cause can be the **principal** cause of being (*esse*). (1) First, Aquinas appeals to the principle that

[T5] action (*agere*) pertains to an agent insofar as it is in act.¹⁵

⁹ Cf. Aquinas, *De Potentia* 3.16,arg.20.

¹⁰ Aquinas, *De Potentia* 3.16.ad 17 μ m–18 μ m; Aquinas, *De Potentia* 3.7.c.

¹¹ Aquinas, *De Potentia* 3.16.c; cf. Aquinas, *Summa Theologica* I.25.6.

¹² Aquinas, *De Potentia* 3.1.ad 9 μ m; Aquinas, *De Potentia* 3.16.c, ad 5 μ m, ad 11 μ m.

¹³ Aquinas, *De Potentia* 3.4.c.

¹⁴ Aquinas, *De Potentia* 3.1.ad 12 μ m.

¹⁵ Aquinas, *De Potentia* 3.1.c.

He cites two measures of the degree to which something is in act: the internal measure is how actual *esse* pertains to it, whether as a whole or through a part; the external measure is how or to what degree it contains the perfections of other things. God is pure act; the Divine essence is identical with Its *esse*¹⁶ and is all perfection *per se*.¹⁷ Other beings are possible only because they are ways of (imperfectly) imitating It.¹⁸ So, God acts as a whole to produce the whole subsistent being (say of fire or of Socrates or of Beulah the cow) without presupposing anything else.¹⁹ By contrast, natural things are composites of matter and form (elsewhere, he might have said essence and *esse*) and so mixtures of act and potency that receive their actual *esse* through their forms. Neither does any natural thing contain in itself the perfection of everything that is or could be actual, but has an act that is determinate to a given species (e.g., to the species fire or whiteness). By [T5], Aquinas concludes that natural things are not active qua being in general but qua members of a given species. They cannot act of their own power to make anything to be *period* (to confer *esse simpliciter*) but – presupposing the *esse* of a thing – act to make it to be *F* or to be *G*. Hence natural things cannot be the *principal* cause of *esse* in others.²⁰

(2) Second, Aquinas contends that

[T6] the order of the effects is the order of the causes.²¹

Causes are ordered in a hierarchy according to the greater or lesser scope (universality) of their productive powers. In this argument, Aquinas envisions a hierarchy of effects within a single thing. In the order of explanation, *esse* is the first effect, with species- and individual-determination coming after in succession. From [T6], Aquinas infers, [a] the more universal the effect, the more universal the cause. Because [b] *esse* is the most universal effect, [c] only the first cause can produce *esse*. Created causes presuppose that effect and are applied by the first cause to superadd determination to being *F* or *G*, to being this *F* or this *G*.²²

Only the first cause can **produce** without presupposing matter or a material cause. (3) Aristotelian changes presuppose something that persists through the change: in locomotion, the mobile, in qualitative or quantitative change, the substance; in substantial change, prime matter. Thus, the respective terms are the subject's being or not being *here*, being or not being *thus qualified*, being or not being *this much*, being or not being *thus specified*. In all of these cases, the distances between form and privation are finite, insofar as location, substantial or accidental forms make a subject something finite. But creation is *ex nihilo*, so that the term-from-which is non-being *simpliciter* and the term-to-which is being *simpliciter*. Consequently,

[T7] there is an infinite distance between not-being *simpliciter* and being, and

[T8] an infinite distance can be traversed only by an infinite power.
Since God alone is of infinite power, no creature can be a creator.²³

¹⁶ Aquinas, *Summa Theologica* I.3.4.c.

¹⁷ Aquinas, *Summa Theologica* I.2.3, 4th Way; cf. *Summa Contra Gentiles* II.15.

¹⁸ Aquinas, *Summa Theologica* I.15.2.c; I.25.3.c.

¹⁹ Aquinas, *De Potentia* 3.1.c.

²⁰ Aquinas, *De Potentia* 3.1.c; cf. *Summa Contra Gentiles* II.21.

²¹ Aquinas, *De Potentia* 3.1.; 3.4.c.

²² Aquinas, *De Potentia* 3.4.c; Aquinas, *Summa Theologica* I.45.5.c; *Summa Contra Gentiles* II.15–16,21; *Summa Theologica* I.45.5.c.

²³ Aquinas, *De Potentia* 3.4.c, ad 2^{um}, arg.17; cf. *Summa Contra Gentiles* II.17,21.

(4) Again, [T5] agents act only insofar as they are in act. Creatures are mixtures of act and potency and are actual only through their forms. But

[T9] agents cannot be principal causes of effects more perfect than they are.

Therefore, non-subsistent material forms will not be able to produce subsistents, but only to cause forms to exist in a subject as they do. Hence non-subsistent material forms will always [not-a] presuppose a subject that receives the act and so cannot be creators.²⁴

God and creatures acting together? Reverting to his definition of creation, Aquinas notes that it is obvious that no creature can create, strictly speaking, because all secondary causes presuppose the first cause both for their being and for their acting and so fail to satisfy condition [c].²⁵ Like the Moslem theologians, Aquinas agrees that God works in natural things and that Divine power is adequate to produce all created things all by Godself.²⁶ But contrary to the Moslem theologians, Aquinas insists, God does not work in such a way that the natural thing does nothing. Rather God works in the workings of nature and will.²⁷ As the source of all being, God gives natural things the powers through which they act, and God preserves those powers in existence. As first mover and principal agent, God moves and applies the powers of natural things to action, so that all natural causes are instruments of Divine power the way the knife is the surgeon's instrument in making an incision.²⁸ If we consider the agent supposits, each particular created agent is immediate to its effect. But if we consider the power by which the action occurs at all, the power of the higher causes will be more immediate to the effect than the power of the lower.²⁹ Thus, both God and natural causes act immediately to produce effects here below.³⁰

Usually, where instrumental causes are concerned, Aquinas distinguishes what a thing can produce *through its own form* from what it can produce *by virtue of its participation in the power of the principal agent*. Through its own form, the instrument acts to produce an effect in its own order – e.g., the knife cuts or separates, heat heats – but cannot thereby reach the effect of the principal agent – e.g., removal of the lung tumor to save the patient's life, or formation of a foetus from the menses. Nevertheless, what the instrument does through its own form can be ordered by the principal agent to the production of the principal agent's effect, and when thus ordered the instrument is said to participate in the power of the principal agent. What the instrument does through its own form is supposed to dispose the matter for the effect of the principal agent – e.g., heating the menses disposes them to receive the animating substantial form.³¹ It follows that created causes cannot be *instrumental* causes in the *creation* of *esse*, because by definition [b] in creation there is no presupposed matter there to be disposed!

In *De Potentia* 3.7 and *Summa Contra Gentiles* II.21 and III.66, however, Aquinas applies his understanding of how higher causes act together with lower ones to explain how – even in producing effects of their own order – the latter are instruments of the former.

²⁴ Aquinas, *De Potentia* 3.4.c.

²⁵ Aquinas, *De Potentia* 3.4.c.

²⁶ Aquinas, *De Potentia* 3.7.ad 16 μ m.

²⁷ Aquinas, *De Potentia* 3.7.c.

²⁸ Aquinas, *De Potentia* 3.7.c.

²⁹ Aquinas, *De Potentia* 3.7.c, ad 15 μ m.

³⁰ Aquinas, *De Potentia* 3.7.ad 1 μ m.

³¹ E.g., Aquinas, *Summa Theologica* I.45.5.c.

For example, reproductive power is naturally consequent on the substantial form of bovinity. Thus, it would seem that Beulah the cow and Ferdinand the bull would be acting *through their own form* in begetting Elsie the cow, and so be efficient causes of Elsie's coming to be—efficient causes of the production of her *esse* (*causa fiendi*). The complication Aquinas sees is that because each of Beulah and Ferdinand is constituted by an individuated substantial form of bovinity, they cannot – individually or together – cause the nature of bovinity; that would be tantamount to causing themselves! Aquinas concludes that in begetting Elsie, Beulah and Ferdinand are quasi-instruments that act in the power of a higher agent that causes the whole species (proximately the rotating heavenly bodies and ultimately God) to apply the substantial form of bovinity to a particular hunk of individuating matter. Thus, even in natural generation (a process that – unlike creation – does presuppose individuating matter), created causes are at most instrumental causes in *esse*-production. Moreover, created instrumental causes of *esse*-production (Beulah and Ferdinand) are generally not causes of *esse*-conservation, because real causes are simultaneous with their effects and offspring regularly survive the existence of their parents. In *Summa Theologica* I.104.2, Aquinas allows that the heavenly bodies do contribute to *esse*-conservation in things here below, but only as instrumental causes acting in the power of God the principal agent.

Overall, then, Aquinas everywhere denies that creatures play even an instrumental role in *esse*-creation, but in some works allows that creatures can be instrumental causes in the *esse*-production of other individuals of the same species, and that some creatures (notably heavenly bodies) can be instrumental causes of *esse*-conservation in individuals of lower species (such as humans or cows).³²

Aquinas recognizes the temptation to say that material forms are naturally created and naturally annihilated by created agents in the normal course of Aristotelian change, insofar as usually nothing of the form itself pre-exists or survives the change. Aquinas declares such reasoning to be confused, because *esse* belongs, properly speaking, to the composite and not to its components. Consequently, material forms do not come to be properly speaking; rather they are educed from the potency of the matter.³³ Likewise, for accidental forms and their subjects.

Theology identifies some forms that exist in matter but cannot be educed from the potency of matter: viz., the rational soul, and sacramental grace. God does work in nature to create the rational soul, because it is subsistent.³⁴ Although grace is not subsistent, and does not come to be properly speaking, Aquinas allows that its infusion *approaches* creation insofar as grace has neither an efficient nor a material cause in its subject.³⁵

Direct Versus Indirect Creation: Giles of Rome

In *Quodlibeta* IV,d.1,q.u, Giles of Rome asks whether God could share the power of creating with a creature? His answer revives but reapplies Avicenna's distinction between direct and indirect creation: creatures cannot create anything *directly*, but they can make

³² See John F. Wippel's thorough and inciteful review of texts concerning whether—for Aquinas—creatures are in any way causes of *esse* in "Thomas Aquinas on Creatures as Causes of *Esse*," *International Philosophical Quarterly* XL (June 2000), 197–213.

³³ Aquinas, *De Potentia* 3.8.c.

³⁴ Aquinas, *De Potentia* 3.8.ad 7 μ m.

³⁵ Aquinas, *De Potentia* 3.8.ad 3 μ m & 4 μ m.

causal contributions towards creation *indirectly*. It is even metaphysically conceivable that creatures participate indirectly in more excellent ways than they do now.³⁶

No Direct Creation by Creatures

Unsurprisingly, Giles' arguments against direct creation by creatures from their metaphysical features – from their nature, their *esse*, their power – echo some found in Aquinas. Giles is confident that they are individually sufficient and mutually reinforcing.³⁷

[1] Proof from the Nature of Creatures: Giles distinguishes natures into three types: *pure potency* (matter) that doesn't have power to produce any act; *pure act* (God Who can confer *esse* immediately); and *a mixture of potency and act*, which can be an immediate cause only of motion which is itself a mixture of potency and act and which always presupposes the mobile thing.³⁸ But *esse* itself is pure act and

[T9'] effects can't be more perfect than their causes.

Therefore, Giles concludes, *esse* itself can only be caused by what is itself pure act; no creature will be able to cause *esse* in anything immediately.

One might object that [T9'] seems perfectly compatible with creatures' being able to cause the *esse* of other creatures because – as Giles insists – the to-be of creatures is a mixture of potency and act.

Giles insists that *esse* itself is pure act and that

[T10] actuality is limited by that into which it is received.

Creatures are mixtures of potency and act because their *esse* is received into a subject. By [T10], all of the potency is in the receiver, while the *esse* is pure act. Thus, to be able to cause the *esse* without presupposing the receiver, the agent would have – as above – to be pure act, which creatures are not. Giles distinguishes between making (*factio*) and creating (*creatio*), and says that it follows from the notion of making, both that only received *esse* can be *made*, and that the making of received *esse* presupposes the receiver. God alone is pure act; God alone is able to cause received *esse* without presupposing the receiver; and God alone is able to create.³⁹

[2] Proof from the Esse of Creatures: Appealing to

[T5'] A thing is related to action (*agere*) the way it is related to being (*esse*),

Giles infers that since creatures are produced and conserved in existence through another, they also act through another, as instruments and organs of another that applies them to act. But

[T11] if the action of A presupposes the action of B, the effect of A presupposes the effect of B.

So if the principal agent (= God) uses a created cause as an instrument, the effect of the instrument presupposes (at least in the order of explanation, even if not always in the order of time) an effect of the principal agent and so does not create. Because the instrument is applied, in acting it presupposes that to which it is applied. Thus, [T11] enables Giles to infer from the

³⁶ Giles of Rome, *Quodlibeta* IV,d.1,q.u; Louvain, 1646, 261.

³⁷ Giles of Rome, *Quodlibeta* IV,d.1,q.u; Louvain, 1646, 264.

³⁸ Giles of Rome, *Quodlibeta* IV,d.1,q.u; Louvain, 1646, 262.

³⁹ Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 262.

fact that creatures *depend on a prior agent*, they also *depend upon a presupposed subject* in producing their effects.⁴⁰

[3] Proof from the Power (Virtus) of a Creature: Giles reasons via [T9] that where powers are accidents, their effects are accidents, and their action presupposes a subject. But – Giles cites Aristotle's *Metaphysics* 7 as his witness – substantial forms cannot be immediate principles of action, because

[T12] the immediate and proper effect of an agent is to somehow to assimilate the patient to itself.

If an agent produces effects dissimilar to itself, it will be by means of prior effects that are similar to itself. Horses sometimes produce specifically similar horses and other times specifically dissimilar mules. Giles reasons – by [T12] – that this could not happen if substantial forms acted immediately and not by means of accidents. He infers that no creature acts immediately by its substance but rather by means of accidental powers (qualities) that necessarily emanate from its substance. Giles draws the conclusions that creatures act immediately only to produce accidents, and that even if they act by means of accidents in the production of substance (e.g., fire by means of heat), they always presuppose something on which to act (e.g., something to heat). Neither way do they create. By contrast, Divine power *is* the Divine substance, and substance does not presuppose a subject into which it is received. Therefore, neither will the action of a substance-power presuppose a subject into which its effect is received. Consequently, Divine power can create.⁴¹

[4] Proof from the Works of Creation: Finally, Giles offers an inductive argument: he thinks that running through the works that count as 'creation' or 'annihilation' will make it obvious that creatures cannot cause any of them immediately or directly. Giles sets aside Aquinas' narrower conception – that only subsistents (and hence neither non-subsistent parts of substance composites nor accidents) can be created (or annihilated) properly speaking because only subsistents exist properly speaking-to sponsor a more expansive list:

- [a] to produce/annihilate matter;
- [b] to increase/shrink matter;
- [c] to produce/annihilate forms (the angels) not received into any matter;
- [d] to produce/annihilate a form (the intellectual soul) that is received into matter but can exist without matter;
- [e] to produce/annihilate a form (infused grace) that – although it cannot exist without matter – always exceeds the nature of that in which it exists.⁴²

It is clear that no subject is presupposed or left over in [a]–[c]. Giles estimates that [d] and [e] would require equal power because – although the forms in question are not educed from because they exceed the potency of the matter. Since it is the nature of created agents to presuppose a subject, none can directly effect any of [a]–[e].⁴³

Indirect or Mediated Contributions, Actual and Possible

It is Giles' broadening of the category of creation/annihilation to include [d] and [e] that allows him to affirm an *indirect* role of creatures in creation. Created instrumental causes prepare the

⁴⁰ Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 262–263.

⁴¹ Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 263–264.

⁴² Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 265.

⁴³ Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 265.

way for the effect of the principal agent by producing disposing conditions in the subject acted upon. Obviously, such instrumentality is impossible where no subject is involved (as in [a]–[c]). But according to Aristotelian science, the heavenly bodies do produce accidents in the menstrual fluid that dispose it to receive [d] the rational soul. According to Giles' sacramental theology, the sacraments act in the power of the principal agent (= God) to produce a character in the soul which – unless we put up the obstacle of original sin – prepares the way for [e] the infusion of grace in us.⁴⁴

Not only is it the case that sacraments are instrumental causes of God's producing grace in the soul. Giles endorses his own interpretation of Peter Lombard's cryptic remarks in *Sentences* IV,d.5: that God could have shared with created ministers a more excellent instrumental participation in grace-production by making their participation independent of the material rite.⁴⁵

Scotistic Subtleties

Creative Accidents?

Avicenna assumes that God is an immaterial intelligence, but supposes [T1] that God acts by the necessity of Divine nature in understanding Godself and thereby producing the first intelligence. Likewise, the first creature acts by the necessity of its nature, first by understanding God and thereby producing the second intelligence, and also by understanding itself and thereby producing the first heavenly body, etc. Aquinas tries to solve the problem of how to get many from one simple first cause by arguing that infinite being can have no adequate effect, and that – contrary to Avicenna – the teleological structure of the universe as a whole demands that not-[T1] God is a voluntary agent Who chooses among many incommensurate effects which congeries of things to actualize and to organize the best way for the best end.

Scotus agrees that not-[T1] God acts a voluntary agent, Who acts freely and contingently in relation to creation and according to a highly articulated structure of means and ends. Scotus focuses his own critique on Avicenna's idea that one created separate substance can produce another separate substance *de nihilo*. Instead of appealing – like Aquinas and Giles – to putative metaphysical facts about creatures in general, Scotus begins with Avicenna's assumption that – like God – created separate substances (angels) are intellectual agents who produce through acts of understanding. Scotus argues that

[P1] angelic acts of understanding are not identical with their substance but accidental to the angel in question.

His reason for thinking so is that he identifies being as the proper object of intellectual power and infers that a finite angelic intellect is power sufficient to understand each of infinitely many intelligibles distinctly, but insufficient to understand all of them distinctly by a single act. It follows that really distinct alternative acts of understanding can be had by a finite angelic intellect, which could not be so if all angelic acts of understanding were really the same as its substance. Scotus concludes that some acts of understanding possible for angelic intellects are accidents.⁴⁶ But an intellectual agent produces nothing without

⁴⁴ Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 265–266.

⁴⁵ Giles of Rome, *Quodlibeta*. IV,d.1,q.u; Louvain, 1646, 266.

⁴⁶ Scotus, *Opus Oxoniense* IV.1.1.22; Wad 8.38–39.

understanding and willing. Even if there were some third sort of productive power in angels, it would function under the direction of intellect and will which always get into the act when things are ordered to an end. Scotus infers that when angelic agents produce, the acts by which they produce are accidents.⁴⁷

Scotus' second premiss is that

[P2] no accidental act is necessarily required in creating a substance as necessarily naturally prior to the term of creation.⁴⁸

If it were, it would either be required [a] as *an act* (e.g., heating with respect to heat produced in wood) or [b] as *a formal principle* productive of the term (e.g., heat in fire with respect to heat in wood). Not [a], because – in Aristotelian physics – where the agent functions to produce an effect *ad extra* (as when fire heats wood), [a] the act is identical with the term (the act of heating with the heat in the wood). But no accidental act can be identical with a substance product. By contrast, [b] the principle of action is, or is in the cause (e.g., heat is in fire). Scotus agrees with Giles that

[T9'] effects cannot be more perfect than their causes;

specifically, Scotus adds,

[T9''] where the causation is univocal (i.e., where cause and effect are of the same species), cause and effect are equally perfect;

and

[T9'''] where the causation is equivocal (i.e., where cause and effect are of different species), the cause is more perfect than the effect.

Since accidents are metaphysically inferior to substance, no accident can be [b] a formal principle productive of substance either.⁴⁹

Aquinas holds to

[T9] agents cannot be principal causes of effects more perfect than they are, and infers that no accident can be the *principal* cause of substance. But he insists that accidents can serve as *instrumental* causes in the production of substances (e.g., heat is an instrumental cause of the soul in generating flesh). Scotus thinks this distinction has no relevance to the case of one angel's producing another. Instruments, or agents that act in virtue of (an)other agent(s), either reach the principal effect of the principal agent, or produce conditions that dispose the patient thereto. By [T9''] and [T9'''], neither a univocal nor an equivocal cause acting as principal agent (in Avicenna's case, the first intelligence) would need instruments to produce its principal effect (the second intelligence). Moreover, in creation, there would be no patient existing prior to the principal effect on which an instrumental cause could act to dispose it for the principal effect (e.g., no prior subject on which accidental acts of understanding and willing could act to prepare the way for its transformation into second intelligence).

Scotus considers the objection that where agents act by intellect and will, not-[T9'] the less perfect can be and regularly is a principle in producing the more perfect. For example, the house in the architect's mind has diminished existence, whereas the extra-mental house has real existence. Why, then, shouldn't we expect the second angel in diminished existence insofar as it is understood by the first, to be a principle in its production in real existence? The fact that angelic acts of intellect are accidents would be a moot point here.

⁴⁷ Scotus, *Opus Oxoniense* IV.1.1.24–25; Wad 8.40.

⁴⁸ Scotus, *Opus Oxoniense* IV.1.1.18; Wad 8.31.

⁴⁹ Scotus, *Opus Oxoniense* IV.1.1.18–19; Wad 8.31–32.

The objector analyzes the artisan's thought into a really extant mental act (one that Scotus identifies with a quality) and an object in a non-real mode of existence. Scotus also speaks of objects of thought as having a diminished mode of existence-understood existence (*esse intelligibile*). But – by contrast with Henry of Ghent's *esse essentiae* – Scotus identifies *esse intelligibile* as a kind of *esse secundum quid*, and insists that the understood existence of a house be reduced to the real existence of a thought of a house: formally, the *esse* belongs to the cognition, but it belongs to the object by participation. Since artificial forms are accidental, and mental accidents are more excellent than material ones, the house in understood existence is actually more perfect than the house in real existence. Hence, the objector's case is no genuine counter-example to [T9']. By contrast, one angel's participation in the real existence of another angel's cognition (which is a mental accident) would not be more perfect than the angel's own real substantial existence. And this is what Scotus' argument needed to claim.⁵⁰

Critiquing the Theologians' Arguments

(1) Aquinas reasons:

- [i] the more universal the effect, the more universal the cause;
- [ii] *esse* is the most universal effect, and
- [iii] therefore, *esse* requires the most universal cause.

Scotus surmises that this is supposed to be relevant to whether creatures can create, because the conclusion [iii] implies

[P3] *esse simpliciter* is a proper effect of God,
while

[P4] *esse simpliciter* is the term of creation.

Scotus thinks [P3] flies in the face of Aristotelian physics, according to which efficient causes here below are natural causes in the generation of composite substances, insofar as they naturally produce substantial forms in matter. But – Scotus reasons – what it *is* for a composite to have *esse*, is for its form to exist in its matter. Otherwise, the *esse* of the composite would be naturally prior or naturally posterior to the composite. But

[P5] God can make the naturally prior to exist without the naturally posterior, and so could produce the composite without its *esse*, or the other way around! Nor-Scotus insists – should one imagine that even though the *esse* is not produced by the created natural agent that generates the composite, the *esse* is necessarily concomitant with the generation of the composite. For – according to Aquinas – its concomitance is not guaranteed by its being something at which the created natural generator aims. But – Scotus infers – if *esse* is the object of the first cause, it will be naturally prior or naturally posterior, as before.

Scotus does not make clear why God could not intend to produce the *esse* concomitantly with the natural agent's introducing the substantial form into the matter. That God acts voluntarily *ad extra* would not keep such *concomitance* from being *necessary*, because God's not producing *esse* concomitantly would be tantamount to a withdrawal Divine concurrence, so that no composite would be produced at all!⁵¹ In any event, Aquinas seemed to envision Divinely produced *esse* as somehow *naturally prior* to its determination

⁵⁰ Scotus, *Opus Oxoniense* IV.1.1.20; Wad 8.33–34.

⁵¹ Scotus, *Opus Oxoniense* IV.1.1.7; Wad 8.10; cf. Ockham, *Long Rep* II.6; OTh V.454.

by created natural agents which make it *esse F* and *esse hoc F*, and hence to deny that Scotus' [P5] is a general truth.

As for Aquinas' proof of [P3] from [i] and [ii], Scotus charges that 'more universal cause' is equivocal between [a] more universal with respect to *predication*, and [b] more universal with respect to power (*virtus*) or *perfection*. Either the argument commits a fallacy of equivocation, or one of its premisses is false. Where 'universal' is taken uniformly [a] the first way, the argument runs as follows:

- [i'] the more universal the effect according to predication, the more universal the cause according to predication;
- [ii'] the most universal effect according to predication is *esse* itself;
- [iii'] therefore, *esse* itself requires the most universal cause according to predication.

So construed, the argument is valid and both premisses are true. But since God is not what is most universal according to predication, [iii'] is not equivalent to [P3], but only to the claim that *esse* can be an effect only of what is a being. Where 'universal' is understood uniformly [b] the second way, the argument becomes:

- [i''] the more universal the effect is according to perfection, the more universal the cause is according to perfection;
- [ii''] the most universal effect according to perfection is *esse* itself;
- [iii''] therefore, *esse* itself requires a cause that is most universal according to perfection.

On this rendering, the argument is likewise valid and [i''] is true, but [ii''] is false: *esse* is not the most perfect effect, but is included in many effects of varying perfection and is no more perfect than the effect in which it is included.

For his part, Aquinas takes 'universal' non-uniformly, and in effect endorses the following argument:

- [i'''] the more universal the effect is in *predication*, the more universal the cause is in *perfection*.
- [ii'''] the most universal effect according to predication is *esse* itself;
- [iii'''] therefore, *esse* itself requires a cause that is most universal according to perfection

which is tantamount to [P3]. Aquinas' endorsement of [i'''] underwrites his contention that created natural causes such as Beulah the cow and Ferdinand the bull are only instrumental causes in the generation of Elsie the cow. To allow that Beulah and Ferdinand could act in their own power to cause Elsie qua bovine, would be to imply that Beulah and Ferdinand could act in their own power to make the species as a whole to exist. But the bovine species as a whole is more universal than and inclusive of the individual bovines Beulah and Ferdinand. And it is impossible for them to be causes of themselves. Aquinas infers that a more universal cause of a different kind, the sun or some other astronomical body, would be needed to explain the species of bovinity itself.

[i'''] would find a more natural home in an ontology that posited species as something real over and above and distinct enough from individuals to require a separate causal explanation. Both Aquinas and Scotus are Aristotelians, however, and neither of them thinks either that bovine nature has any real existence apart from individuals or that bovine nature in Elsie is really distinct from the Elsie-individuators. Nor does '*esse inquantum esse*' refer to anything real here below when taken in abstraction from individual beings. Consequently, Scotus gives '*x* is a cause of the species of *F*-ness (a cause of *y qua F*)' a reductive rendering as equivalent to '*x* is the cause of any and all individual *F*'s'. Scotus

then denies that ‘*x* is not a cause of anything *qua F*’ entails ‘*x* is not a cause of any *F*’. Just because Beulah and Ferdinand are not causes of any and all cows (inasmuch as they are not causes of themselves), it doesn’t follow that they are not causes of Elsie. Likewise, even if it were granted that no creature is the cause of any *esse inquantum esse*, because no creature causes the *esse* of everything here below (in particular, because none causes its own), it would be fallacious to infer that no creature causes the *esse* of anything here below.⁵²

Scotus would agree that [P4] *esse simpliciter* is a term of creation, but denies that it is *only* a term of creation. To the objection that *esse* (being a cow, being Elsie) should be distinguished from *esse simpliciter*, Scotus denies that they are distinct in such a way as to be able to have different causes. What gives a thing its *esse* (its *esse F*, its *esse hoc F*), gives it its *esse simpliciter* and vice versa. In making Elsie to be this cow, Beulah and Ferdinand confer *esse simpliciter* upon her. God cannot confer *esse simpliciter* on the sun, without thereby endowing it with determinate *esse* (being-the-sun, being-this-sun) as well. Aquinas’ picture of a layer-like structure of effects-*esse simpliciter*, specific being, individual being-susceptible of different causes within a given individual thing, is untenable! And with it goes Aquinas’ sometime rationale for saying that created causes of generation (e.g., Beulah the cow and Ferdinand the bull) are only instrumental causes of the *esse* of the generated creatures (e.g., Elsie the cow).⁵³

Scotus also rejects Aquinas’ argument that creatures cannot be instrumental causes in creating *esse* because it is the role of an instrumental agent to act through its own form to dispose matter for the effect of the principal agent, and in creation there no presupposed matter to be disposed. Scotus observes, Aquinas himself occasionally admits that not all instruments act to dispose matter: e.g., when the artisan uses a mold to impress an image on a coin, or a signet ring to emboss the seal in the wax – an example which better fits Aquinas’ picture of created causes giving determinate shape to the *esse simpliciter* created by God!⁵⁴

(2) Not only Aquinas but also Henry of Ghent⁵⁵ argues from

[T7] there is an infinite distance between not-being *simpliciter* and being.
and

[T8] an infinite distance can be traversed only by an infinite power,
that no creature can create *ex nihilo*. Scotus contends that [T7] is not generally true. ‘*F*’ and ‘*not-F*’ are *equally impossible*, no matter what is substituted for ‘*F*’, but the *ontological distance* between *F* and *not-F* depends on what is substituted. Specifically,

[T13] when extremes are immediate, their distance is as great as the other extreme is greater.

The distance between the greatest possible creature and God is infinite, because God is infinite. But where *F-ness* is finite, the distance between *not-F* and *F* is finite. Nor is it right to suppose that where *not-F* is nothing, then *not-F* is infinite. For nothing is just the lack of something and the lack of *F* can’t be bigger than *F/F-ness* would be if it existed. The lack of *F* can be bigger than the lack of *G* to the extent that *F-ness* is/would be greater than *G/G-ness*, but it will not be infinite unless *F-ness* is infinite. And where *F-ness* is

⁵² Scotus, *Opus Oxoniense* IV.1.1.8; Wad 8.12.

⁵³ Scotus, *Opus Oxoniense* IV.1.1.9; Wad 8.12–13.

⁵⁴ Scotus, *Opus Oxoniense* IV.1.1.10; Wad 8.13–14.

⁵⁵ Henry of Ghent, *Quodlibeta* IV,q.37; f.cxl ix recto P–Q.

finite, it cannot be inferred without other premisses that a finite power will not suffice to produce it *ex nihilo*.⁵⁶

(3) When Giles argues that

[T11] if the action of *A* presupposes the action of *B*, the effect of *A* presupposes the effect of *B*,

Scotus insists on the contrary that the two sorts of dependency can break apart: every action of a lower agent *A* presupposes the action of the higher agent *B* that produces *A* in existence, because nothing can act without existing. But – without further argument – it would be question-begging to suppose that the lower agent *A* had therefore to presuppose another effect of *B* as something on which to act. *The reason* artisans presuppose something on which to act is not that the artisans themselves are subordinate agents (although they are), but that art produces only accidental forms and accidents naturally require a substance in which to exist.⁵⁷

(4) Likewise, Scotus protests Giles' reasoning that creatures as mixtures of potency and act are ontologically suited only to cause motions that are likewise mixtures of potency and act and that always presuppose the mobile object. Scotus recognizes two types of potency that are common to all creatures: *objective* potency: as Avicenna taught, all creatable natures are possible in themselves and so possibly extant; and *subjective* potency: the capacity for receiving (being the subject of) a form, or the capacity for inhering in a subject as a form. From such potencies in creatures, it follows that their immanent actions have subjective and/or objective potency, and their external actions have objective and/or subjective potency. But it doesn't follow that their actions involve motion or sudden change.⁵⁸

Scotus' Own Account

The question Scotus asks is

can a creature have *any action*, can it make any efficient causal contribution in the creation of something?

Everyone (even Avicenna) agrees that no creature can be the principal agent in creation, if 'principal' signifies an agent that acts independently of any higher agent. What is in doubt is whether any creature could be a principal agent in creation, where 'principal' signifies an agent that acts through a form that is proper and intrinsic to it, even though it is subordinate to a higher agent in acting. Aquinas and Giles have raised the question

can a creature be an *instrumental cause* in the creation of something?

To give clearer answers, Scotus draws on his own array of distinctions between secondary causality and instrumental causality taken several ways.

[1] *A secondary cause* has its own form at rest (*in esse quieto*), and that form is the reason for its acting in its own order, so that a secondary cause reaches the effect of the principal agent through its own form, but does so in the power of the principal agent to which it is subordinate. For example, the sun and the father are secondary causes, active in their own distinct orders and through their own forms in producing a human child.

[2] By contrast, *an instrumental cause, properly speaking*, if it is supposed to be active, does not reach the effect of the principal agent, but acts through its own form at rest

⁵⁶ Scotus, *Opus Oxoniense* IV.1.1.11; Wad 8.20–22; cf. Ockham, *Long Rep* II.6; OTh V.454.

⁵⁷ Scotus, *Opus Oxoniense* IV.1.1.14; Wad 8.25–26.

⁵⁸ Scotus, *Opus Oxoniense* IV.1.1.15; Wad 8.26.

(*in esse quieto*) to produce some disposing condition. For example, fire is the principal agent and heat the instrumental agent which acts as a disposing cause (by heating up the matter) in the production of a new fire.⁵⁹ *Note:* on Scotus' analysis, both principal and instrumental disposing causes act through their own forms which exist in them *in esse quieto* and not *in esse fieri*. By contrast, Aquinas understands the sacraments to be instrumental disposing causes, not by virtue of their own form, but by virtue of a power they receive *in esse fieri*.

[3] If, however, the instrument is active and reaches the term of the principal agent, it is distinguished from the secondary cause in not having its form *in esse quieto* but only in actual motion (*in esse fieri*), and such a cause receives the form while (for as long as and only so long as) it is in actual motion. For example, illuminated color causes the air to receive color species *in esse fieri*, so that the medium with such forms *in esse fieri* is an instrumental cause of the eye's seeing the color.⁶⁰

[4] Turning to the case of artisan's instrument, Scotus declares it is not properly active at all, either with respect to the effect of the principal agent (e.g., as when the minter of money uses a stamp to impress the figure on the coin) or with respect to any disposing condition. According to Scotus' analysis, when the carpenter uses the hatchet to cut the log, the hatchet's movement is a prior *effect*, and the division of the log a posterior *effect* of the carpenter. Aquinas to the contrary notwithstanding, when the carpenter swings the hatchet, the hatchet does not receive any power or form, either *in esse quieto* or *in esse fieri*. Rather the hatchet is absolutely inactive and has no intentionality of the sort that pertains to agents.⁶¹

Can a Creature Be a Principal/Secondary Cause in Creation? In *Opus Oxoniense* IV.1.1, Scotus retails three different answers.

First answer It is *not evident to reason* that no creature can create, because there is an eminence hierarchy among creatable natural kinds. Even if – as Scotus elsewhere insists – the essential orders of eminence and dependence are not invariably the same, it is not evident without further argument that a less perfect creatable kind could not be eminently and so virtually and actively contained in a more perfect creatable kind. For instance, form is more perfect than matter. Hence, if a cause can have the active form within its power, it is not incompatible with the perfection of that cause to have the matter within its power and hence the whole effect. Again, even if – *pace* Aquinas – there can be many angels per species, each will bear the same relation of comparative excellence to a producer. So it is not obvious to reason why an angel could not produce another angel the way fire produces fire.⁶² Presumably, Scotus does not endorse the first answer, because he thinks there *are* reasons why one angel cannot create another (cf. “Creative Accidents?” above).

Second Answer It *can be shown by reason* that no creature can create. Material and formal causes require each other in causing a thing to exist: a form is never a formal cause of anything unless matter is its material cause. But just as form and matter are causes of the being (*esse*) of a thing, so the efficient cause and matter are causes of its

⁵⁹ Scotus, *Opus Oxoniense* IV.6.5.6; Wad 8.321.

⁶⁰ Scotus, *Opus Oxoniense* IV.6.5.6; Wad 8.321–322.

⁶¹ Scotus, *Opus Oxoniense* IV.6.5.8; Wad 8.322; cf. IV.1.1.26; Wad 8.48 for a less clear presentation of these distinctions.

⁶² Scotus, *Opus Oxoniense* IV.1.1.27; Wad 8.48–49.

becoming (*fieri*). Therefore, it is impossible for a limited efficient cause to act to produce an effect without the simultaneous concurrence of matter as a principle from which and something into which the form is received and as a part from which the resultant composite is constituted. By contrast, God as an unlimited agent can act without any concomitant matter.⁶³

Commenting on this second answer, Scotus concedes that it *does* produce a *propter quid* explanation of the inference: viz., the limitation of the efficient cause determines it to require matter in acting. But this does not turn this reasoning into a convincing proof, because the *propter quid* explanation is scarcely more evident than the inference.⁶⁴

Third Answer The third approach, which Scotus seems to favor, proceeds piecemeal by defending a series of sub-conclusions.

[C3.1] No created merely intellectual powers can create a substance.

The reason (as above) is that intellectual natures act by understanding and willing, and acts of understanding and willing are accidents, whereas no accidents can be involved in the creation of substance. By contrast, God can produce substance through an act of understanding and willing, because God's act of thinking and willing is not an accident but rather identical with the Divine essence.⁶⁵

[C3.2] No material form can be created by a creature.

This conclusion is defended by two premisses, which look not so much to the incapacity of created causes as to the nature of material forms.

[P5] When a form is created, it has existence from its efficient cause naturally prior to its informing matter.

[P6] A material form cannot have existence from a creature naturally prior to its informing its matter or the subject that is in potentiality with respect to it.

Pf. of [P5]: Any form that does not take existence from its cause naturally prior to informing its matter, would take existence from its cause by that action by which it is made to inform its subject. For example, the intellectual soul's existence is naturally prior to if temporally simultaneous with its informing matter, but the existence of the sensory soul of Beulah the cow is not naturally prior to its informing matter, and the existence of the quality whiteness is not naturally prior to its informing a corporeal substance. The latter two but not the former are caused to exist by the same action by which they are caused to inform their subjects. But properly speaking, the latter action is a sudden change (*mutatio*) and so not creation.

Pf. of [P6]: Aristotelian metaphysics and physics posits obstructable, always or for the most part, powers in nature. The natural tendency of the earthen to go down to the earth's center can be obstructed by the table top or floor; the natural tendency of the fire to consume, by the dampness of the nearby combustible. There are natural tendencies in creatures – say that of substance to self-supposit or of accidents to inhere – that Aristotle regarded as necessary and unobstructable but that Scotus treats as aptitudes that can be obstructed by Divine power. Material forms have *aptitudinal dependence* on a subject of inherence. But because they are really distinct from their matter, God can make them exist

⁶³ Scotus, *Opus Oxoniense* IV.1.1.27; Wad 8.49.

⁶⁴ Scotus, *Opus Oxoniense* IV.1.1.27; Wad 8.49.

⁶⁵ Scotus, *Opus Oxoniense* IV.1.1.28; Wad 8.49.

all by themselves. Consequently, on Scotus' terminology, they have *potential independence*, because they are in obediential potency with respect to existing without inhering in a subject. Thus, Scotus maintains that the aptitudinal dependence of the material form can be obstructed by God and by God alone, and hence that no creature could make such a form exist without inhering in matter. But if creatures could make such forms exist *naturally prior* to their inherence in matter, they could also make them to exist *at a time prior* to their inherence in matter. And in that case, creatures would share God's power to obstruct the aptitudinal dependence of material forms after all – which Scotus denies.

[C3.3] No material form can be a principle of creating anything.

Here the proof seems to apply Giles'

[T5'] A thing is related to action (*agere*) the way it is related to being (*esse*). to the special case of material forms. So far as their being is concerned, material forms presuppose matter *in* which to exist. Therefore, in acting, material forms presuppose matter *on* which to act.⁶⁶ Otherwise, the term of action would be more independent of matter than the form that is its cause – contrary to

[T9] effects can't be more perfect than their causes.

These conclusions [C3.1]–[C3.3] entail others.

[C3.4] An angel cannot create a substance (by C3.1) or an accident (by C3.2)

Likewise,

[C3.5] No material substance can create anything,

For material substances act only through their forms, because matter is not an active principle. But (by C3.3) no material form (substantial or accidental) can create anything.⁶⁷

The more particular conclusion

[C3.6] material substance cannot produce matter and hence cannot produce the whole effect without presupposing anything.

is argued for independently, from the thesis that

[T13] when the whole genus F has an order R to the whole genus G, then each F is ordered by R to each G.

The whole genus material form is posterior in origin or generation to the whole genus receptive matter. Therefore, any material form is posterior in origin or generation to any matter. What is posterior in origin or generation to another cannot be a principle of producing it. Therefore, no material substantial form can create matter.⁶⁸

Some object that [T13] is counter-examined for the genera substantial forms and qualities consequent upon substantial forms. This individual quality of heat that is consequent upon this substantial form of fire, can play an efficient causal role in the production of a numerically distinct substantial form of fire.

Scotus responds that the whole genus of substance is prior to the whole genus of quality with respect to definition, cognition, and separability. By [T13], the substance of the thing generated is prior to the quality of the generating substance in all three ways, even if it is not prior in time. Looking back to his critique of Avicenna, Scotus repeats, by

[T9'''] where the causation is equivocal (i.e., where cause and effect are of different species), the cause is more perfect than the effect,

accidents cannot be [1] principal/secondary causes of substances, but only [2] instrumental

⁶⁶ Scotus, *Opus Oxoniense* IV.1.1.29; Wad 8.50–51.

⁶⁷ Scotus, *Opus Oxoniense* IV.1.1.29; Wad 8.50.

⁶⁸ Scotus, *Opus Oxoniense* IV.1.1.29; Wad 8.50–51.

causes properly speaking – i.e., causes that act by their own forms *in esse quieto* to produce conditions that dispose the patient to receive the substantial form.⁶⁹

According to the argument for (C3.2), material forms cannot be created because it is contrary to their nature for their existence to be naturally prior to their inherence in matter. This is precisely what is not the case for the intellectual soul, which is said to exist in matter without its existence depending on the matter. Can creatures be principal/secondary causes in the creation of intellectual souls? Scotus' answer is 'no'. Angels or other created intellectual substances cannot, because they act by means of accidents. And the intellectual soul ranks higher on the eminence scale than any creatables except intellectual substances. Therefore, [T9"] suffices to rule out any creature as a principal/secondary cause in the creation of intellectual souls!⁷⁰

Can Creatures Be Instrumental Causes in Creation? Scotus distinguishes three relevant ways of taking 'instrumental cause': [2] properly speaking, one in which the instrument acts by its own form *in esse quieto* and thereby 'reaches' not the effect of the principal agent but only a condition that disposes the patient to receive the effect of the principal agent; [3] another in which the instrument acts by its own form *in esse fieri*; and [4] still more broadly where the instrument is not properly active at all but is ordered to the principal agent's effect as a prior effect to posterior effect. Scotus denies that creatures can be [2] instrumental causes in creation properly speaking, because in creation there is no patient to dispose. Nor can they be sense-[3] instrumental causes, because even sense-[3] instrumental causes have to act by their own form, a form that in its own order could reach the whole effect. But the above arguments show that no created form can reach the whole effect.⁷¹

These answers seem most obviously relevant where the created product is not received into any matter or subject. But what about the last two items on Gile's extended list of the works of creation: the intellectual soul that exists in but does not depend for its existence on matter; and supranatural grace or charity, qualities that come to exist in the soul via sacramental participation, and that cannot be educed from the soul's potentiality?

Scotus does agree that created causes by their own forms *in esse quieto* work up the menstrual blood into a body with organs and endow it with qualities that dispose it to receive the intellectual soul. So he should count them as sense-[2] instrumental causes in the soul's creation.⁷²

Where sacramentally infused grace or charity are concerned, there is a subject that created causes can act upon to produce various qualities and conditions. The question is, would any of them count as genuine disposing conditions, so that the their causes would qualify as sense-[2] instrumental causes of grace or charity? Scotus cites one interpretation of Lombard's remarks in *Sent.* IV,d.5, according to which the qualities sacraments produce in the soul cannot count as disposing conditions absolutely speaking, because none of these qualities *neccessitates* that grace be infused in the soul. For grace or charity in the soul is the formal reason a creature is accepted by God as worthy of eternal life, and no creature has active power to make itself or another worthy of Divine acceptance for eternal life. But such qualities can count as disposing conditions *secundum quid*, insofar as God has instituted a

⁶⁹ Scotus, *Opus Oxoniense* IV.1.1.30; Wad 8.51.

⁷⁰ Scotus, *Opus Oxoniense* IV.1.1.30; Wad 8.52.

⁷¹ Scotus, *Opus Oxoniense* IV.1.1.30; Wad 8.52.

⁷² Scotus, *Opus Oxoniense* IV.1.1.31; Wad 8.52–53.

policy of infusing grace in souls that have such qualities. And if God has now instituted that such *ex facto* disposing conditions be produced when a person participates in the outward sacramental rite, Lombard may be read as saying that God could have decreed alternative conditions, according to which God produces grace or charity in the soul when the minister produces some quality in the soul directly, apart from performing the outward rite.

For his part, Scotus holds that nothing a creature could do or be or cause absolutely necessitates God to accept anyone as worthy of eternal life. But the position just recited speaks as if grace or charity were *intrinsically and by its very nature* such as to make a creature worthy of eternal life, and for that reason denies any creature active power to produce anything that would necessitate it. Scotus insists, on the contrary, that it is free and contingent Divine institution that makes grace or charity the currency of Divine acceptance. Consequently, he sees no reason why Divine institution could not make some creature an efficient cause of Divine acceptance.⁷³ Scotus does not think this is what God has in fact done, however. Later on (in Op.Ox.IV.1.2 & 4–5), he defends a view according to which sacraments are sense-(4) instrumental causes of grace in the soul with no active power to produce either grace or any condition that disposes to it.

Ockham's Alternative

Ockham's Critique of Scotus

Ockham disagrees with a number of the causal principles on which both Scotus' own position and his critique of Avicenna rest. Several of Scotus' arguments turn on theses about the relative eminence of cause and effect:

[T9'] effects cannot be more perfect than their causes;

[T9''] where the causation is univocal (i.e., where cause and effect are of the same species), cause and effect are equally perfect;

[T9'''] where the causation is equivocal (i.e., where cause and effect are of different species), the cause is more perfect than the effect.

From [T9'''], he infers both that

[C4] accidents cannot be formal productive principles of substance;
and

[C5] the effect cannot be more abstracted from matter than the cause;

Ockham charges that [T9'''] is not generally true where *partial* causes are concerned. God is an immediate partial cause of every effect, and that trivially guarantees that the *total* causal package will be more perfect than the effect (as [T9'''] would imply). But it also allows for created partial causes to be less perfect than the effect. Consequently, contrary to [C4], there is no reason why accidents (including angelic acts of understanding and willing) cannot be *partial* causes in creating substance (other angels).⁷⁴ In fact, insofar as observed correlations function as our criterion for causal connections, we have reason to suppose that qualities are necessary and hence immediate partial causes in producing substances.⁷⁵

⁷³ Scotus, *Opus Oxoniense* IV.1.1.31; Wad 8.53.

⁷⁴ Ockham, *Quaest. in Sent.* II.6; OTh V.88–89; *Long Rep* II.6; OTh V.457–458.

⁷⁵ Ockham, *Rep* II.6; OTh V.90; *Long Rep* II.6; OTh V.458.

Hence, Scotus' argument for

[C3.1] no created merely intellectual powers can create a substance, does not adequately prove its conclusion.⁷⁶

Likewise, contrary to [C5], there is no reason why material things cannot be immediate *partial* causes of immaterial effects – e.g., Socrates and his whiteness are immediate partial causes of intuitive cognitions of themselves.⁷⁷ Contrary to

[T5'] a thing is related to action (*agere*) the way it is related to being (*esse*), where immediate partial causes are concerned, it doesn't follow from the fact that a form presupposes matter *in* which to exist and act that it presupposes matter *on* which to act. Hence, Scotus' argument for

[C3.3] no material form can be a principle of creating anything, does not adequately prove its conclusion.⁷⁸

Moreover, Scotus' argument for [C3.1] assumes that creatable intellectual substances act only by intellect and will (and hence by accidental acts). Ockham counters that this principle has not been adequately proved, because it has not been adequately proved that the intellectual substance could not act as a whole – e.g., an angel or a human soul to produce its own acts, or to produce an intuitive cognition of itself in another.⁷⁹

Ockham also faults Scotus' defense of

[C3.2] no material form can be created by a creature, on the ground that he has not adequately proved [P6]. After all, Ockham observes, even natural causes produce violent effects (e.g., move heavy objects upward), while God can act alone to make forms exist at a time before they inhere in matter.⁸⁰ Scotus' move from 'material forms have a natural inclination to exist in matter' to 'no created cause can produce them naturally prior to their inherence in matter' relies on the suppressed premiss that this aptitudinal inclination is one that God alone could obstruct. For Ockham, to assume the latter without further proof begs the question.

Ockham's Own Opinion

Ockham joins his eminent predecessors in rendering a negative verdict: creatures cannot create; it would be contradictory to suppose that they do.⁸¹ Obviously, no creature can act without presupposing a prior agent. What is difficult to prove and impossible to demonstrate is that no creature can produce anything without necessarily presupposing (as naturally if not temporally prior) a patient subject on which to act.⁸²

For 'persuasions,' Ockham goes back to Avicenna's problem of what determines causes to their effects, and defends the following four theses:

[T14] no creature can be a *total natural* cause of the creation of any effect;

[T15] no creature can be a *partial natural* cause of the creation of any effect;

⁷⁶ Ockham, *Long Rep* II.6; OTh V.458.

⁷⁷ Ockham, *Quaest. in Sent.* II.6; OTh V.89–90; *Long Rep* II.6; OTh V.458.

⁷⁸ Ockham, *Long Rep* II.6; OTh V.459.

⁷⁹ Ockham, *Quaest. in Sent.* II.6; OTh V.88–89; *Long Rep* II.6; OTh V.458.

⁸⁰ Ockham, *Quaest. in Sent.* II.6; OTh V.90–91; *Long Rep* II.6; OTh V.459.

⁸¹ Ockham, *Quaest. in Sent.* II.6; OTh V.91–92; *Long Rep* II.6; OTh V.459–460; *Quodlibeta* II.9; OTh IX.150.

⁸² *Quodlibeta* II.9; OTh IX.150; Ockham, *Quaest. in Sent.* II.6; OTh V.91–92; *Long Rep* II.6; OTh V.459.

[T16] no creature can be a *total free* cause of the creation of any effect;

[T17] no creature can be a *partial free* cause of the creation of any effect.⁸³

In his own discussions of Divine power, Ockham argues that we cannot have both wide scope and natural necessity. For what acts by natural necessity acts to the limit of its power. But, leaving aside other powers omnipotence might be thought to include, the power to create cows by itself ranges over infinitely many creatable bovine individuals. Thus, if God were a natural agent possessed of cow-creating power, God would act by the necessity of Divine nature to create infinitely many at once, and there would be a simultaneously existing actual infinity – which Ockham thought contradictory. God can be omnipotent if God is a voluntary agent, however. For – unlike creatable wills – the Divine will is indefectible, in the sense that it cannot will anything contradictory (e.g., to create all the possible cows at once).⁸⁴ Thus, indefectible voluntary agency allows God to have wide-scope power without running the metaphysical risk of God's producing too many things.⁸⁵

Mutatis mutandis, Ockham works out the same worries where created creators are concerned. His defense of [T14] and [T16] is straight-forward. If any creature were a total *natural* cause with respect to cow-creation, left to itself, it would act to the limit of its power to produce infinitely many cows simultaneously. If it were a total *free* cause, it would not *have* to will infinitely many cows simultaneously, but it would be *possible* for it to do so (e.g., 'I will to create each and every cow I can create all at once'), because created free agency *is* defectible and so can – wittingly or unwittingly – will what is in fact contradictory. But it is impossible for infinitely many to exist simultaneously.

Against Scotus, Ockham has pressed the distinction between total and partial causes, and he recognizes that his own strategy is 'less effective' where [T15] and [T17] partial causes are concerned. One might think that the glut in cow-creation would be stopped by the necessary or Divinely arranged unavailability of the other partial causes (most obviously, God's withholding the Divine causal contribution or concurrence). Ockham counters with 'Aristotelian optimism': re [T15], that "it is not probable that secondary causes should always be suspended from action"; re [T17], that "it is not probable that the first cause never cooperate when it wills to produce."⁸⁶

Both replies seem lame. Re [T15], we are not talking about partial natural causes *always* being suspended from action; they may act often to produce many. It's just that no package of partial natural causes adding up to a total natural cause with respect to cow-creation would be allowed to constellate. Likewise, re [T17], the first cause might cooperate with many of the free creature's volitions, just not its volition in effect to create infinitely many simultaneously. The first cause would *never* cooperate, only if the free creature *always* and *only* willed to create infinitely many simultaneously – in which case Divine non – cooperation would not be improbable but certain!

Such proposals also constitute objections to [T14] and [T16]. Created natural power is obstructable, often naturally but universally by Divine power. Given the impossibility of a

⁸³ Ockham, *Long Rep* II.6; OTh V.459–460; Ockham, *Quaest. in Sent.* II.6; OTh V.91; cf. *Quodlibeta* II.9; OTh IX.150–151.

⁸⁴ Ockham, *Quodlibeta* II.9; OTh IX.154–155.

⁸⁵ *Ord.* I, d.42; OTh IV.617–621.

⁸⁶ Ockham, *Long Rep* II.6; OTh V.459–460; Ockham, *Quaest. in Sent.* II.6; OTh V.91–92; *Quodlibeta* II.9; OTh IX.150.

simultaneously existing actual infinity, what Ockham's arguments establish at most are the more limited claims:

[T14'] necessarily, if some creature is a total natural cause whose power ranges over infinitely many effects, God will obstruct that power so that it produces only finitely many effects;

and

[T15'] necessarily, if some creature is a total free cause whose power ranges over infinitely many effects, and if it wills infinitely many effects simultaneously, God will obstruct the efficacy of that volition, so that it produces only finitely many effects.

Despite God's general concurrence with and customary permissiveness in letting created causes 'do their thing,' it is not unreasonable or improbable, but – assuming the impossibility of a simultaneously existing actual infinity – demonstrable and necessary that if there were such causes, God would obstruct them, and if there are such causes, God does obstruct them. It does not follow further that such causes are impossible, any more than it follows from the fact that Divine agency cannot be both natural and infinite in causal scope, that God is not omnipotent.

Then–Contemporary Objections to Ockham's Arguments: Ockham acknowledges objections that his assumption that

[T16] a natural agent equally related to many would produce all or none, would prove – if true – too much. [i] For natural agents with power to produce material forms of a given species would be equally related to infinitely many such forms, even though matter is presupposed.⁸⁷ Those who, like Aquinas, held matter to be the principal of individuation might insist, on the contrary, that *this* matter determines the agent to producing *this* form rather than a numerically distinct one of the same kind. They also speak of forms being educed from the potency of the matter, as if matter added something over and above its metaphysical capacity to receive the form. But Ockham denies that matter is the principle of individuation and insists that forms – substantial or accidental, material or immaterial – are individuated in and of themselves. Moreover, Ockham reduces talk of "educing something from the potency of the matter" to "causing the form to exist in matter," where the matter serves only as the subject that receives the form.⁸⁸

[ii] Again, in natural augmentation, the agent is equally related to many divisible parts of the same kind⁸⁹; in the natural intensification of qualitative form, to infinitely many particular degrees of the quality.⁹⁰ By [T16], the respective agents should produce all at once or none – neither of which happens.

[Rii] In the texts as we have them, Ockham addresses only the last case, and interestingly offers both a philosophical and a theological reply. The *philosophical* reply insists on [T16] but hypothesizes that there must be something about other partial causes (now one is relevantly close to the patient, now another) that determines the agent to produce this particular quality degree first and that particular quality degree next. But Ockham seems to think that if this is often so, it is not necessarily so. For he adds that if all of the other partial causes were relevantly close to the patient simultaneously, then all of the degrees would be produced at once.⁹¹ On Ockham's understanding of the intensification

⁸⁷ Ockham, *Long Rep* II.6; OTh V.462.

⁸⁸ Ockham, *Quaest. in Sent.* II.3–4; OTh V.77; *Long Rep* II.6; OTh V.455; *Quodlibeta* II.8; OTh IX.145–146.

⁸⁹ Ockham, *Long Rep* II.6; OTh V.462.

⁹⁰ Ockham, *Quodlibeta* II.9; OTh IX.153.

⁹¹ Ockham, *Quodlibeta* II.9; OTh IX.154.

and reduction of forms, this would not violate the ‘no simultaneous actual infinity’ dictum, because the parts added to intensify a quality make one *per se* with the previous parts and result in a still-finite form. This philosophical strategy could not adapted to cover all of the cases in [i], however.

Ockham’s *theological* reply is that God freely forces the natural form to produce one after another in a definite order.⁹² Presumably, God could also freely determine an F-producing agent to produce this particular form of F-ness rather than that one. This might not be the most welcome strategy from the point of view of Aristotelian physics. But if God were regularly brought in to make up for the under-determination between natural causes and their effects, why should we balk at the need for God to do so to keep created creators from creating too much?

Further Positive Arguments that Creatures Can Create: Ockham also considers stock arguments that creatures can create because creatures can annihilate, conserve, augment, and even produce other creatures without presupposing matter. *Argument from Annihilation:* Creatures are natural agents in substantial as well as accidental change. But when a form is naturally corrupted, the form itself is reduced to nothing at all (*purum nihil*). Nor can one say that just as it was educed from the potency of the matter, so it is reduced to the potency of the matter. As noted above, while it is true that a natural cause could produce a form *of the same species* in that very matter, it is not naturally possible to return *numerically* the same form to the matter again. Likewise, God should be able to annihilate a form without annihilating the matter in which it inhered. So creatures annihilate forms in natural corruption. Therefore, they should be able to create.⁹³

Interacting with Eucharistic Species According to then-contemporary theological consensus, eucharistic bread and wine are transubstantiated into the Body and Blood of Christ, while the bread- and wine-accidents remain without existing in any substance–subject. Nevertheless, experience suggests that the same kinds of causal interactions occur between the eucharistic species and other created causes as would have done if transubstantiation had not occurred. Thus, qualities are conserved and intensified, quantities expanded, worms and mold spontaneously generated.⁹⁴

In response to such arguments, Ockham gives two sorts of replies. *The First Reply* is simply to insist that

[T18] created causes necessarily presuppose a subject on which to act.

Thus, while they do naturally annihilate forms if all this means is to reduce the forms themselves to *purum nihil*, this does not count as annihilation in the strict sense, because they presuppose a subject on which to act. As for the changes in the eucharistic species, if quantity were something really distinct from substance and quality (as Ockham denies), then it could serve as the subject on which created causes could act to conserve or intensify qualities. If quantity is nothing really distinct from substance and quality, God conserves and intensifies, not creatures. Likewise, God augments the quantity and produces the matter for spontaneous generation.⁹⁵

Ockham usually forwards observed correlations – that *A*’s exist at the presence of *B*’s and not otherwise – as a reliable criterion of causal connection. In the eucharist, where major miracles are occurring – accidents existing without their substances, supranatural qualities

⁹² Ockham, *Quodlibeta* II.9; OTh IX.153.

⁹³ Ockham, *Quaest. in Sent.* II.6; OTh V.94–95; *Long Rep* II.6; OTh V.462; *Quodlibeta* II.9; OTh IX.151.

⁹⁴ Ockham, *Quaest. in Sent.* II.6; OTh V.93–95; *Long Rep* II.6; OTh V.460–461; *Quodlibeta* II.9; OTh IX.151–152.

⁹⁵ Ockham, *Quaest. in Sent.* II.6; OTh V.97–98; *Quodlibeta* II.9; OTh IX.156.

being produced in the soul upon sacramental participation – such correlations do not settle the question whether *A*'s are naturally apt to be produced by *B*'s, or whether *B*'s make any efficient causal contribution to *A*'s existence.⁹⁶

The Second Reply To the arguments – that because creatures can annihilate or conserve, they can create – Ockham's alternative reply is to reject the analogy. Ockham's worry about assigning creatures creative power is that there would be nothing to determine them to a finite number of effects. This problem does not arise in the same way with power to annihilate or conserve, because only extant things are actual candidates for annihilation or conservation, and

[T19] agents are differently related to what exists and what does not exist.

Of the infinitely many possible forms created causes had power to destroy or maintain, they would be determined to annihilating or conserving only these finitely many forms that exist in their neighborhood.⁹⁷

God and Creatures Together: Ockham holds that, although it cannot be adequately proved, God is an immediate partial cause of every effect.⁹⁸ Ockham also believes in secondary causality, that creatures are immediate partial causes of many (perhaps most) created effects, those that occur in ways governed by Aristotelian physics. For Aquinas and Giles this does not rob God of His role as Creator, because as first and universal cause God acts everywhere and always to furnish the *esse* of the thing, whether or not and however much created causes contribute to its specification and/or individuation. Like Scotus, Ockham rejects their analysis of creatures into layers of cause and effect, and insists that every genuine efficient cause produces the *esse* of its product. Will Ockham be forced to say that by sharing the activity God opts out of creating most of the time?

Basically, Ockham can give a negative answer because he distinguishes creation from other sorts of production, not on the basis of whether the agent *actually* acted independently of any other agent and/or patient–subject, but of whether the agent does not necessarily require them. Likewise, creatures are not creators, not because they *actually* act in consort with another agent and/or *actually* act on a patient–subject, but because they necessarily presuppose both. Efficient causally, whatever God can produce in consort with a creature, God can produce all by Godself. Likewise, forms are really distinct from the subjects. Phrased in Scotus' sometime terminology, even if accidents and all material forms have aptitudinal dependence (i.e., a natural inclination to exist in a subject), they do not have necessary dependence but potential independence (i.e., it is metaphysically possible for them to exist without inhering in a subject). Thus, Divine power can produce any and all forms without any subjects for them to exist in. Given this distinction, if God and fire (and/or the heat in fire) collaborate in producing another fire, God's action counts as creation while the action of heat and/or fire count as generation.⁹⁹

Conclusion

Is creation a Divine prerogative, or can creatures also create? Easily settled among our interlocutors is that no creature can do anything without presupposing God, the first cause,

⁹⁶ Ockham, *Quodlibeta* II.9; OTh IX.156.

⁹⁷ Ockham, *Quaest. in Sent.* II.6; OTh V.97; *Quodlibeta* II.9; OTh IX.152–153.

⁹⁸ Ockham, *Quodlibeta* III.4; OTh IX.216.

⁹⁹ Ockham, *Quaest. in Sent.* II.3–4; OTh V.76–77; *Quodlibeta* II.8; OTh IX.146.

Who not only brings into being and conserves but also acts together with creatures in producing their effects. In the end, all our medieval latin authors agree: created agents necessarily presuppose a patient subject on which to act. They advance two broad families of considerations by way of explanation.

Obstacles of Metaphysical Constitution Many arguments defend the Divine prerogative with respect to creation on the ground that

[T5'] things are related to *agere* the way they are related to *esse*,
and

[T9'"] effects cannot be more eminent, more actual, or more independent than their causes.

As for actuality, Aquinas and Giles insist that God alone – as *ipsum esse*, *esse* unlimited, pure act that is all perfection and contains the perfection of all things – can function as the principal cause in *esse*-production. As limited *esse*, creatures can act by their own forms to furnish other creatures only with the *esse*-limiters – essence and individuation. Scotus and Ockham reject this metaphysical analysis, because it would allegedly jeopardize Aristotelian physics: there would be no real change unless every efficient cause were productive of *esse*. What produces the form in the matter makes the *per se* or *per accidens* composite to be.

As for independence, Aquinas, Giles, and Scotus reason that inherent forms that need matter *in* which to exist, can produce only inherent forms and so need matter *on* which to act. Likewise, for material composites which act through inherent forms. Separate intelligences are not matter/form composites. If they acted by their whole substance to produce anything, eminence-, actuality-, or independence-considerations would not – at that level of abstraction – exclude them from producing substance *de/ex nihilo*. Aquinas and Giles deny that they act as wholes because they are still composites of essence and *esse*. Scotus focuses on the fact that they are separate *intelligences* and argues that they act by accidents, which – once again – are inherent forms.

Ockham thinks all such arguments are undercut by their failure to apply the distinction between total and partial causes. Lesser eminence, actuality, and independence do not – by themselves – prevent anything from being a partial cause. Consequently, these factors are indecisive in establishing whether or not a creature can create.

The Causal Determination Problem What moves Ockham is the problem with which Avicenna starts: what determines a causal power to produce a particular effect? Avicenna assumes that God and separate intelligences are natural agents that act to the limit of their powers, and that *nature* determines such powers to finitely many determinate products that they necessarily produce. Aquinas widens the scope of Divine power to include infinitely many, but Divine wisdom determines which finite universe God creates.

Ockham worries that any generic or specific power – animal-production or cow-production – would range over infinitely many producibles. Without something to determine the agent to a particular effect, they would produce infinitely many simultaneously. For Ockham, Divine freedom and omniscience plus the indefectibility of the Divine will keeps God from doing this, because God cannot will anything even implicitly contradictory. Even creatures have generic and specific powers that range over infinitely many (e.g., cow-begetting power), and the suggestion is that where a material cause is presupposed, then which material subject is nearby determines them to this effect rather than that. But if they had power to produce anything without presupposing a material subject, they would produce all or nothing.

Ockham's handling of the problem seems inadequate, however. On the one hand, if the availability of a material subject could determine which effect gets produced, so could the availability of other partial causes. So his arguments that creatures can't be efficient partial causes (whether natural or free) in creation seem flawed. On the other hand, the availability or requirement of a patient subject isn't sufficient to solve the causal determination problem: Aristotelian accounts of intensification, augmentation, the production of which particular form in matter, don't seem sufficient to answer how they get determined. If *Deus ex machina* is appealed to for the other natural cases, why not in sharing creative power – i.e., power to produce without presupposing a material subject – but obstructing it from being exercised to produce infinitely many effects?