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St. Thomas

> If we want to study Aquinas we should pay him the compliment of treating as important what he thought of as important. To study Aquinas as Aquinas is a poor piece of flattery, since Aquinas cared very little for Aquinas, while he did care for God and for science.
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> C. F. J. Martin, *Thomas Aquinas: God and Explanations*, p. 203.

One approach to the study of the history of philosophy is to situate the great thinkers of the past within the historical contexts in which they worked and determine what social, political, cultural, and philosophical circumstances influenced their ideas. This approach certainly has its value, especially insofar as it can help us correctly to understand what a philosopher meant in saying this or that. If pursued too single-mindedly, however, it can distract us from what the thinkers themselves considered important. The philosophers of the past did not write in order to reflect their times or to provide future historians with something to do. Their work was intended to point beyond itself to something else – to the *truth* about things – and what matters ultimately is whether they succeeded. As Aquinas himself once wrote, "the study of philosophy is not about knowing what individuals thought, but about the way things are" (*In DC* I.22). This is the point of the remark by Christopher Martin quoted above. The main value of studying what Aquinas or any other thinker said about God, science, or some other topic is to find out whether what he said is true, or at least likely to lead us closer to the truth. As Martin goes on to

add, studying a thinker of the *past*, specifically, has value insofar as it can help us determine whether what we take for granted in the present is itself true:

> If we want to know about the existence of God, or about the nature of science, we should read Aquinas, not merely the writers of this century ... The great benefit to be derived from reading pre-modern authors is to come to realise that after all we [moderns] might have been mistaken.

That Aquinas's work should be read as a challenge to us today – and a challenge, as we shall see, not merely to our conclusions, but to many of our premises too – is a central theme of this book. Whether one thinks that challenge ultimately succeeds or not, it is important to treat Aquinas as in this sense a living author rather than a museum piece.

Martin's reference to "science" might strike some readers as odd. Wasn't Aquinas a philosopher and a theologian, rather than a scientist? And given his concern with God and other matters of religion, weren't his opinions matters of faith rather than reason, scientific or otherwise? Yet the assumptions behind such questions are precisely the sort that Aquinas's philosophy challenges. For Aquinas, a science is an organized body of knowledge of both the facts about some area of study and of their causes or explanations (*In PA* I.4); and while this includes the fields typically regarded today as paradigmatically scientific (physics, biology, and so forth), it also includes metaphysics, ethics, and even theology. Furthermore, these latter sciences are as rational as the ones we are familiar with today. To be sure, a part of theology (what is generally called "revealed theology") is based on what Aquinas regards as truths that have been revealed to us by God. To that extent theology is based on faith. But "faith," for Aquinas, does not mean an irrational will to believe something for which there is no evidence. It is rather a matter of believing something on the basis of divine authority (*ST* II-II.4.1), where the fact that it really has been revealed by God can be confirmed by the miracles performed by the one through whom God revealed it (*ST* II-II.2.9). In any case, there is another part of theology (known as "natural theology") that does not depend on faith, but rather concerns truths about God that can be known via reason alone. It is these purely philosophical arguments of natural theology with which we shall be concerned in this book, along with Aquinas's views in metaphysics, ethics, and psychology (which includes the study of the human mind, but extends well beyond this, as we will see).

Aquinas's life and works

Thomas was born circa 1225 at Roccasecca, near the town of Aquino in southern Italy, from which his aristocratic family derived its name (hence the sobriquet "Aquinas"). At five years old he was sent by his parents to be educated at the Benedictine Abbey at Monte Cassino, in the hope of setting him on the path to attaining, eventually, the prestigious position of Abbot. But while studying at Naples as a teenager, Aquinas came under the influence of the new Order of Friars Preachers, also known as the Dominicans after their founder St. Dominic. Attracted by its devotion to study and teaching, he joined the order at nineteen, much to the chagrin of his family, whose worldly ambitions for Thomas did not square with the Dominican life of poverty and simplicity. In the hope of getting him to change his mind, his brothers abducted him and put him under house arrest at the family castle at Roccasecca for about a year, though he spent the time committing to memory the entire Bible and the four books of the *Sentences* of Peter Lombard (a theological textbook then widely in use). Notoriously, they even went to the extent of sending a prostitute into his room on one occasion, but he chased her away with a flaming stick pulled from the fireplace,

which he used afterward to make the sign of the cross on the wall. As the story has it, he then kneeled before the cross and prayed for the gift of perpetual chastity, which he received at the hands of two angels who girded his loins with a miraculous cord. Eventually his brothers relented and he was allowed to return to the Dominicans.

While a student at what would become the order's study center in Cologne, Aquinas acquired the unflattering nickname "the Dumb Ox" due to his taciturn character coupled with his considerable girth. The former trait owed largely to a humble unwillingness to call attention to himself, and despite his portliness it is said of Aquinas that he ate only once a day in order to devote himself more fully to his work. In any case, his genius became evident before long, leading his mentor Albert the Great (c. 1200–1280) famously to predict that the Ox's "bellowing" would someday be heard throughout the world.

The works of Aristotle (384–322 B.C.) had during the preceding century become once again available to scholars in the Latin West, which led to a renewed interest in his philosophy, and Albert was at the time the foremost thinker of this Aristotelian revival. Aquinas would go on to become an even more influential proponent of Aristotle, and was recommended by Albert in 1252 for a position as a lecturer at the University of Paris, where Aquinas was a great success. It was apparently during this time that he composed the short treatises *On the Principles of Nature* and *On Being and Essence*, which set out his core metaphysical ideas. This period also gave rise to the much longer treatment of disputed questions *On Truth*.

After 1259 Aquinas returned to Italy and produced the massive *Summa contra Gentiles*, a treatise devoted to defending the claims of orthodox Christianity against a wide variety of objections presented by Jews, Muslims, pagans, and heretics. Following this he began work on the even more massive (and never completed) *Summa Theologiae*, a systematic treatment of all

the main issues of theology organized around the theme of how things ultimately derive from, and are destined to return to, God, their first cause and last end. Along the way it deals with a wide variety of topics in metaphysics, ethics, psychology, and other subjects. These two *Summae* are generally regarded as Aquinas's masterpieces. In the course of working on the second, he would also produce many other works, apparently intended in part as preliminary treatments of certain topics to be dealt with in the *Summa Theologiae*. These include treatises on disputed questions *On the Power of God* and *On the Soul* and a series of commentaries on the works of Aristotle.

This latter, commentarial project had another purpose as well, one to which Aquinas's eventual return to Paris may be related. The use of Aristotle's philosophy in expounding and defending Christian doctrine was highly controversial in Aquinas's day. Aristotle had taken several positions (such as the view that the universe had no beginning) that seemed incompatible with the claims of Christianity. So too had the followers of Averroes (1126–1198), the Muslim philosopher whose interpretation of Aristotle was regarded by many as authoritative. The Averroists had held, for example, that the human race shares a single intellect, which appears incompatible with the notion that each human being has an individual immortal soul. More traditional theologians thus regarded Aristotelianism as theologically dangerous, and preferred the Neoplatonic tradition in general, and Augustinianism in particular, as more suited to the needs of Christian theology. The controversy between defenders and critics of Aristotelianism was particularly fierce at the University of Paris, and Aquinas was determined to show that, when rightly understood, Aristotle's philosophy was not only compatible with Christianity, but the best means of expounding and defending it. In effect, he took a middle position between Averroism and Augustinianism, seeking to avoid the extremes of the former while showing that the key elements of the latter

tradition could be incorporated into a broadly Aristotelian worldview. The result was a unique synthesis that has since come to be known as Thomism (after "Thomas," the name by which Aquinas was known during his lifetime).

In 1272 Aquinas returned once again to Italy. While saying Mass in Naples one day in 1273 he went into a trance, and appears to have had a mystical experience, after which he was unable to resume work on the *Summa Theologiae*. Famously, he explained that after what he had seen, everything he had written now seemed to him "like straw." Called to attend the Second Council of Lyons, he apparently hit his head against a low-lying tree branch while on the journey, and sustained a serious injury. He was taken to the Cistercian abbey at Fossanova, where he was nursed by the monks, but died on March 7, 1274.

In addition to his profound humility, the character traits for which Aquinas was most notable included a deep piety and an astounding capacity for sustained abstract thought. It is said of him that he was so single-minded in his devotion to God that he would leave the room when discussion turned away to some unrelated subject. He could become so absorbed in prayer or in a chain of philosophical or theological reasoning that he would sometimes forget where he was, fail to perceive the people around him, and even (as one account has it) fail to notice the flame from a candle he was holding as it burned his hand. According to another famous story, while at dinner with King Louis IX of France he got thinking about the Manichaean heresy, struck the table exclaiming "That settles the Manichees!" and called for his secretary to take down the argument that had just occurred to him. Suddenly realizing where he was, Aquinas apologized and explained to the other startled guests that he thought he was alone in his room. Related to this tendency towards abstraction appears to have been an extraordinary unflappability. Anscombe and Geach relate a story according to

which Aquinas once came upon "a holy nun who used to be levitated in ecstasy." His reaction was to comment on how very large her feet were. "This made her come out of her ecstasy in indignation at his rudeness, whereupon he gently advised her to seek greater humility."

2
Metaphysics

Even among contemporary philosophers who are otherwise unfamiliar with his work, it is fairly well known that Aquinas held that the existence of God, the immortality of the soul, and the content and binding force of the natural moral law could be established through purely philosophical arguments (as opposed to an appeal to divine revelation). But those arguments themselves are in general very badly misunderstood by those who are not experts on Aquinas. The reason is that most contemporary philosophers have little or no awareness of just how radically different the fundamental metaphysical assumptions of ancient and medieval philosophers are, in general, from the assumptions typically made by the early modern philosophers and their successors. A distinctive conception of causation, essence, form, matter, substance, attribute, and other basic metaphysical notions underlies all of Aquinas's arguments in philosophy of religion, philosophy of mind, and ethics; and it is a conception very much at odds with the sorts of views one finds in Descartes, Locke, Hume, Kant, and the other founders of modern philosophy. While most contemporary philosophers would probably not identify themselves as Cartesians, Lockeans, Humeans, Kantians, or the like, their thinking about the metaphysical concepts just noted nevertheless tends, however unconsciously, to be confined within the narrow boundaries set by these early modern thinkers. Hence when they come across a philosopher like Aquinas, they unthinkingly read into his arguments modern philosophical presuppositions he would have rejected. The result is that the arguments are not only misinterpreted, but come across as far less interesting, plausible, and

defensible than they really are. In rejecting them, as contemporary philosophers tend to do, they do not realize that what they are rejecting is a mere distortion or caricature of Aquinas's position rather than the real McCoy.

An overview of Aquinas's general metaphysics is therefore a necessary preamble to a consideration of his views in these other areas of philosophy. Such an overview would be of value in any case, for Aquinas's metaphysical ideas are important and interesting in their own right. We shall also see that they are as defensible today as they ever were, and (ironically enough) that some work by contemporary philosophers, quite outside the camp of Thomists and otherwise unsympathetic to Aquinas's overall project, tends to support this judgment.

Act and potency

The Greek philosopher Parmenides (c. 515–450 B.C.) notoriously held that change is impossible. For a being could change only if caused to do so by something other than it. But the only thing other than being is non-being, and non-being, since it is just nothing, cannot cause anything. Hence, though the senses and common sense tell us that change occurs all the time, the intellect, in Parmenides' view, reveals to us that they are flatly mistaken.

The tendency of philosophers like Parmenides to pit the intellect against the senses and common sense is one that was firmly resisted by Aristotle. At the same time, Aristotle was loath simply to dismiss a theory like Parmenides' on the grounds that it was odd or counterintuitive; it was important to understand exactly *why* such a theory was mistaken. Aquinas, who (as we have seen) esteemed Aristotle above all other philosophers, followed him in these attitudes, and also in his specific reply to Parmenides, which appealed to the distinction between *act and potency*.

Parmenides assumed that the only possible candidate for a source of change in a being is non-being or nothing, which (of course) is no source at all. Aristotle's reply was that this assumption is simply false. Take any object of our experience: a red rubber ball, for example. Among its features are the ways it actually is: solid, round, red, and bouncy. These are different aspects of its "being." There are also the ways it is not; for example, it is not a dog, or a car, or a computer. The ball's "dogginess" and so on, since they don't exist, are different kinds of "non-being." But in addition to these features, we can distinguish the various ways the ball *potentially* is: blue (if you paint it), soft and gooey (if you melt it), and so forth. So, being and non-being are not the only relevant factors here; there are also a thing's potentialities. Or, to use the traditional Scholastic jargon, in addition to the different ways in which a thing may be "in act" or actual, there are the various ways in which it may be "in potency" or potential. Here lies the key to understanding how change is possible. If the ball is to become soft and gooey, it can't be the actual gooeyness itself that causes this, since it doesn't yet exist. But that the gooeyness is non-existent is not (as Parmenides assumed) the end of the story, for a potential or potency for gooeyness *does* exist in the ball, and this, together with some external influence (such as heat) that actualizes that potential – or, as the Scholastics would put it, which reduces the potency to act – suffices to show how the change can occur. Change just is the realization of some potentiality; or as Aquinas puts it, "motion is the actuality of a being in potency" (*In Meta* IX.1.1770), where "motion" is to be understood here in the broad Aristotelian sense as including change in general and not just movement from one place to another.

So far this may sound fairly straightforward, but there is more to the distinction between act and potency than meets the eye. First of all, some contemporary analytic philosophers might object that a thing is "potentially" almost anything, so that

Aristotle's distinction is uninteresting. For example, it might be said by such philosophers that we can "conceive" of a "possible world" where rubber balls can bounce from here to the moon, or where they move by themselves and follow people around menacingly. But the potentialities Aristotle and Aquinas have in mind are ones rooted in a thing's nature as it actually exists, and do not include just anything it might "possibly" do in some expanded sense involving our powers of conception. Hence, while a rubber ball has the potential to be melted, it does not, in the Aristotelian sense, have the potential to bounce to the moon or to follow someone around all by itself.

Second, and as indicated already, though a thing's potencies are the key to understanding how it is possible for it to change, they are merely a necessary and not a sufficient condition for the actual occurrence of change. An additional, external factor is also required. Potential gooeyness (for example), precisely because it is merely potential, cannot actualize itself; only something else that is already actual (like heat) could do the job. Consider also that if a mere potency could make itself actual, there would be no way to explain why it does so at one time rather than another. The ball melts and becomes gooey when you heat it. Why did this potential gooeyness become actual at precisely that point? The obvious answer is that the heat was needed to actualize it. If the potency for gooeyness could have actualized itself, it would have happened already, since the potential was there already. So, as Aquinas says, "potency does not raise itself to act; it must be raised to act by something that is in act" (*SCG* I.16.3). This is the foundation of the famous Aristotelian–Thomistic principle that "whatever is moved is moved by another" (*In Phys* VII.2.891). (The principle is true, incidentally, even of animals, which seem at first glance to move or change themselves; for what this always amounts to is really just one part of the animal being changed by another part. A dog "moves itself" across a room, but only insofar as the potential for motion in the dog's

legs is actualized by the flexing of the leg muscles, and their potential for being flexed is actualized by the firing of the motor neurons, and the potential for the motor neurons to fire is actualized by other neurons; and so on.)

Third, while act and potency are made intelligible to us in relation to each other, there is an asymmetry between them such that "absolutely speaking act is prior to potency" (*SCG* I.16.3). A potential is always a potential *for* a certain kind of actuality; for example, potential gooeyness is just the potential to be actually gooey. Furthermore, potency cannot exist on its own, but only in combination with act; hence there is no such thing as potential gooeyness existing all by itself, but only in something like an actual rubber ball. It is incoherent to speak of something as both existing and being purely potential, with no actuality whatsoever. But it is not incoherent to speak of something as being purely actual, with no potentiality at all. (Indeed, as we shall see, for Aquinas this is precisely what God is: *Actus Purus* or "Pure Act.") So, while for us to understand act and potency we need to contrast them with one another, in the real world outside the mind actuality can exist on its own while potentiality cannot.

As will become evident from the remainder of this chapter, the distinction between act and potency forms the basis of Aquinas's entire metaphysical system; and as will become equally evident by the end of this book, the repercussions of this fundamental distinction extend well beyond general metaphysics. It is not for nothing that the first of the famous Twenty Four Thomistic Theses has it that: "Potency and Act divide being in such a way that whatever is, is either pure act, or of necessity it is composed of potency and act as primary and intrinsic principles." (This echoes Aquinas's own assertion that "potency and act divide being and every kind of being" [*ST* I.77.1, as translated by Pegis in *Basic Writings of Saint Thomas Aquinas*].)

Hylemorphism

Given what has been said so far, Aquinas, following Aristotle, concludes that "in everything which is moved, there is some kind of composition to be found" (*ST* I.9.1), in particular a composition of act and potency. Perhaps slightly better known to modern readers is a related Aristotelian doctrine to the effect that the ordinary objects of our experience are composites of *form* and *matter* – a doctrine known as *hylemorphism* (sometimes spelled "hylomorphism") after the Greek words *hyle* ("matter") and *morphe* ("form"). For instance, the rubber ball of our example is composed of a certain kind of matter (namely rubber) and a certain kind of form (namely the form of a red, round, bouncy object). The matter by itself isn't the ball, for the rubber could take on the form of a doorstop, an eraser, or any number of other things. The form by itself isn't the ball either, for you can't bounce redness, roundness, or even bounciness down the hallway, these being mere abstractions. It is only the form and matter together that constitute the ball. The difference between the act/potency distinction and the form/matter distinction is one of generality. Anything compounded of form and matter is also compounded of act and potency, but there are compounds of act and potency that have no matter (namely angels, as we shall see later on). Being compounds of form and matter is the specific way in which the things of our everyday experience are capable of undergoing change.

Sometimes this change concerns some non-essential feature, as when a red ball is painted blue but remains a ball nonetheless. Sometimes it involves something essential, as when the ball is melted into a puddle of goo and thus no longer counts as a ball at all. Aquinas refers to the former sort of change as a change in *accidents*, and to the latter as a change in *substance*, and corresponding to each is a distinct kind of form: "What makes something exist substantially is called *substantial form*, and what

makes something exist accidentally is called *accidental form*" (*DPN* 1.3). For a ball merely to change its color is for its matter to lose one accidental form and take on another, while retaining the substantial form of a ball and thus remaining the same substance, namely a ball. For a ball to be melted into goo is for its matter to lose one substantial form and take on another, thus becoming a different kind of substance altogether, namely a puddle of goo. Now the goo itself might be broken down into more basic chemical components. But what that would involve is the matter underlying the goo taking on yet different substantial forms. To be sure, Aquinas tells us that "what is in potency to exist substantially is called *prime matter*" (*DPN* 1.2), or in other words that we can distinguish between matter having no form whatsoever ("prime matter") and the various substantial forms that it has the potential to take on. But this distinction is for him a purely conceptual one. In reality, however matter may be transformed, it will always have some substantial form or other, and thus count as a substance of some kind or other; strictly speaking, "since all cognition and every definition are through form, it follows that prime matter can be known or defined, not of itself, but through the composite" (*DPN* 2.14). The notion of prime matter is just the notion of something in pure potentiality with respect to having any kind of form, and thus with respect to being any kind of thing at all. And as noted above, what is *purely* potential has no actuality at all, and thus does not exist at all.

As this indicates, hylemorphism is anything but a "reductionistic" metaphysical position (that is, one claiming that some seemingly diverse or complex phenomena in reality consist of "nothing but" some more uniform or simpler set of elements). Certainly it is at odds with contemporary materialism; the suggestion that "matter is all that exists" becomes simply incoherent on a hylemorphic conception of matter, since matter by itself without *anything* else (including any form) would just be non-existent.

Furthermore, while the hylemorphist holds that the substances of our ordinary experience are composites of form and matter, form and matter themselves in turn cannot be understood except in relation to the whole substances of which they are components. Hence the hylemorphic account is holistic and in no sense a "reduction" of substances even to their form and matter together.

This also indicates that Aristotle's and Aquinas's conception of "form" is not the same as Plato's. On the hylemorphic analysis, considered apart from the substances that have them, form and matter are mere abstractions; there is no form of the ball apart from the matter that has that form, and no matter of the ball apart from the form that makes it a ball specifically. In particular, the form of a ball does not exist in a "Platonic heaven" of abstract objects outside time and space. All the same, Aristotle and Aquinas are, like Plato, realists about universals: when we grasp "humanity," "triangularity," and the like, what we grasp are not mere inventions of the human mind, but are grounded in the natures of real human beings, triangles, or what have you. (More on this later.) Moreover, while (contra Plato) no form exists apart from some particular individual substance that instantiates it, not every form exists in a *material* substance. There can be forms without matter, and thus *immaterial* substances – namely, for Aquinas, angels and postmortem human souls. (Again, more on this later.) This recapitulates an asymmetry noted earlier: just as act can exist without potency even though potency cannot exist without act, so too form can exist without matter even though matter cannot exist without form (*DEE* 4).

In any event, where form and matter are concerned, while they are implicated in the explanation of how things come to be and pass away, they are not themselves the sorts of things that come to be and pass away. As Aquinas argues,

> we should note that prime matter, and even form, are neither generated nor corrupted, inasmuch as every generation is from

> something to something. That from which generation arises is matter; that to which it proceeds is form. If, therefore, matter and form were generated, there would have to be a matter of matter and a form of form *ad infinitum*. Hence, properly speaking, only composites are generated. (*DPN* 2.15)

However, as we will see in the next chapter, this does not entail that the existence of form and matter does not stand in need of explanation.

The four causes

Speaking of explanation naturally leads us to that most famous of Aristotelian metaphysical doctrines, that of the four causes – material, formal, efficient, and final – a doctrine to which Aquinas is fully committed (*DPN* 3.20). Return yet again to the rubber ball of our example. The *material cause* or underlying stuff the ball is made out of is rubber; its *formal cause*, or the form, pattern, or structure it exhibits, comprises such features as its sphericity, solidity, and bounciness. In other words, the material and formal causes of a thing are just its matter and form, considered as two aspects of a complete explanation of it. Next we have the *efficient cause*, that which actualizes a potency and thereby brings something into being. In this case that would be the actions of the workers and/or machines in the factory in which the ball was made, as they molded the rubber into the ball. Lastly we have the *final cause* or the end, goal, or purpose of a thing, which in the case of the ball might be to provide amusement to a child. In combination, these causes provide a complete explanation of a thing. That doesn't mean that in the case of the ball, for example, you would not have many more questions about it, such as where the rubber came from or who made the factory. But the answers to such questions will all be

just further instances of material, formal, efficient, and final causes.

The four causes are completely general, applying throughout the natural world and not just to human artifacts. Biological organs provide the most obvious examples. For instance, to understand what a heart is, you need to know its material cause, namely that it is made out of muscle tissue of a certain sort. But there are many muscles in the body that aren't hearts, so you also need to know its formal cause, and thus such things as that the muscle tissue is organized into ventricles, atria, and the like. Then there is the efficient cause, which in this case would be the biological processes that determined that certain embryonic cells would form into a heart rather than, say, a kidney or a brain. Finally there is the heart's final cause, namely that it serves the function of pumping blood.

But biological organs and processes are by no means the only sorts of natural phenomena that exhibit final causality, and it is a mistake to assume (as is often done) that to speak of final causes is simply another way of speaking about functions. All functions are instances of final causality, but not all final causality involves the having of a function, if by "function" we mean the sort of role a bodily organ plays in the life of an animal or the role a mechanical part plays in the operation of a machine. For the Aristotelian, final causality or teleology (to use a more modern expression) is evident wherever some natural object or process has a tendency to produce some particular effect or range of effects. A match, for example, reliably generates flame and heat when struck, and never (say) frost and cold, or the smell of lilacs, or thunder. It inherently "points to" or is "directed towards" *this* range of effects specifically, and in that way manifests just the sort of end- or goal-directedness characteristic of final causality, even though the match does not (unlike a heart or a carburetor) function as an organic part of a larger system. The same directedness towards a certain specific effect or range of effects is

evident in all causes operative in the natural world. When Aristotelians say that final causality pervades the natural order, then, they are not making the implausible claim that everything has a function of the sort biological organs have, including piles of dirt, iron filings, and balls of lint. Rather, they are saying that goal-directedness exists wherever regular cause and effect patterns do.

Hence Aquinas says that "every agent acts for an end: otherwise one thing would not follow more than another from the action of the agent, unless it were by chance" (*ST* I.44.4). By "agent" he means not just thinking beings like us, but anything that brings about an effect. His point is that unless a cause were inherently directed towards a certain effect or range of effects – that is to say, unless that effect or range of effects were the cause's own final cause – there would be no reason *why* it should bring about just that effect or effects. In other words, we cannot make sense of efficient causality without final causality. They go hand in hand, just as a thing's material and formal causes go hand in hand in the sense that matter cannot exist without form and form, in the ordinary case anyway, does not exist without matter.

At the same time, just as form is ultimately prior to matter (and, more generally, act prior to potency), final causes are prior to or more fundamental than efficient causes, insofar as they make efficient causes intelligible (*DPN* 4.25). Indeed, for Aquinas the final cause is "the cause of causes" (*In Phys* II.5.186), that which determines *all* of the other causes. For something to be directed towards a certain end entails that it has a form appropriate to the realization of that end, and thus a material composition suitable for instantiating that form; a knife, for example, if it is to fulfill its function of cutting, must have a certain degree of sharpness and solidity, and thus be made of some material capable of maintaining that degree of sharpness and solidity. Thus the existence of final causes entails the existence of formal and material causes too. More generally, for something to have some feature potentially entails a kind of directedness to the actualization of that potential; as Aquinas puts it, "an ordering or tendency to an act belongs to a thing existing with a potency to that act" (*In Phys* III.2.285, as translated by Renard at p. 23 of his *Philosophy of Being*). Hence the existence of final causes also entails the act/potency distinction. Implicit within the notion of final causality, then, is the entire Aristotelian metaphysical apparatus.

It is important to understand (again, contrary to a common misconception) that most final causality is thought by Aristotelians to be totally unconscious. As Aquinas writes, "although every agent, be it natural or voluntary, intends an end, we should realize nevertheless that it does not follow that every agent knows or deliberates about the end" (*DPN* 3.19). The match is "directed towards" the production of fire and heat, the moon is "directed towards" movement around the earth, and so forth. But neither the match nor the moon is *aware* of these "goals." The match isn't thinking "I must generate heat," and the moon isn't thinking "I must go around the earth," for of course neither one is thinking anything at all. For Aristotelians, our conscious thought processes are only a special case of the more general phenomenon of goal-directedness or final causality, which exists in the natural world in a way that is mostly divorced from any conscious mind or intelligence. To "intend an end" in the sense Aquinas has in mind in the passage just quoted is not necessarily to make a conscious decision to pursue some goal, but rather just "to have a natural inclination toward something" (*DPN* 3.19). We intend an end like going to the supermarket after conscious deliberation, but the match "intends" the end of generating heat, the heart "intends" the end of circulating the blood, and the moon "intends" the end of moving around the earth, all in a totally unconscious and non-deliberative way.

As with final causes, the Aristotelian notion of efficient causality is very commonly misunderstood by contemporary readers. Of the four causes, it is sometimes said to be the one that most closely corresponds to modern philosophical notions of causation, but this is misleading at best. As has already been noted, for the Aristotelian, efficient causes cannot be understood apart from final causes, and yet modern philosophers (for reasons we will examine presently) tend to deny the very existence of final causes. This seems to be the reason why modern philosophers have, at least since David Hume (1711–1776), tended to think it "conceivable" that any cause might produce any effect or none. For example, when a brick is thrown towards a window, we naturally expect that the window will shatter, but (so it is said) it is at least in theory possible that the brick might instead turn into a bouquet of flowers, or disappear altogether. Causes and effects are, in Hume's words, "loose and separate," with no "necessary connection" holding between them. Hence (the Humean argument continues) it may be that it is only the "constant conjunction" of thrown bricks and shattered windows in our experience that leads us to expect the latter in the presence of the former. The necessity with which we think the one brings about the other may be merely a projection of this expectation, thus deriving from our subjective psychological tendencies rather than any objective feature of the causes and effects themselves. Aristotle and Aquinas would have found all of this unintelligible, in part because for them, nothing counts as an efficient cause in the first place unless it is inherently ordered towards the generation of a certain kind of effect or range of effects as its final cause. Humean analyses of causation, along with the philosophical puzzles they notoriously give rise to, are only possible if one rejects the Aristotelian notion of final causality, and thus the Aristotelian notion of efficient causality along with it.

Aristotle and Aquinas would also be baffled by the modern tendency to think of causation as essentially a relation between

temporally ordered events, a tendency underlying the Humean assumption that it is at least "conceivable" that the thrown brick might result in something other than the broken window. The brick is thrown; that's one event. The window shatters; that's another event. Obviously the second event follows the first in time, and is therefore distinct from it. Hence it seems equally obvious that the one could in principle exist without the other, and thus (the modern philosopher concludes) that an effect might conceivably fail to follow upon its usual cause. But from the Aristotelian point of view, this is simply a wrongheaded way of characterizing the causal situation. For Aristotle and Aquinas, it is *things* that are causes, not events; and the immediate efficient cause of an effect is *simultaneous* with it, not temporally prior to it. "It should be understood in speaking of actual causes that what causes and what is caused must exist simultaneously, such that if the one exists, the other does also" (*DPN* 5.34). In the case of the broken window, the key point in the causal series would be something like the pushing of the brick into the glass and the glass's giving way. These events are simultaneous; indeed, the brick's pushing into the glass and the glass's giving way are really just the *same* event considered under different descriptions. Or (to take an example often used to illustrate the Aristotelian conception of efficient causation) we might think of a potter making a pot, where the potter's positioning his hand in just such-and-such a way and the pot's taking on such-and-such a shape are simultaneous, and, again, the same event described in two different ways. In examples like these, it is simply not plausible to suggest that the causes and effects are "loose and separate" or lack any "necessary connection." It is difficult to see how it is even "conceivable" that the brick's passing through the glass might not be accompanied by the glass's giving way, or that the hand's shaping the clay might occur without the clay's being shaped. The causes and effects themselves are distinct – the brick and its action are not the same as the glass and its reaction, and

the position of the potter's hand is not the same as the pot's shape – but since they exist in one and the same event, there is no way to appeal to a distinction between events to motivate the claim that cause and effect might come apart. And when we consider the specific details of the immediate causal situation – speaking precisely, for example, of the brick's pushing through the glass and the glass's giving way, and not (more loosely) of thrown bricks being followed by broken windows – it is hard to see what it could mean to suggest that such a cause might not be followed by such an effect.

Famously, Hume also claims that something could in principle come into being without any efficient cause whatsoever. Aquinas would deny this, arguing, as we have seen he does, that "potency does not raise itself to act" and hence that "whatever is moved is moved by another," a thing's coming into existence just being an instance of motion or the actualization of a potency. More generally, "everything whose act of existing is other than its nature [must] have its act of existing from another" (*DEE* 4). In other words, whatever is contingent, not having its existence by virtue of its own nature, must be caused to exist by something else.

A corollary of this is that "effects must needs be proportionate to their causes and principles" (*ST* I-II.63.3) such that "whatever perfection exists in an effect must be found in the effective cause" (*ST* I.4.2). For a thing cannot give what it does not have. Sometimes what is in the effect exists in the cause in just the same way it exists in the effect; that is to say, "the form of the thing generated pre-exists in the generator according to the same mode of being and in a similar matter, as when fire generates fire or man begets man" (*In Meta* VII.8.1444). Sometimes it exists in the cause "neither according to the same mode of being, nor in a substance of the same kind" as when "the form of a house pre-exists ... in the mind of the builder" (*In Meta* VII.8.1445). Sometimes it is in the cause

"more excellently, as, heat is in the sun more excellently than it is in fire" (*ST* I.6.2). And sometimes it is in the cause "virtually but not actually" as "when heat is caused by motion, heat is present in a sense in the motion itself as in an active power" or when "the form of numbness is in the eel which makes the hand numb" (*In Meta* VII.8.1448–9). Thus, to use the standard Scholastic jargon, even if the effect is not always contained in the cause "formally," it will yet be contained in it "eminently" or "virtually."

This last principle came to be known within the Scholastic tradition as the *principle of proportionate causality*. That whatever comes into existence, and more generally that any contingent thing, must have a cause, came to be known as the *principle of causality*. Aquinas's dictum that "every agent acts for an end" is known as the *principle of finality*. These three principles are central to Aquinas's general metaphysics, and, as we shall see in the next chapter, to his arguments concerning the existence and nature of God in particular. As our discussion thus far has implied, the principle of finality is in a sense the most fundamental of them, given that the final cause is "the cause of causes": for, again, in Aquinas's view an efficient cause can bring an effect into being only if it is "directed towards" that effect; and it is ultimately in that sense that the effect is "contained in" the efficient cause. Yet as I have said, modern philosophers tend to reject, and indeed even dismiss, the very notion of final causality; and (unsurprisingly, given this circumstance) they also tend to reject, or are at least suspicious of, the other two principles as well. However, it is by no means clear that there really are any good reasons for these attitudes, and the three principles are in any case eminently defensible. Before we see why, however, let us complete our survey of Aquinas's metaphysical framework by examining some of its components that most clearly constitute developments of Aristotelian ideas beyond the point at which Aristotle himself left them.