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‘Whatever is Changing is Being Changed by Something Else’: A Reappraisal of Premise One of the First Way

DAVID S. ODERBERG

I. Introduction

The publication in 1969 of Anthony Kenny’s *The Five Ways*¹ was an important moment in contemporary philosophy of religion. In it, Kenny presented a detailed and systematic critique of the famous Five Ways of St Thomas Aquinas by which the existence of God could be proved using philosophical reasoning without any appeal to faith or revelation. The critical reception was somewhat mixed, provoking, unsurprisingly, a less sympathetic response from Peter Geach than from Antony Flew.² Speaking anecdotally, however, after many years of discussing philosophy of religion with both philosophers and theologians, and perusing some of the numerous standard undergraduate (and graduate) reading lists on proofs for the existence of God, I have formed the impression that Kenny’s book has had a major and lasting influence on the consensus concerning the cogency of the Five Ways.

That consensus is assuredly negative. Aquinas’s arguments are sometimes praised for their depth and ingenuity, but in general they are esteemed a failure, whether glorious or not. And Kenny’s critique is one of the first works to

¹ A. Kenny, *The Five Ways: St. Thomas Aquinas’ Proofs of God’s Existence* (London: Routledge and Kegan Paul, 1969).

² P. T. Geach, review of *The Five Ways*, *Philosophical Quarterly* 20 (1970), pp. 311–12; Antony Flew, review of *The Five Ways*, *Philosophical Review* 80 (1971), pp. 411–15.



which any philosopher of religion would point his students or colleagues for a (probably the) *locus classicus* in which the debunking exercise is successfully carried out. Kenny accuses Aquinas of numerous logical fallacies, equivocations, irrelevancies, and—perhaps the most memorable accusation—of tying his arguments, especially the First and Second Ways, to an outdated and discredited Aristotelian/medieval cosmology.³ There are those who treat the arguments more sympathetically, but they are in a decided minority and the conclusion, almost always, is that the arguments still fail.⁴

Moreover, it is clear that Kenny himself still stands by his decades-old critique of the Five Ways. Writing in 2004, he says:

By 1963 I had become too doubtful of several of the teachings of the Catholic Church to continue as a priest, and I returned to the life of a layman, becoming in 1964 a fellow of Balliol College and tutor in philosophy there. I continued to ponder the question whether it was possible to prove God's existence. The best place for an enquiry, I thought, would be the Five Ways of St Thomas Aquinas, the best-known and most revered of the proofs on offer. On careful examination I was unable to find that any of the arguments were successful; they depended more than met the eye on a background of outdated Aristotelian cosmology, and in places contained identifiable fallacies of argument. I published these negative results in a book *The Five Ways*.⁵

The First and Second Ways, I contend, have far more going for them than is commonly supposed. They are not tied to outdated cosmology, nor is Aquinas guilty of the fallacies Kenny levels at him. It is true that the arguments require the appreciation of certain metaphysical principles that are unfamiliar or seem archaic to the contemporary philosophical mind: it is for this reason that they have largely faded into obscurity, replaced in modern debate by,

³ For the typical response to the first two Ways (both or one of the two), see for example: J. L. Mackie, *The Miracle of Theism: Arguments for and against the Existence of God* (Oxford: Clarendon Press, 1982), p. 87; G. H. Smith, *Atheism: The Case against God* (Buffalo, NY: Prometheus Books, 1979), p. 245; M. Martin, *Atheism: A Philosophical Justification* (Philadelphia: Temple University Press, 1990), pp. 98–9; R. Swinburne, *The Existence of God* (Oxford: Clarendon Press, 1991; rev. edn), p. 119.

⁴ C. J. F. Martin, *Thomas Aquinas: God and Explanations* (Edinburgh: Edinburgh University Press, 1997) (the arguments succeed); W. L. Craig, *The Cosmological Argument from Plato to Leibniz* (Eugene, Ore.: Wipf and Stock, 1980), pp. 158–81 (mainly expository); N. Kretzmann, *The Metaphysics of Theism: Aquinas's Natural Theology in Summa Contra Gentiles I* (Oxford, Clarendon Press, 1997), ch. 2 (mainly analyses an argument from the *Summa Contra Gentiles* that closely parallels the First Way, though Kretzmann seeks to distinguish it from the latter; the argument ultimately fails); S. MacDonald, 'Aquinas's Parasitic Cosmological Argument', *Medieval Philosophy and Theology* 1 (1991), pp. 119–55 (the argument fails in its own right and (dubiously, in my view) needs supplementation by the Third Way); W. L. Rowe, *The Cosmological Argument* (Princeton: Princeton University Press, 1975), pp. 10–39 (the arguments ultimately fail since they rely on some or other version of the Principle of Sufficient Reason, none of which can be known to be true).

⁵ A. Kenny, *The Unknown God* (London: Continuum, 2004), p. 2.



for instance, the Kalam Cosmological Argument.⁶ In particular, the notion of causation employed by Aquinas in the arguments has a decidedly obscure ring to modern ears. Nevertheless, with some unpacking and an attempt at a sympathetic reading, we can see that the arguments are in fact strong ones, ripe for reinvestigation and reappraisal. In this paper I will focus solely on the First Way—moreover, only on its first premise, which is a key component of the Aristotelian/Thomistic metaphysic. I do not purport to establish in the following discussion that the premise is unassailable, only to defend it against the more common objections and to demonstrate its plausibility. In particular, as with the work of Aquinas in general it is important not to let the discussion of his ideas get mired in what can be interminable and often fruitless exegesis. If Aquinas is to have any currency for contemporary thought he needs as much as possible to be extracted from his historical context and evaluated, as all great philosophers should be, in terms of his timeless contributions to the search for truth. Hence, despite the inevitable excursions into both interpretation and the secondary literature, I will consider premise 1 of the First Way in a mostly context-independent fashion, stipulating the interpretations I place on Aquinas's words. Having said that, I will also stay very close to Kenny's own evaluation, taking his objections one at a time.

2. The First Way

The First Way is sometimes known as the argument from change or motion.⁷ The argument is presented in its most mature, albeit brief, form in the *Summa Theologiae*,⁸ and in more detail in the *Summa Contra Gentiles*.⁹ In truth, the final and arguably definitive statement is in the *Compendium Theologiae*,

⁶ See Q. Smith and W. L. Craig, *Theism, Atheism, and Big Bang Cosmology* (Oxford: Clarendon Press, 1993), and the many writings of both Smith and Craig on this famous Islamic argument that also had the support of, among others, St Bonaventure (though rejected by Aquinas). For a summary, see my 'The Cosmological Argument', in C. Meister and P. Copan (eds), *The Routledge Companion to Philosophy of Religion* (London: Routledge, 2007), pp. 341–50.

⁷ Where 'motion' (*motus*) means, for Aquinas, change in general, not just change of place (local motion).

⁸ *Summa Theologiae* [1266–73] (hereafter 'ST') Ia, qu. 2 art. 3. For a good translation, see *The 'Summa Theologica' of St. Thomas Aquinas, Literally Translated by the Fathers of the English Dominican Province*, vol. 1 (London: Burns Oates and Washbourne Ltd, 1920), pp. 24–5.

⁹ *Summa Contra Gentiles* [1261–4] (hereafter 'ScG') I.13. For a good translation, see A. C. Pegis (ed.), *On the Truth of the Catholic Faith (Summa Contra Gentiles)*, bk 1 (Garden City, NY: Image Books, 1955), pp. 85–90. For some of the exegetical issues surrounding the relation between the arguments of ST and those of ScG, see Kretzmann, *The Metaphysics of Theism*, ch. 2. I will occasionally draw on arguments from ScG in support of premise 1 of the First Way, but will not suppose that there are potential new 'ways' to be found outside ST.



composed a year or two before Aquinas's death. It is no more than a sketch, albeit very important, and differs little from the more detailed version in *ST*.¹⁰ The argument itself is easily stated:

- (1) Everything that is changing is being changed by something else;
- (2) But the series of changers and things changing cannot be infinitely long; therefore
- (3) There must be a first cause of all change, which we call God.¹¹

Aquinas calls this the 'more manifest way'¹² of proving the existence of God. By this he means, as traditionally held, that the argument is itself the most obvious and clearly convincing of the Five Ways, and *not*, as sometimes held,¹³ that the argument begins from the most evident empirical phenomena, namely cases of physical change. If he did not think this, it would be inexplicable why the First Way appears as the one and only proof of the existence of God in the *Compendium*. Moreover, the argument is supposed to be complete in itself, that is, to show the existence of an immovable first mover (changer) from which the other key properties of God, such as necessity and eternity, are inferred either directly or via supplementation by standard premises from natural theology. Again, this is evident from the *Compendium*.¹⁴

Hence the argument stands or falls on its own merits, and should not be taken as a jumping-off point for Aquinas's other arguments, a 'good enough' place to start if one wants to prove that God exists, an incomplete first attempt, or some such. Either the First Way is itself a proof of the existence of God or it is not. For Kenny, the argument fails on a number of fronts, leading him to add his voice to that of Suárez to the effect that the First Way is 'impotent' (*inefficax*, according to Suárez) to prove the existence of a prime mover.¹⁵ His objections are directed at both premises, as well as at the conclusion that the unmoved mover must be anything like the divine being of classical monotheism. Moreover, the objections focus both on apparent counterexamples to the premises and on the general reasoning, in particular

¹⁰ *Compendium*, pt 1, ch. 3; C. Vollert (trans.), *Compendium of Theology by St. Thomas Aquinas* (St Louis, Mo.: B. Herder Book Co., 1947), p. 9. (References will be to this translation, given by page number, unless otherwise indicated.) In n. 67 I refer to one exception by which the version in the *Compendium* does differ somewhat from the other main versions.

¹¹ For some of the exegetical issues see Kenny's own discussion, as well as Craig, *The Cosmological Argument*, pp. 161–74 and MacDonald, 'Aquinas's Parasitic Cosmological Argument'. Rowe's discussion in *The Cosmological Argument*, pp. 10–39 also contains useful interpretive material.

¹² 'manifestior via'. ¹³ For example, by MacDonald: 'Aquinas's Parasitic Argument', p. 155.

¹⁴ *Compendium*: pt 1, chs 4–10, pp. 9–15. Again, this goes against the interpretation given by MacDonald in 'Aquinas's Parasitic Argument'; see esp. pp. 153–5.

¹⁵ Kenny, *Five Ways*, p. 33.



concerning actuality and potentiality, to which Aquinas appeals in defence of his argument. I will now take his objections one by one.

3. Motion Per Se and Per Accidens

Kenny's first kind of alleged counterexample exploits the Aristotelian distinction between motion (or change) per se and motion (or change) per accidens.¹⁶ If *a* is moving because it is located in *b*, then *a* is moving per accidens, for instance a sleeping man in a moving ship. The man moves per se when he stands up and walks. The per se movement of a red billiard ball struck by a cue involves the per accidens movement of the redness located in it (the sense of 'location' being analogous but not identical). If *a* is a part of *b* and *b* changes because *a* changes, then *b* changes per accidens. So if a person is struck on the hand then the *person* is struck. (Again, there is an analogous sense of 'location' involved here, so the three cases are arguably species of a common genus.)

Now Kenny takes the example of himself sitting at his keyboard.¹⁷ He moves his fingers (per se), yet it seems his fingers move him (per accidens). The dilemma is as follows. If his fingers move him and he moves his fingers, the motion is circular: it 'cannot be an asymmetrical relation', which it needs to be for the infinite regress argument to work (via premise 2). Hence premise 1 is 'useless' for the First Way. Or else Kenny moves his fingers but his fingers do not move him; i.e., he is in motion *because* of the motion of his fingers, but is not moved *by* the motion of his fingers. In which case premise 1 has a counterexample. Either way, premise 1 is flawed.

Kenny, however, goes on to acknowledge that Aquinas believes animals (including human beings) are moved by their souls. (Note that the movement is not the pure efficient causation of one physical object moving another. The soul is the *form* of the body, and as such exercises a special kind of formal causation by which, as a part of the animal's essence, it *directs* the efficient causation of the animal's bodily constituents—neural parts, muscles, limbs, and so on.¹⁸) Hence, as he accepts, on this view his fingers are moved by his soul yet

¹⁶ Kenny, *Five Ways*, pp. 13–14. See Aristotle, *Physics* 254b7, in W. D. Ross (ed.), *The Works of Aristotle Translated into English*, vol. ii (Oxford: Clarendon Press, 1930); Aquinas, *Commentary on Aristotle's Physics* VIII.1022, trans. R. J. Blackwell, R. J. Spath, and W. E. Thirlkel (London: Routledge and Kegan Paul, 1963), pp. 504–5. (Kenny, *Five Ways*, p. 13 has '102 ff.' for Aquinas, which is presumably a misprint.)

¹⁷ Kenny, *Five Ways*, p. 14.

¹⁸ The very idea of soul as cause will, of course, have an odd ring to contemporary ears. To say that the causation is *formal* rather than *efficient* might seem merely to enshrine the idea in equally odd



his soul is not moved by his fingers, and so the movement relationship is after all asymmetrical. The problem now, he concludes, is that '[t]he Aristotelian soul of any animal or plant will be an unmoved mover in the required sense'.¹⁹ I will return to this last point soon. For the moment, this small retreat by Kenny needs to be enlarged somewhat. On the hylemorphic view of animals advocated by both Aquinas and Aristotle,²⁰ the soul of a living thing is what causes it to behave in the way that is natural for it. The soul directs the motion of organic parts, fingers included. It is consistent with the claim that souls move fingers, that human beings are moved by their fingers, where that motion is *per accidens*. So on hylemorphism, Kenny's fingers are moved (*per se*) by his soul. He, Kenny, not being identical with his soul, is moved (*per accidens*) by his fingers (since the fingers are part of the human). Whether, as Kenny questions, he is moved *by* his fingers or *because* of his fingers is superfluous to the argument. The movement relation is still asymmetrical, as Aquinas requires. On the other hand, if we reject the very idea that Kenny is moved either by or because of his fingers, i.e. that in no sense do his fingers move him,

terminology rather than to render it plausible. I do not in this paper argue for the existence of the soul (which I do in 'Hylemorphic Dualism', in E. F. Paul, F. D. Miller, and J. Paul (eds), *Personal Identity* (Cambridge: Cambridge University Press, 2005)). My point here is that if one assumes its existence along Aristotelian/Thomistic lines, one must ascribe causal powers to it as a real constituent of living substances. Yet it is not a constituent on an ontological par with body parts; rather, it is a fundamental constituent, along with matter, of the whole substance. In biological organisms its causal powers derive from the fact that, in union with matter, it is able to direct the organism's development and behaviour. The situation is to that extent no different from that obtaining with non-living substances, which—for the essentialist—have essences with causal powers. The causal powers of an object with mass, for instance, derive from what it is to *be* an object with mass, i.e. from the essence of such an object. To say that the object's *essence* has causal powers is simply to refer the object's causal powers back to the essence of the object. In hylemorphic terms, the *form* of the object provides (in union with matter) the causal powers that enable the object to behave in the way it characteristically does. This is what it means to say that the soul, through formal causation, directs the behaviour of the organism. One might, of course, want to reject this way of understanding things altogether, but to do so is *eo ipso* to reject hylemorphism. (I defend hylemorphism in my *Real Essentialism* (London: Routledge, 2007).)

¹⁹ Kenny, *Five Ways*, p. 15.

²⁰ There is room for some debate as to whether Aristotle shared Aquinas's view that it is specifically the soul that moves the animal. Kenny says no, citing *Physics* 254b25ff. where Aristotle seems to hold that everything in motion is moved by something, not necessarily something *else*. Yet just after this, at 254b30, Aristotle is clear that in animals what suffers motion and what causes motion are distinct, from which it is evident that he, like Aquinas, thinks that whatever is in motion is caused to be in motion by something else, even in animals. Whether this something else was, for Aristotle, the soul or another part of the animal can be put to one side, but in any case he is clear that it is only 'in this sense' (*houtō*, 254b31) that the animal as a whole causes itself to move. Moreover, it is very clear in Aristotle's *On the Motion of Animals*, especially pt 10, that the soul moves the body: 'We have explained by what means the soul moves [*kinei*] the body [these two words implied by the context] when a part [of the body] is moved . . . [the soul] is in a kind of governing place/is a kind of governing principle of the body [*en timi archei*]'.



then there is *no* counterexample to premise 1. The dialectical position is not that since Kenny is changing and the only candidate changer is his fingers, yet the latter idea is unacceptable, his changing therefore has no changer—contra premise 1. Rather, the ‘oddness’ (to use Kenny’s word) of positing such a causal relationship, if the oddness be accepted, is transmitted to the very *assumption* that when Kenny types he is in motion *in any other sense* than that he (or his soul, for that matter) moves his fingers. It is not as though he is in motion in some sense other than this but that his motion is not caused by anything, the only candidate being the unacceptably odd one of his fingers. We can now see more clearly why Kenny’s dilemma fails on hylemorphism. Kenny is right, however, to raise the problem. For the hylemorphist cannot simply retreat to the position that formal causation by the soul is a ‘special’ kind of causation in order to avoid legitimate questions concerning the asymmetry or otherwise of the causal relationship between soul and body. Formal causation is strictly a kind of *causation*, and as such the issue of whether there is an unacceptable circularity in the causal relationship between soul and body is as relevant as for efficient causation between bodily parts. Still, for the hylemorphist there is no circularity.

On a purely materialist view, the dilemma disappears altogether. For in no way would Kenny’s fingers cause him to move. His neural firings would be caused by external and internal material stimuli, and these would in turn cause the movement of his fingers. The causal chain would begin outside Kenny, and within him would involve neural activity causing muscle movement, terminating outside him in the motion of the keys on the keyboard. Again, there would be no circularity in the relevant causal processes and no lingering counterexample to premise 1. Kenny does not consider a materialist interpretation, focusing only on the hylemorphic view. We do well, however, to see to what extent Aquinas’s argument carries weight independently of certain metaphysical presuppositions, in particular hylemorphism, that most philosophers currently reject. Moreover, if Aquinas is to be defended against endless *ad hominem* objections, it is worthwhile seeing whether his argument is detachable from other parts of his overall metaphysical outlook. We should not expect complete detachability, but the argument arguably fares even better when examined on assumptions more favourable to materialism than to hylemorphism, just as Aquinas, though he believed in the finitude of the past, was explicit that the First and Second Ways did not depend on this assumption.

4. The Soul as ‘Mundane Primary Mover’

A mundane primary mover²¹ is a natural unmoved mover, i.e., something that moves other things in the sense Aquinas intends—simultaneously, via one or more instrumental causes—but is not itself immovable or in any way a candidate for a divine being. In various places Kenny, among other critics, objects that premise 1 leads, at most, to mundane primary movers, not to God.²² Kenny’s opening shot is his charge that the idea of an unmoved mover ‘will not lead us beyond a stationary billiard ball’.²³ The argument, in other words, does not take us to the *immovable* mover required for a proof of the existence of God.

I will come back to inorganic entities later, when discussing inertia, impetus, gravity, and related matters. For now I want to concentrate on the idea that premise 1, in the organic case, does not lead beyond mundane primary movers such as humans and other animals. The particular question of whether the argument as a whole takes us to an *immovable* first mover must await a separate treatment. According to Kenny, if we accept that animals are moved by their souls, then ‘[t]he Aristotelian soul of any animal . . . will be an unmoved mover in the required sense’,²⁴ the required sense being that of the terminus of a chain of simultaneously acting causes. Kenny does not elaborate the objection, but the idea is that since on premise 1 whatever is changing is being changed by another, animal changes require distinct changers: digits and limbs are moved by muscles, which are moved by the nervous system, which is moved by the brain (simply put). On the hylemorphic view, it is the *soul* of the animal that will be the ultimate source of all these changes—even changes to the brain—as the animal’s directive, essential principle imbued with causal powers. In a human the soul is immaterial; in a non-human animal it is material, that is, wholly dependent for its operation on the animal’s material constitution.²⁵ In either case, there seems no reason to go beyond the soul as the primary mover of the animal.

Yet the soul itself undergoes changes. Animals undergo changes of desire and belief,²⁶ changes in their perceptions, changes of feeling, as do human

²¹ The term comes from MacDonald, ‘Aquinas’s Parasitic Cosmological Argument’.

²² MacDonald discusses mundane primary movers, *ibid.*, pp. 146 ff. ²³ Kenny, *Five Ways*, p. 13.

²⁴ *Ibid.*, p. 15. The ellipsis in the quotation replaces ‘or plant’. I omit consideration of plants, since if the charge in respect of animals can be refuted, a fortiori it can be refuted for plants.

²⁵ For more on the materiality of animal souls and immateriality of human souls, see ch. 10 of my *Real Essentialism* and also ‘Hylemorphic Dualism’.

²⁶ Whether animals have beliefs at all is debatable, but I will not canvass this issue.

beings. People change their minds, adopt new goals, acquire new thoughts. For a hylemorphist, these changes are not merely changes in a body but alterations to a soul. And the materialist, whilst eschewing talk of souls, readily accepts that humans and other animals undergo changes of mind/brain, and will seek to translate all talk of changes to a soul into talk of changes to minds/brains as well as bodies. More importantly, and of crucial relevance to the argument, an animal's soul undergoes changes *in the exercise* of its—the soul's—powers. When a dog starts towards the food bowl, its soul is not merely causing the dog to move, but is itself changing in the exercise of this causal activity: the dog gets hungrier, more excited, anticipates the delicious meal ahead, and so on. Again, soul-talk aside, the materialist will not demur. As the dog's brain causes the impulses that lead to canine locomotion, so that brain buzzes with activity. So much is commonplace, and for the purposes at hand human behaviour is no different. As Kenny moves his fingers on the keyboard, he thinks about what he has just written and what he is going to write next; perhaps he considers making a cup of tea or remembers something he needed to get from the shop. And so on. It is *in the exercise* of causal powers leading to bodily movement that the soul, and for the materialist the mind/brain, undergoes its own changes. And premise 1 says that whatever changes requires a changer. So the soul too needs a changer.

Yet what changes the soul? For Aquinas, there are many causes—for example bodily changes, objects of knowledge, and objects of perception. When it comes to human action, the main cause of change to the soul is the 'appetible object' (the object that is sought or desired).²⁷ There are two aspects to an appetible object—the mind-independent universal or particular to which the agent tends in its behaviour, and that universal or particular as conceived or thought about in the mind of the agent. So when Fred buys a pizza for dinner, the universal *pizza* is one aspect of the appetible object of his action: he is motivated by pizza, and pizzas are mind-independent. But he also has the concept *pizza* in his mind, and is motivated by this. The concept is a universal in the mind.²⁸ This does not imply overdetermination: the concept *pizza* in Fred's mind just is the universal *pizza*, but that universal enters the mind of anyone who grasps it and so acquires the concept of it. He is not motivated by two things—a concept and a universal. He is motivated by one thing doing double duty as an objective feature of the world and also as a literal part of Fred's mental inventory.

²⁷ 'appetitum alicuius appetibilis': ScG 1.13.28; Pegis trans., bk 1, p. 94.

²⁸ On concepts and universals, see my 'Concepts, Dualism, and the Human Intellect', in A. Antonietti, A. Corradini, and E. J. Lowe (eds), *Psycho-Physical Dualism Today: An Interdisciplinary Approach* (Lanham, Md: Lexington Books/Rowman and Littlefield, 2008).

The crucial point is that agents are motivated by things. In hylemorphic terms, Fred's soul, like Fido's soul, initiates certain kinds of behaviour in response to effects that things have upon it. For a materialist, external objects have effects upon the nervous systems of agents, and those nervous systems stimulate action. Yet it is evident that the external objects that move either souls or nervous systems are themselves changing. Pizzas are changing: what was the most common pizza to be found on menus ten years ago is not so now, for example. Individual pizzas change as well: the one Fred is looking at in the restaurant window is getting cooler and more stale as he looks. We can frame the whole issue in terms of particulars only, saying—as materialists of a nominalist persuasion would want to—that the particular things that motivate action are themselves subject to change. But since, on the Thomistic view, we must include universals as appetible objects, we must also say that the universals that motivate action also change. And universals change in virtue of the way they are instantiated. For example, if the proportion of pepperoni pizzas produced increases from 10 per cent to 90 per cent, the universal *pizza* changes by having a different kind of preponderant instance. In other words, the *way* the universal *pizza* is manifested in the world changes, and this is a change to the universal itself, which acquires a new accidental characteristic—being such that 90 per cent of its instances are now pepperoni.

It might be objected that even if the above is true, the chain of changers and changed things can only take us to the happiness of the agent as final appetible object, and not beyond this.²⁹ Whether the chain leads to God is not something I consider here. But the chain must reach beyond happiness since happiness, like other universals such as *pizza*, is also subject to change in terms of the way in which it is or might be instantiated. The essence of happiness might not change, but the way in which Fred chooses to instantiate it in his life will be not only changeable but actually changing over the course of his life. More generally, the earthly conditions in which happiness can be instantiated by human agents are continually changing. A rising or falling standard of living, for instance, will cause changes in the ways in which people can achieve happiness, say by limiting or enlarging their options. This will entail changes to the universal itself—changes to the accidental features by which happiness, qua universal, is instantiated or instantiable.

What I claim to have established, therefore, is that souls will not be mundane primary movers and so Kenny's objection fails. Souls will not be primary movers at all. That humans have free will does not salvage the objection. It is not, as far as I can tell, and in any case should not be implicit in premise 1 that

²⁹ MacDonald, 'Aquinas's Parasitic Cosmological Argument', p. 151.

whatever is changing is being *deterministically* changed by another. The soul of a free agent is changed by external objects, but it need not be deterministically changed by them. Objects and events that *influence* free will, and so contribute to its changing, do not ipso facto *destroy* free will. There is no need to fill the gap by saying that the soul also, to some extent, changes itself; all we need to say is that the soul has some kind of ill-understood spontaneity whereby, when it does change in response to objects, it does so non-deterministically. Perhaps there is not much further we can go in analysing what freedom amounts to, but for present purposes we need not try.³⁰

5. Inertia

One of Kenny's key objections to premise 1 is that it rests on physical theory that has been superseded by Newton and/or Einstein. The case in point is local motion, which, to recall, is just one of the kinds of change subsumed under the premise. For Aristotle, the local motion of a body (I will for now use the term 'motion' to mean only local motion) is caused by the medium of the air surrounding the body. Aquinas concurs. On the impetus theory of Jean Buridan, there is a 'motive force' (*vis motiva, impetus*) impressed into the moving body by whatever initially moved it.³¹ On either theory, the moving body has a mover. Kenny objects that for Aristotle, the air would be an unmoved mover, and Aristotle does seem to speak that way.³² Given that the sense of motion in this context is *local*, we can accept with Aristotle that the air in no wise moves locally once, say, the thrower of a projectile, having released the object, ceases to disturb the air. But we can still hold that the air moves *qualitatively*, i.e., that it changes as it exercises its power of locally moving the projectile, and this change would require a changer. Again, on the impetus theory, we could hold that the motive power was impressed upon the parts of the moving body, and given that the parts are not identical to the whole, the local motion of the body would have, as premise 1 requires, a mover distinct from itself.

So much is mere speculation. Nor is it nearly as important as the issue of whether classical mechanics, via the law of inertia, has removed altogether

³⁰ I leave aside complex questions concerning Aquinas's own view of the role that God plays in influencing a free agent's choices. The issue has a vexed interpretive history.

³¹ For Aristotle, see *Physics* 266b30; for Buridan, see extracts from his *Questions on the Eighth Book of the Physics*, in E. Grant, *A Sourcebook in Medieval Science* (Cambridge, Mass.: Harvard University Press, 1974), p. 275.

³² *Physics* 267a5–7.

the need for a mover of that which moves locally. A quick and strategically effective approach by some philosophers such as Scott MacDonald has been simply to exclude inertial frames of reference, i.e. frames in which there is uniform velocity, from premise 1. The idea is that premise 1, as far as local motion is concerned, only applies to changes in rest or velocity, i.e. to non-inertial/accelerated motion.³³ A principled reason for making this exclusion would be that uniform local motion might be considered a merely relational or extrinsic property of things, whereas premise 1 should be restricted to intrinsic change only.³⁴ A basic metaphysical reason underlying this idea is that change involves a transition from potentiality to actuality, and such a transition must be intrinsic. If the uniform motion of a body is relational, then the transition will not be intrinsic to the moving body. If *all* uniform motion is relational, then there will be no such intrinsic transition, and we can leave uniform motion to one side as not involving genuine intrinsic alteration in anything. If uniform motion does, on the other hand, require some intrinsic alteration in something or other (absolute space, let us suppose), then we can instead look to the change in that thing as a phenomenon requiring a cause, and premise 1 will apply again. I will consider actuality and potentiality later, but for now we can consider an analogy with time. If uniform relative motion is metaphysically on a par with (hypothetically) the passage of an object through time without that object's undergoing any intrinsic change, we might be even more comfortable with excluding uniform motion from premise 1. We might, nevertheless, treat the temporal passage of an object without intrinsic change as relational to the intrinsic ageing of some other object. We could then apply premise 1 to the intrinsic change in the latter object. Or we might treat such a passage as relative to an intrinsic change in absolute time, in which case we would apply premise 1 to the change in absolute time. I do not suggest this analogy is mandatory, only that it is a plausible one that might be given in support of an exclusion of uniform motion from premise 1. Kenny quips³⁵ that such an exclusion in favour of applying premise 1 to *non*-inertial motion only, would give us an argument in favour of an 'unaccelerated accelerator' rather than an unmoved mover. The quip is no more than that, of course: remembering that local motion is but a species of change, the restriction of premise 1 to acceleration means merely that whatever changes from a state of rest or uniform motion requires something distinct to change it, just as the

³³ Kenny, *Five Ways*, p. 29; MacDonald, 'Aquinas's Parasitic Cosmological Argument', pp. 136–7; R. Garrigou-Lagrange, *God: His Existence and Nature*, vol. 1, trans. B. Rose, OSB (St Louis, Mo.: B. Herder, 1949), pp. 272, 276 (citing Bulliot and Janet).

³⁴ MacDonald, 'Aquinas's Parasitic Cosmological Argument', pp. 136–7.

³⁵ Kenny, *Five Ways*, p. 29.

application of a coat of green paint to a red wall does not require us to postulate an unpainted painter.

Another approach, called by Kenny a ‘counter-attack’, is to insist on the requirement that uniform motion requires a cause. This is most famously embodied in Mach’s Principle (so named by Einstein), which in its simplest form states that ‘mass there influences inertia here’. More formally, it says that inertia is causally determined by the large-scale structure and distribution of matter in the universe.³⁶ The idea, reminiscent of the ‘archaic cosmology’ of Aristotle, is that even the distant stars have an effect on relatively small-scale local motions, both inertial and non-inertial. Einstein himself was at one time sympathetic to the principle, writing to Mach that ‘*inertia* has its origins in a kind of *interaction* of bodies’, though he later rejected it.³⁷ Moreover, the Lense-Thirring Effect, derived from General Relativity, predicts that the rotation of an object would alter space-time, dragging a nearby object out of position compared to the predictions of Newtonian physics. This, if experimentally verified, would give support to Mach’s Principle from within General Relativity, and whilst the existence of such verification is controversial, some physicists claim accurate measurement of the effect has been made using satellites.³⁸ The status of Mach’s Principle is still a matter of debate (both its truth and its compatibility with General Relativity), and Kenny himself is not prepared to rule it out on experimental grounds as a plausible response to the criticism of premise 1 based on inertia. He does have a brief philosophical criticism, however, which is that the relation of change/motion required by the First Way is asymmetrical, whereas the gravitational attraction of bodies is symmetrical. Hence if Mach’s Principle is invoked, ‘the principle that whatever is in motion is moved by something else can be verified in a universe in which there are no unmoved movers, but only two bodies, each in motion and each moving the other’.³⁹

The problem with this criticism, however, is whether the scenario sketched by Kenny is in fact compatible with both premises 1 and 2 of the First

³⁶ For readings on Mach’s Principle, see J. Barbour and H. Pfister (eds), *Mach’s Principle: From Newton’s Bucket to Quantum Gravity* (vol. 6 of *Einstein Studies*) (Boston/Basel/Berlin: Birkhäuser, 1995).

³⁷ Einstein, letter to Ernst Mach, Zurich, 25 June 1913, cited in J. D. Norton, ‘Mach’s Principle before Einstein’, in Barbour and Pfister (eds), *Mach’s Principle*, pp. 9–57, at 24.

³⁸ I. Ciufolini, E. Pavlis, F. Chieppa, E. Fernandes-Vieira, and J. Pérez-Mercader, ‘Test of General Relativity and Measurement of the Lense-Thirring Effect with Two Earth Satellites’, *Science* 279 (1998), pp. 2100–3. For a prominent contemporary defence of Mach’s Principle, see the work of the physicist Julian Barbour, at <http://www.platonica.com/index.html> [accessed 5 Sept. 2008]. For an opponent, see J. H. Higbie, ‘Mach’s Principle in General Relativity’, *General Relativity and Gravitation* 3 (1972), pp. 101–9.

³⁹ Kenny, *Five Ways*, pp. 30–1.

Way. There is a dilemma. On the one hand, as Kenny himself acknowledges, premise 1 is that whatever is moving is being moved by something *distinct*. On the scenario he sketches, if the kind of causation invoked is transitive, it is *in principle impossible* to say whether either body is really being moved by something distinct. For at any stage in this simple causal loop, one will have to say either that body *a* is moved by body *b* or that *a* is moved by itself (since by transitivity if *a* is moved by *b* and *b* is moved by *a*, then *a* is moved by itself), and the converse. But it will not be possible to take any stage in the loop as privileged, so it will not be possible to say whether either body is being moved by something distinct from itself, whereas premise 1 *requires* a moving body to be moved by something distinct from itself. Premise 1, contrary to Kenny's assertion, will not be verified. On the other hand, if the causation involved is not transitive, then although at each stage in the loop either body will indeed be moved by something distinct from itself, thus verifying premise 1, the very *infinity* of the loop will still be incompatible with premise 2, and if the grounds for premise 2, which require separate treatment on another occasion, are good then Kenny's scenario is a non-starter. On either horn of the dilemma, the scenario will not succeed in undermining the First Way, assuming we have greater metaphysical grounds for believing both premises than for entertaining the possibility of the scenario. It is useless to appeal to physics, whether Newton, Mach, or Einstein, to defend the possibility of the causal loop sketched by Kenny if the *metaphysical* grounds for ruling it out are solid. Moreover, there is no way of verifying such a scenario empirically just as there is no way of verifying the law of inertia empirically: both are mere idealizations, the latter also a mere assumption.⁴⁰ Therefore, Kenny's two-body scenario is at the least not *obviously* possible, as he seems to think, and so not an obvious problem for the First Way.

6. Generators and Obstacle Removers

Kenny points out that Aristotle and Aquinas recognize two particular categories of moving agents among others: generators and obstacle removers.⁴¹ They cite heavy and light things, which move naturally in virtue of whatever it was

⁴⁰ According to Henri Poincaré, the law of inertia is neither an a priori truth nor verifiable experimentally: see *Science and Hypothesis* (London: Walter Scott Publishing, 1905), pp. 91–3. Of course it may be a good assumption given the derivability of classical mechanics in part from it, but my point is simply that there is no way of verifying it empirically.

⁴¹ Kenny, *Five Ways*, p. 17. See *Physics* 255b25–256a5; Aquinas, *Commentary VIII*.1035–6 (trans., pp. 511–12).

that generated their natures, that is, made them heavy or light. Such objects may also move in virtue of the removal of an obstacle. Kenny believes there are counterexamples to premise 1 among such movers: ‘if someone pulls out a bathplug the water may continue to flow downwards long after he has gone away, and if we ask for the generating cause of the heaviness of a falling boulder we may not find one later than the cooling of the earth’s crust’.⁴²

Neither counterexample works. The person who removes the bathplug causes the water to *begin* to flow by removing an obstacle;⁴³ the *continued* motion, however, is caused by gravity. In the case of the falling boulder, heaviness is not a change but a quality, and so we are not interested in that. Rather, we are interested in the boulder’s motion: what caused it to begin to move will be, say, a volcanic eruption or some other event. Its continued movement will be caused by gravity. Kenny goes on shortly afterward⁴⁴ to refer to the *tendency* of the boulder to fall, but then introduces irrelevant, occasionalist-tainted references by some supposed followers of Aquinas to the ‘immediate action of the Creator’ in actualizing such a tendency. This is no part of Aquinas’s or of Aristotle’s thinking. Instead, we must say that the falling of the boulder is caused by gravity. But does gravity itself need an explanation? In what sense is it changing?

Here we run up against our ignorance of the way the universe works. It is possible that gravitational attraction is produced by rotation—of a planet, stars, the sun, the galaxy, and for all we know the entire universe. (If the universe itself rotates, this looks like a violation of Mach’s Principle, but discussion of this is highly speculative and can be left aside.⁴⁵) Or perhaps gravity is produced by the action of real particles, the hypothetical gravitons. Perhaps motion of parts within an object contributes to gravitational effects. Or maybe all of gravity is explicable, via General Relativity, by changes in the structure of space-time. We do not know. But what seems clear enough is that the explanation of gravitational behaviour will have to invoke some kind or kinds of change in material objects. According to premise 1, these changes will themselves require a cause.

⁴² Kenny, *Five Ways*, p. 17.

⁴³ We might even doubt whether obstacle removers are within the purview of genuine *causes of change* in the sense required for the argument (and the sense conceived by Aquinas). I am assuming they are for present purposes, given that Kenny makes use of them; but if they are not, so much the worse for Kenny’s objection. Gravity, then, would be the cause of the water’s motion from beginning to end, with the removal of the plug being something like the removal of a *condition* that prevents gravity from producing the water’s motion. (I am indebted to Brian Davies for this point.)

⁴⁴ *Ibid.*, p. 18. ⁴⁵ P. Birch, ‘Is the Universe Rotating?’, *Nature* 298 (1982), pp. 451–4.

7. Laws of Nature

This raises the general question of the laws of nature, of which the universal law of gravitation is an example (at least, as currently held, when supplemented in a more precise way by the equations of General Relativity). On a Humean view of laws, they are mere regularities derivable from the behaviour of objects. No explanation follows concerning the causes of the behaviour. Premise 1 requires that anything undergoing a process of change requires a cause of that change. The Humean cannot appeal to the laws themselves as an explanation, since these just are behavioural regularities, in other words regular changes in things. So although a Humean will not be able to explain regular behaviour by appealing to laws that in some sense cause behaviour, he will not escape the need to explain changes, at however basic a level, in terms of causes of change.⁴⁶

An immanentist view of laws sees them as expressing the essential tendencies of objects to behave in certain ways. Objects obey laws because they obey their own natures.⁴⁷ The laws of nature, put simply, are the laws of *natures*. Objects have the tendencies they have because of their natures, whether it is the tendency of an object to attract another, to resist certain forces, to collapse under certain forces, or of a living thing to act in whatever way it needs to thrive or flourish. In general, things have what might be called *standing tendencies* to certain kinds of behaviour. A magnet has the standing tendency to pull iron particles towards it even if it is not doing so. A cat has the standing tendency to stalk smaller animals even if it is not doing so. Aristotle and Aquinas called such tendencies ‘second potentialities’/‘first actualities’.⁴⁸

As noted above, objects change in the exercise of their causal powers. This does not mean that an object loses the nature or essence it possesses when, via that essence, it exercises its powers. Rather, the object itself undergoes changes, and the nature of the object changes in the same sense that a universal changes when its instances change, as discussed above. Rover does not cease to be a dog when he barks, but he acquires an accidental quality, that of barking,

⁴⁶ The Humean, of course, will himself deny the need to postulate a cause of every change, as he does not see the need to postulate a cause for every beginning of existence. My point, however, is simply that the Humean view of laws postulates the existence of changes no less than the immanentist view, and so posits a phenomenon that, according to premise 1, requires a cause.

⁴⁷ See my *Real Essentialism*, ch. 6; also B. Ellis, *Scientific Essentialism* (Cambridge: Cambridge University Press, 2001).

⁴⁸ See, for example: *ST* IaIIae, qu. 49, art. 3, ad 1 (Burns Oates edn, vol. vii (1927), p. 9); *De Anima*, bk 2: 412a6–11, in W. D. Ross (ed.) *The Works of Aristotle*, vol. iii (1931); Aquinas, *Commentary on Aristotle's De Anima*, trans. K. Foster and S. Humphries (Notre Dame, Ind.: Dumb Ox Books, 1994; orig. pub. 1951), sect. 216, p. 73.

which is a manifestation of his canine nature. The canine nature changes only inasmuch as its powers are exercised in a certain way: it is now the nature of a presently barking dog. The change to Rover requires a cause, such as the smell of food or the appearance of a cat in his field of vision. Laws of nature tie some accidents more than others to the natures of things; for laws of nature involve a special kind of accidents, what are traditionally called *properties* or *propria*, and sometimes in contemporary parlance *necessary* accidents.⁴⁹ Rover's being a mammal, for instance, is tied very closely⁵⁰ to mammalian properties such as having hair⁵¹ and being a member of a kind whose females lactate. Biological laws concerning mammals invoke precisely the mammalian properties, and the same applies to all objects, living and non-living.⁵² Hence the exercise of powers that come under the category of property in this strict Aristotelian sense necessarily involve changes to the nature of the object exercising the power. Again, the object does not cease to be what it is; rather, its exercise of natural powers, i.e. powers deriving from its nature, entails changes to the nature: the nature *expresses* itself in a certain way, and so becomes the nature of an object that is itself changing. This is why we should expect that the exercise of gravitational power by a material object should involve changes to the object: its nature, in this case to have mass, expresses itself in gravitational attraction. And this should involve changes to the object itself via the expression of its nature; and so we should expect gravitation to be caused by, say, interactions among the object's particles, or rotation, or some other change in the behaviour of the object *qua* possessor of mass. This is not to deny that there are such conditions as *states*. Solidity, fragility, being red, being at rest, and so on, are genuine states. My point is only that to be a genuine state is to be static at a certain level—relative to a certain observer or certain other objects, within a given margin of experimental accuracy, and the like. A solid object is indeed in a state of solidity, but we know that the maintenance of that solidity requires much molecular activity within the object's crystal structure, among other things. The same for fragility. Also, we know that being in the state of having a certain colour requires activities of reflection and absorption, or else (in the dark) activities that *dispose* the object to reflection and absorption when exposed to light. And so on.

⁴⁹ For more on *propria*, i.e. properties in the strict, traditional sense, see my *Real Essentialism*, ch. 7; also K. Fine, 'Sense of Essence', in W. Sinnott-Armstrong (ed.), *Modality, Morality, and Belief: Essays in Honor of Ruth Barcan Marcus* (Cambridge: Cambridge University Press, 1995); M. Gorman, 'The Essential and the Accidental', *Ratio* 18 (2005), pp. 276–89.

⁵⁰ In a way we do not fully understand and on which work needs to be done.

⁵¹ Albeit minimal in the case of *Cetacea* (whales, dolphins, porpoises).

⁵² The further question of whether every member of essential kind *K* must have all of the *K*-properties cannot be explored here. For further discussion see *Real Essentialism*, ch. 7.

The point of this small digression is to draw out the idea that premise 1 of the First Way cannot be impugned by appealing to laws of nature as ‘mundane primary movers’ with which the metaphysical buck stops, as it were. Nor can it be undermined by appealing to an infinite regress of laws. On the second point, Kenny says that there may be ‘no theoretical end to the process’ of asking why certain laws hold.⁵³ In other words, there may be no basic laws, where in this context a basic law is one that has no further explanation within the material universe. Let us call such laws *relatively* basic. I submit that it is a mistake to think there might be no such laws. If there were no end to the process of explanation within the material universe, this would imply an infinite level of complexity in objects. This point is not tied to the issue of reductionism. Of course, for a reductionist the infinite complexity would be microstructural; but one could equally well be a non-reductionist and hold to some other kind of infinite complexity, say in powers of behaviour, or perhaps in numbers of dimensions, whether spatio-temporal or otherwise, according to which behaviour can be measured. But why should we expect any such infinity of complexity? All objects (God or the Prime Mover aside) are finite, delimited entities with specific natures. Matter, as both Aristotle and Aquinas thought, might be infinitely divisible in potentiality—but this would not entail infinite complexity in kinds of behaviour. It might entail an infinite number of possible kinds of manifestation of a given power, but that is a different phenomenon. The kinds of power possessed by a thing would still be finite, given its finite nature.

If we accept that there are relatively basic laws, on the other hand, this does not require that we be reductionists either. A reductionist, typically, will posit basic physical or mathematical laws as being the ones in no need of further explanation. But one might be a non-reductionist and hold that there are basic laws in each of the special sciences, including perhaps the social sciences. Reductionist or not, the believer in relatively basic laws must posit the existence of relatively basic *changes* in objects that do not require further causal explanation within the material universe. But what premise 1 rules out is the possibility that such changes require *no causal explanation whatsoever*, i.e., that there might be basic laws in an *absolute* sense. If obedience to laws requires changes in objects via the expression of their natures, relatively basic laws require relatively basic changes. But all non-basic changes require causes according to premise 1, so why should relatively basic changes be any different? The phenomenon of change is the same whether it is relatively basic or non-basic. Merely to stipulate that there might be absolutely basic

⁵³ Kenny, *Five Ways*, p. 31.

laws—laws requiring no causal explanation whatsoever—does not give us a reason why we should make an explanatory exception for relatively basic changes if it is true that all other changes require causes. And if we express the idea in Humean terms the point remains the same. Relatively basic laws will on the Humean view of laws require relatively basic regularities, and these will involve relatively basic changes. No mention need be made of natures, but the problem is identical. Kenny offers no argument for thinking that premise 1 can be undermined by positing relatively basic laws; he simply tells us that such laws might exist and so require no further explanation *at all*—in other words, that the relatively basic laws might also be absolutely basic. He goes on to say that the First Way does not seek to explain why the relatively basic laws hold.⁵⁴ The argument is not to an Author of Nature, he points out, but to ‘the efficient cause of the actual motions of substances in the world’.⁵⁵ This claim is misleading, however, because of the intimate connection between being the Author of Nature and being the Author of Natures. The First Way argues to an uncaused cause of all change. Given that laws involve changes, the argument is ipso facto an argument to the cause of all laws. If there are absolutely basic laws, the argument is vitiated since not all changes will require a cause. But Kenny has given us no reason to think that there are any basic laws in this sense. If there is a cause of all changes, then there are no absolutely basic changes, and so no absolutely basic laws, if to be an absolutely basic change means to be uncaused. But the supporter of the First Way can still posit relatively basic changes—changes, and hence laws, that do not have a cause *within the material universe*. Perhaps, if the First Way is sound, this is as basic as we can hope to get.

8. Act and Potency

Aquinas’s central argument for premise 1 is based on the distinction between actuality and potentiality. Change involves the becoming actual of some accident or feature that is merely potential.⁵⁶ The potentially ripe banana is

⁵⁴ Kenny, *Five Ways*, pp. 32–3. ⁵⁵ *Ibid.*, p. 33.

⁵⁶ This way of putting it might sound as though the only sort of change involved in the argument is accidental or merely qualitative change, as opposed to substantial change. But substantial change also involves the coming into existence of actual qualities that, prior to the change, are merely potential. For example, when water is electrolysed into hydrogen and oxygen, not only does a substance cease to exist and another (two others) come into existence, but so do new qualities, i.e. the chemical properties of hydrogen and oxygen (e.g. boiling point) that are not present in water. Lest the reader object that this idea commits us to the Identity of Indiscernibles, which is contestable, we can add that substantial



actually unripe, and when it becomes ripe its potential ripeness becomes actual. Its actual unripeness disappears. All change is, as Aquinas puts it, the ‘reduction of something from potentiality to actuality’.⁵⁷ But, as he goes on to argue, ‘nothing can be reduced from potentiality to actuality, except by something in a state of actuality’.⁵⁸ Why? ‘Now it is not possible that the same thing should be at once in actuality and potentiality in the same respect, but only in different respects. For what is actually hot cannot simultaneously be potentially hot; but it is simultaneously potentially cold. It is therefore impossible that in the same respect and in the same way a thing should be both mover and moved, *i.e.*, that it should move itself. Therefore, whatever is in motion must be put in motion by another.’⁵⁹

Although this is Aquinas’s main argument for premise 1, it is given short shrift by Kenny, as it has been by other commentators (due, evidently, to his influence).⁶⁰ The main objection he and they level at Aquinas is that he seems to rely on the proposition

- (A) Whatever actualizes the potentiality of another thing to have a certain feature *F* must already have *F* itself.

Hence Kenny’s putative counterexamples: ‘a kingmaker need not himself be king, and it is not dead men who commit murders.’⁶¹ Again: ‘A man who fattens oxen need not himself be fat.’⁶² Moreover, if (A) is modified or supplemented in the following way to take account of predicates that are vague in the sense of being dimension-relative, such as ‘hot’, ‘tall’, and so on:

- (V) A can make B become *F*-er only if A is itself *F*-er than B.

we come up against counterexamples such as the production of heat by friction.⁶³ Furthermore, neither (A) nor (V) can be true of local motion. A

change without discernibility still requires the coming into existence of a new actuality consisting of the distinct individuality of the new yet indiscernible substance. Again, we do not need to be haecceitists to believe this. Aquinas’s argument applies equally to such a case without commitment to haecceitism; all that is necessary is that there be a new actuality.

⁵⁷ *ST* Ia, qu. 2, art. 3: ‘Movere enim nihil aliud est quam educere aliquid de potentia in actum’ (Burns Oates trans., vol. i (1920), pp. 24–5).

⁵⁸ *Ibid.*: ‘de potentia autem non potest aliquid reduci in actum, nisi per aliquod ens in actu’.

⁵⁹ *Ibid.*: ‘Non autem est possibile ut idem sit simul in actu et potentia secundum idem, sed solum secundum diversa, quod enim est calidum in actu, non potest simul esse calidum in potentia, sed est simul frigidum in potentia. Impossibile est ergo quod, secundum idem et eodem modo, aliquid sit movens et motum, vel quod moveat seipsum. Omne ergo quod movetur, oportet ab alio moveri.’

⁶⁰ Kenny, *Five Ways*, pp. 20–3; Rowe, *Cosmological Argument*, p. 15; J. Hick, *Arguments for the Existence of God* (New York: Herder and Herder, 1971), pp. 40–1.

⁶¹ Kenny, *Five Ways*, p. 21.

⁶² *Ibid.*, p. 22.

⁶³ Kenny makes a curious point about this at p. 22. He says that although (V) fits the production of heat by conduction—e.g. boiling a kettle—‘unfortunately it will no longer be true that nothing is



thing does not need to be in place P when it moves another thing to that place. Nor need it be closer to P than another object as it causes that object to be closer to P than itself. (The latter might work for some cases of magnetic attraction but not for propulsion, for example.)

We have seen that MacDonald accepts Kenny's specific objection from local motion and excludes it, wrongly in my view, from the purview of premise 1. But he also takes on board Kenny's general objections to the actuality/potentiality argument for premise 1, trying to salvage the argument by appeal to a more complex set of criteria concerning what state of actuality an object must be in when it changes another. In brief, he says that Aquinas could be interpreted as holding that if A causes B to change to state S, then A must be either: (i) in S itself; (ii) in S to a degree greater than B; or (iii) in some state S' that has 'greater actuality' than S.⁶⁴ The concept of greater actuality requires an understanding of Aquinas's theory of a hierarchy of perfection of natures, but MacDonald leaves this to one side and I do not propose to canvass it here. The idea, though, is that if we restrict ourselves to immediate causes (again, the idea is left vague by MacDonald), we can deny that the farmer who fattens oxen needs to be fat, that the murderer needs, absurdly, to be dead, and so on. All that is required is that the immediate cause of a thing's entering a certain state S be itself in a state of actuality with respect to S that is 'sufficient'⁶⁵ to bring about the change, and the sufficiency must be explained in terms of greater degree, greater perfection, or perhaps some allied notion.

It is difficult to deny that Aquinas believed in such an idea,⁶⁶ though to interpret it in a non-circular and non-question-begging yet contentful way is no small matter. In any case, MacDonald does not defend it, he merely seeks to present a version of what he calls Aquinas's weak 'principle of sufficient reason'

both moving and moved in the same respect. For the kettle may be getting hotter while making the water hotter.' How is this a counterexample? The kettle is actually getting hotter, so it is not potentially getting hotter. It is actually at, say, 78 degrees and actually moving to the potential temperature of 80 degrees, so it is not potentially 78 degrees nor potentially moving to the potential temperature of 80. Kenny seems to be doing exactly what he warns against at the very beginning, namely equivocating over transitive and intransitive senses of 'move'. The kettle is moving (transitively) the water at the same time as it is itself moving (intransitively). If the kettle is 78 degrees and moving towards 80, while the water is 76 degrees and moving towards 78, how is the kettle both moving and moved in the same respect? In what way is it both actual and potential in the same respect? I confess to finding it difficult to know exactly what Kenny is talking about, though it seems that whatever it is, it is due to an irrelevant reference to what the kettle is doing to the water, not what the kettle is undergoing itself.

⁶⁴ MacDonald, 'Aquinas's Parasitic Cosmological Argument', p. 134.

⁶⁵ Ibid., p.135.

⁶⁶ Following Aristotle: *Metaphysics* 1034a22, 1070b30, in W. D. Ross (ed.) *The Works of Aristotle*, vol. viii (1928); Aquinas, *Commentary on Aristotle's Metaphysics*, trans. J. P. Rowan (1961; Notre Dame, Ind.: Dumb Ox Books, 1995), pp. 482–3, 786–7.



that is not obviously vitiated by Kenny's objections and that plays a crucial role in the First Way. To this extent what he says is useful and interesting. But it is not, I submit, at all relevant, at least not to the presentation of the argument in either of the *Summas*.⁶⁷ All that Aquinas requires is that the change of anything from being potentially *F* to actually *F* requires *some distinct actuality* to bring about the change.⁶⁸ This is not to say that Aquinas escapes blame for the misinterpretation by commentators such as Kenny. For he uses the example of fire's being actually hot when it makes wood change from being potentially hot to being actually hot. So when he goes on to assert that nothing can be both mover and moved in the same respect and in the same way, in other words actually *F* and potentially *F*, it is natural to assume that he has in mind the idea that only something distinct which is actually *F* can make something change from being potentially *F* to actually *F*. Yet the assumption may be resisted. All that is required is the proposition that the transition from potentiality to actuality requires something actual to cause it to occur. But since the state of being potentially *F*, for some feature or accident *F*, contains no actuality, the state of being potentially *F* cannot actualize itself. Hence the state of being potentially *F* must be actualized (i.e., caused to change to the state of being actually *F*) by something *distinct* from the state of being potentially *F*. Now that distinct thing might itself be another feature *G*, or it might be a part of an object, or it might be the whole object—i.e., the object that possesses the state of being potentially *F*. So it is of no avail to the critic to claim that an object can change itself as long as the object as a whole, under no other causal influence outside the boundaries of the object, moves from being potentially *F* to being actually *F*. An unripe banana will at least begin to ripen in a dark room. But this is no counterexample to premise 1. For the banana will undergo the transition from being potentially ripe to being actually ripe (or semi-ripe) in virtue of causes distinct from the state of being potentially ripe: chemical constituents within the banana will initiate the transition. But the transition or process of change cannot initiate itself. Similarly, as we saw earlier, the loosely called self-movement of any living thing is not, for the purposes of the First Way, strict self-movement. One part of an animal will cause another part to undergo a transition from potentiality to actuality. But

⁶⁷ In the argument as briefly stated in the *Compendium* (see n. 10) Aquinas does refer to the 'lower' being moved by the 'higher': 'For we see that all things that move are moved by others, the lower indeed by the higher, as the elements are moved by the heavenly bodies' ('Videmus enim omnia quae moventur, ab aliis moveri: inferiora quidem per superiora, sicut elementa per corpora caelestia'). So I would not want to rule out the possibility of MacDonald's interpretation's being relevant to this way of putting the argument.

⁶⁸ For an admirable realization and defence of this point against Kenny, see Craig, *The Cosmological Argument*, pp. 172–3. See also Martin, *Thomas Aquinas*, ch. 9.



the transition will not cause itself. No process from potentiality to actuality is self-actualizing. As Christopher Martin puts it: ‘Neither being non-F nor being capable of becoming F offer us any explanation of the fact which we have to explain, which is that it [some object] becomes F. If there is to be any explanation of its becoming F, it must be at the very least in virtue of some other aspect, given by some other true description: a description which is not purely negative, such as “–is not-F”, nor purely potential, such as “–can become F”.’⁶⁹

Put this way, the argument from actuality and potentially is strong and appears immune to the sorts of counterexample Kenny raises. Dead men do not commit murders, but actual men do, just as actual farmers are needed to fatten oxen. The very idea that a mere potentiality—that which does not itself actually exist—could make the transition to actuality without the concurrent causal activity of something actual that is distinct from the potentiality should strike one as absurd, as it struck Aquinas and Aristotle. Only actualities make actualities out of potentialities.

One might wonder, though, whether one potentiality might not actualize another potentiality. It is one thing to say that something other than the potentiality must actualize it, and another to say that the distinct actualizer must itself be actual. Yet a moment’s reflection shows the thought that one potentiality might actualize another to be bizarre. How can one mere potentiality actualize another? Could an unripe banana be made ripe by the banana’s being potentially straight, or potentially warm, or potentially long? We can take the analysis to the micro-level but it makes no difference. No mere potential chemical reaction can actualize another potential reaction. Put in more contemporary terms, one power cannot cause another power to manifest itself or be exercised. Only if the first power is itself actualized in some way can it actualize the second. The power of thought does not cause one to exercise the power of speech; but actually *thinking* might cause one to speak.

If one is to grasp fully the truth of this idea, one must give up thinking of actualities solely in terms of substances. In the Aristotelian/Thomistic system, actualities include substances but also features or accidents (of which intrinsic qualities are a sub-category). Not only do substances have causal influences on other substances, but they do so on accidents: a person can turn an instance of red into an instance of black with a coat of paint.⁷⁰ Accidents have effects

⁶⁹ *Thomas Aquinas*, p. 137.

⁷⁰ This is a loose way of speaking. By replacing an instance of redness with an instance of blackness, the painter causes one quality instance to go out of existence and be replaced by another. But this too

on substances: being fat makes a person prone to illness. And accidents have effects on other accidents: pollution of the air causes foul smells. Once we realize that causal relations can occur between all kinds of actuality, we see that the kinds of causal process Aquinas has in mind in the First Way are very broad indeed. Yet his point is the same in all cases: whether the process of change involves substances, accidents, or some combination of both, it must always involve actualities' turning potentialities into other actualities. We can, however, say something more specific. For at any point in its existence, a material object will have only a finite number of qualities. So even a causal process involving only the qualities of a single substance would at some point, if traced through a large enough number of qualities, have to extend beyond the substance to *other* substances possessing other qualities. Causal processes involving qualities necessarily piggy-back on the substances having the qualities. If premise 1 is true *and* if we rule out infinite circular causal processes (whether because of the truth of premise 1 or of premise 2: see earlier), at some point in a process of changes within a substance we will have to step outside the boundaries of the substance and look for a cause of change in some other substance. Thus the chain of causes must be traced through distinct substances, not just distinct qualities and not just qualities within a single substance. And if premise 2 is correct, the chain cannot be infinite. If the conclusion follows from the premises, there must be a wholly immovable mover, a final terminus and cause of all change in the universe, yet not itself part of the universe.

9. Conclusion

Whether premise 2 is true and the conclusion follows from the premises are two large subjects I cannot tackle here. Kenny has many objections to both, and they deserve separate treatment. The present discussion, however, has concentrated only on his many objections to premise 1: whatever is changing is being changed by something else. It is a key element, not only of Aquinas's natural theology but of the whole metaphysic that underlies it. Hence it is worthy of lengthy consideration in its own right, not of the manifest neglect accorded it by contemporary philosophy. If I have not shown the proposition conclusively to be true, I hope at least to have shown it to be

is to cause a change, since to destroy a quality instance is to change it. The subject of change need not always survive a change, even though *something* must survive a change. For more, see *Real Essentialism*, ch. 4.

plausible, defensible, and immune to the many and by now famous criticisms fired at it by Kenny in his influential work. Kenny may be wrong about premise 1; but he is instructively wrong. Confronting his critique shows, I submit, that the First Way, long neglected by all but a few, is worthy of serious reappraisal.⁷¹

⁷¹ I am grateful to Brian Davies for comments on a draft of this paper.