

**Oh My Soul, There's Animals and Animals:
Some Thomistic Reflections on Contemporary Philosophy of Mind**

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Dedicated to Ralph McInerny and James Ross — Requiescant in pace

The history of philosophy teaches us that the way in which important philosophical problems are formulated is highly contingent and deserving of scrutiny. The very setting up of a philosophical problem, along with its range of possible solutions, is itself an important philosophical task, and it can be done either well or badly, in a way that illuminates a particular philosophical landscape or in a way that obscures it and leads the unwary into research projects that bear little fruit *per se* and might even do intellectual damage. For instance, in another place I have tried to show how the contemporary discussion of causality (i.e., efficient causality) within Anglo-American philosophy is locked almost exclusively into competing strains of Humean empiricism and does not even take into account the Aristotelian alternative that underlies the so-called 'intuitions' that drive the discussion forward.¹

I have long thought that Francisco Suarez's most important contribution to the history of metaphysics consists as much in his clear-headed and painstaking formulation of one after another metaphysical problematic as in his own proposed solutions to the problems that he has formulated. Something similar is true *in excelsis* for St. Thomas. When I conduct a seminar on a sizable portion of the *Summa Theologiae*, I always have my students first read the most important introductions leading up to and extending through the set of questions we will be dealing with. Then I ask them, as they go through the relevant questions, to pause at the beginning of each article and ask, "Why does he bring this

¹See Parts 3 and 4 of "Suarez on Metaphysical Inquiry, Efficient Causality, and Divine Action," which serves as the introduction to Francisco Suarez, *On Creation, Conservation, and Concurrence: Metaphysical Disputations 20-22*, translation, notes, and introduction by Alfred J. Freddoso (South Bend, IN: St. Augustine's Press, 2002).

issue up at this point and in this way?” Since St. Thomas is both a brilliant thinker in his own right and a self-conscious participant in several longstanding intellectual traditions, the answer always lies either in the orderly sequence of his investigation or in the writings of the authorities cited in the objections and *sed contra*.

This is very good training for approaching contemporary analytic philosophy of mind. In this paper I propose to do just that, albeit in a sketchy and programmatic way. After reviewing some relevant highlights of St. Thomas’s account of the sentient and intellective souls, I will proceed by way of three degrees of abstraction, as it were. First, I will discuss some features of the contemporary problematic in philosophy of mind that are bound to strike a Thomist as strange and insufficiently motivated. Then, after noting the strongly reductionist tendencies that permeate the contemporary debate, I will step back from this discussion to ask whether, despite the explosion of knowledge in neurophysiology and other related natural sciences, we are not pretty much in the same position philosophically that Aristotle found himself in at the beginning of the second book of the *Physics*. My suggestion will be that an anti-reductionist philosophy of nature of the sort propounded by Aristotle and St. Thomas is fully plausible “even at this late date.”² Finally, I will take a further step back, this time from the world of professional philosophy in general, and end with a few brief words about the cultural significance of a Thomistic account of the human animal.

St. Thomas on the sentient and intellective souls

We’re animals, or so at least St. Thomas rather plausibly contends; so let’s begin by talking about the other animals. For, as the song has it, “There’s animals and animals.”

Notice, first, how typically Aristotelian a move this is — beginning our consideration of a given

²This mode of expression is prompted by my once being asked in public in a rather peremptory tone, “You don’t mean to be bringing back form and matter at this late date, do you?”

issue with what is lower in the ontological hierarchy and moving toward what is higher. To cite another example, a great deal of confusion is engendered in contemporary analytic action theory by the fact that most of those (relatively few) philosophers who are willing to countenance genuine agency, i.e., genuine efficient causality, regard it as peculiar to human beings or, at most, to rational agents in general. That is, they treat the rest of the universe, including the world of non-human animals, as devoid of agency and, like Berkeley and (perhaps) Descartes before them, recognize agency just in the case of intellectual agents. An Aristotelian, by contrast, sees human agency as simply a higher-order manifestation of a feature shared by every primary substance in the universe. So without denying the peculiarity and metaphysical (if not always moral) nobility of human agency, the Aristotelian looks to nature in general for clues to understanding human agency and its place in the natural world.

In the present case, we begin with cognition and affection in the lower animals in order to better understand human cognition and affection. To make our reflections more concrete, let's begin with an individual 'brute' animal, say, [Arnie Aardvark](#). Arnie's aardvark-soul is the formal principle or 'form' that constitutes him as a unified living organism and, more specifically, a living corporeal substance of the natural kind *aardvark*. In conferring undivided *aardvark-esse*, this form dominates every part and power that belongs to Arnie; this is one reason why St. Thomas insists that the proper subject of Arnie's 'substantial form' is 'primary matter'—with the consequence that all of Arnie's material constituents, at any given level of scientific description, lose their status as independent (or 'subsistent') substances and are taken up into the life of the unified aardvarkian organism. From St. Thomas's perspective, it's just an amazing fact about nature that unified physical substances whose material constituents are fire, air, earth, and water (or, at the next level up, minerals, or at yet the next level up, flesh and bones and sinews and nerves, etc.) should have the sentient powers that aardvarks have.³ Later I will offer a few thoughts on

³From a Thomistic perspective it makes no essential difference what the correct characterization of the material constituents at the various levels turns out to be. This is an empirical matter falling within the purview of the natural sciences. But the findings of the natural sciences need a philosophy of nature to situate them and clarify their metaphysical significance.

the Aristotelian philosophy of nature that this description presupposes. But right now I want to concentrate on St. Thomas's account of Arnie's powers of sentient cognition and affection.⁴

Let's begin with the latter, i.e., with Arnie's passions or feelings. According to St. Thomas, Arnie's passions are movements of the sentient appetite, i.e., feelings that are grounded in physiological changes and that are directed toward and caused by objects of sentient cognition. St. Thomas tells us that the physiological changes are, as it were, the matter of the passions, whereas the appetitive movements, i.e., the feelings directed toward the various objects, are, as it were, their forms. He does not have much to say about the correlations between the physiological changes on the one hand and the feelings on the other. He simply assumes that in general such correlations obtain and, given the resources available to him, describes the physiological changes in ways that are based on common sense and classical medical theory. ("Arnie felt the heat leave his front legs as he shrank back in fear from the approaching python." "Arnie's heart was pounding as he approached the termite mound with an avid desire to eat.") Given modern advances in neurophysiology, we have a better grasp today of the physiological correlates of Arnie's (and our) feelings, even if the correlations have turned out in their details not to be very simple or straightforward. But St. Thomas's account of the passions is meant in any case to be a piece of philosophical anthropology rather than of natural science, and so he and his followers can rest content with letting neurophysiologists and medical specialists fill in the scientific details.

Things get just a bit more complicated when we turn to Arnie's sentient cognition. In the case of the exterior sensory powers, certain physiological changes in the relevant corporeal organs are accompanied by what St. Thomas calls — perhaps unfortunately — 'spiritual' changes (*transmutationes spirituales*) whereby the *per se* objects of sentient cognition are united intentionally — in a "non-material mode" — with the cognitive subject, viz., Arnie himself. I say 'unfortunately' here, since the use of the terms 'spiritual change' and 'non-material mode' might give the impression that St. Thomas believes that

⁴The following account of sentience is based mainly on *Summa Theologiae* 1, qq. 77-78 and 1-2, q. 22.

the nature of sensing requires the sentient soul to be subsistent and immaterial. But, of course, he believes just the opposite, as he makes clear in *Summa Theologiae* 1, q. 75, a. 3. Indeed, he attributes to Plato the (in his eyes) mistaken view that even *Arnie's* soul is subsistent; for Plato, he claims, attributed sensings “to an immaterial principle, arguing that just as intellective understanding belongs to the soul in its own right, so too does sensing. And from this it followed that even the souls of brute animals are subsistent.”⁵

Instead, St. Thomas's own view is (broadly speaking) that the corporeal organs of sentient cognition are analogous to a matter which, through changes caused by sensible qualities, can come to be informed ‘intentionally’ by a determinate range of those qualities in such a way that the resulting acts of the sensory organs count as sensings of those same qualities. But because these sensings are exercised by means of physiological changes of a special sort, and because their range of objects is limited by the corporeal nature of their organs, they do not require a subsistent immaterial subject. All they require instead as their first subject is a corporeal organism informed and unified by a sentient soul; in other words, the composite aardvark-substance, Arnie himself, is what first and foremost sees and hears and smells, etc. So Arnie's sensings of colors, sounds, tastes, smells, etc., do not involve an immaterial power or subsistent immaterial subject. Like the sentient affections, they are simply the ‘inside’, as it were, of a special kind of physiological change. And because sensings of exterior objects are presupposed by the ‘interior’ sensory powers whose acts are common (or coordinated) sensings, imaginings, rememberingings, and ‘estimative’ judgments about particulars, the same general account holds for these latter acts as well. (In what follows, I will, for the sake of simplicity, refer just to sensings and feelings when I speak of sentient cognition and affection, but these designations are meant to include acts of the interior sensory powers as well.)

Things are different, of course, when we turn to the human animal and add intellective

⁵*Summa Theologiae* 1, q. 75, a. 3, resp.

understanding and willing to the powers of the soul. I will not rehearse the arguments for the subsistence and immateriality of the human soul, except to note that the twentieth century provided interesting supplements to the basic arguments espoused by Aristotle and St. Thomas. I have in mind contributions by the likes of Kurt Gödel, J.R. Lucas, Roger Penrose, and James Ross.⁶ Here, however, I want to take note in particular of a few ways in which, on a Thomistic account, intellectual activity in the human animal is continuous with and yet transformative of the sentient acts we share in common with Arnie and his friends.

First of all, the base-level account of sentient cognition and affection continues to hold for human sensings and feelings; that is, human sensings and feelings are exercised by means of physiological acts, and these acts are all attributed in the first instance to the human animal as a whole. Human beings are truly animals. To be sure, our specific sensory powers differ to some extent in their nature and range from those of non-rational animals, but these differences are of a piece with the differences found among the species of non-rational animals themselves. (Think, for instance, of the differences between an insect or crustacean, on the one hand, and a mammal or marsupial on the other.)

What's more, even though intellectual operations are not, according to St. Thomas, exercised by means of the acts of any corporeal organ, they nonetheless depend heavily on, and are heavily influenced by, the work of those corporeal organs that effect sensings and feelings.⁷ St. Thomas explicitly insists

⁶Edward Feser helpfully reviews various of these arguments in a blogpost entitled "Some brief arguments for dualism, part IV" (edwardfeser.blogspot.com/2008/10/some-brief-arguments-for-dualism-part-29.html) and in the three other parts linked at the beginning of that one. See also "Dualism," by Howard Robinson (2003, 2007), in the online *Stanford Encyclopedia of Philosophy* (<http://plato.stanford.edu>), edited by Edward Zalta. Unlike Feser, I am very uneasy describing St. Thomas's position as a form of dualism — even 'hylomorphic dualism' — since it is precisely the unity of the human being that St. Thomas wants to emphasize over against Plato's position, which (as he interprets it) posits many substantial forms in the human composite. This is to some extent a merely verbal disagreement, but I for one resist making Thomistic philosophical anthropology conform to what I believe to be the illegitimate contemporary taxonomy of 'solutions' to the so-called 'mind-body problem', according to which each solution is either a type of materialism or a type of dualism.

⁷Here is St. Thomas's explanation of how intellectual understanding is related to the body: "The body is not required for the intellect's action as an organ by means of which that action is exercised; rather, the body is required for the sake of the action's object (*ratione obiecti*). For a phantasm is related to intellectual understanding in the way that a color is related to seeing. But needing the body in this sense does not rule out the intellect's being subsistent" (*Summa Theologiae*, q. 75, a. 2, ad 3.

that, in this life at least, we can have intellectual understanding of material substances only through physiological changes that precede the intellect's own peculiar operation and through physiological changes that are consequent upon the intellect's own peculiar operation.⁸ In addition, St. Thomas attributes differences in various mental aptitudes and types of intelligence to differences in physiological makeup.⁹ (It follows, as an aside, that the advance of brain science can hardly produce any embarrassment for a Thomist, and when claims to the contrary are made, they can always be traced back to either ignorance of or mistaken ideas about the Thomistic position.)

On the other hand, the discontinuities between us and Arnie are just as impressive. Because of our ability to grasp material natures intellectually, the character of both our sensings and our feelings is, according to St. Thomas, radically upgraded. Given our intellectual insight, we are able to sense not only colors, sounds, smells, etc., but substances and actions as such. Given our higher volitional powers, we are able to desire not only physical pleasure, but higher-order goods as well; to fear not only imminent physical threats, but also spiritual dangers; to hope not only for material well-being, but also for eternal life.

On the side of speculative or theoretical reason, we are able to sense paradigmatic individual substances *as* members of natural kinds, to arrange their species and genera into taxonomies, to study their properties and their causes, and to teach others about them. Therein lie the beginnings of natural science. We are able to engage in thought that abstracts altogether from everything non-quantitative and thus do mathematics; to create stories and other narratives; to fashion works of art, from paintings and sculptures and buildings to musical and cinematic pieces; to write poetry; to play games; to engage in political activities; to establish schools and universities; to laugh; to have deep conversations; to ask about the meaning of our lives; and to seek wisdom systematically, searching for the ultimate causes of

⁸See *Summa Theologiae* 1, q. 84, aa. 6-7.

⁹See, e.g., *Summa Theologiae* 1, q. 84, aa. 7-8, q. 85, a. 7, and q. 101, a. 2.

our universe and of our very selves.

From this perspective, one of the most grievous theoretical errors of the seventeenth-century empiricists was to deny this ‘radical upgrade’ of sentience and to insist, in effect, that our sensings and feelings are *exactly* like those of Arnie and his non-rational compatriots, limited in their cognitive reach to mere colors and sounds and smells, etc. Kant in effect accepted this limitation and fashioned his so-called ‘Copernican revolution’ on top of it. While thus parading under the banner of intellectual humility, he made a veritable way of life out of a prideful intellectual pessimism about theoretical reason’s power to discover the real causes of things or God their creator.

On the side of practical reason, the powers of intellective understanding and willing transform our ‘animal’ activities into potential paths toward beatitude (or perdition, as the case may be). Within certain limits, we are able to plan our lives, to adopt ends, to choose suitable means to those ends, and to try (at least) to integrate our lives into unified virtuous wholes. Unlike Arnie, we are not constrained to act immediately or by instinct on our feelings, but are instead able to resist those feelings, or to control them, or even to habituate them. What’s more, on this account our desire for beatitude *as human animals* — ultimately, in the light of Faith, our desire to rest *as human animals* in the intimacy of the inner life of our Trinitarian God — is sufficient to open us up to a life of enduring and self-transcending sacrificial love in accord with the good defined for us by the sort of animals we are.

I note here in passing that, from this perspective, Duns Scotus’s moral distinction between the *affectio commodi* and the *affectio iustitiae*, where the latter is effectively detached from our animality and counted as the only fundamental desire aimed at a transcendent ‘moral’ good, is itself, like its Kantian successor in moral theory, a step in the direction of treating human agents as, in effect, non-animals. Tellingly, sentient affection or appetite cannot on Scotus’s view (or on Kant’s) be the subject of virtues. Hence, Scotus’s distinction and its aftermath tend toward doing something in moral theory that is analogous to what Descartes’ substance dualism does in metaphysics, viz., to effectively separate us in

genus from the animals — and with consequences just as dire, or so at least I would claim. So while materialism is not pretty in either metaphysics or moral theory, it is not the only serious mistake to be avoided here. I will say a bit more about this at the end of the paper.

The contemporary problematic

When, given these Thomistic principles, we next turn our attention to contemporary analytic philosophy of mind, we are bound to feel disoriented. There are at least two main reasons for this, and I will try to indicate them briefly. (In what follows a certain amount of simplification is unavoidable, but the general picture is, I believe, accurate.¹⁰)

First of all, the contemporary problematic is normally formulated in such a way that there are only two main solutions to the metaphysical ‘problem’ posed by ‘the mind’. One of them is variously called *materialism* or *naturalism* or, especially in its reductionistic versions, *physicalism*. Even though these terms have differing connotations and are difficult to define with precision, for present purposes we can characterize negatively the position they name by saying that this position denies that human cognition or appetite requires the existence of any subsistent immaterial subject. There are many forms of materialism, differing in interesting ways from one another. But they all share in common a disdain for the immaterial and for other marks of ‘enchantment’ or ‘spookiness’, as their ‘tough-minded’ proponents so charmingly put it. The second position is the contradictory of materialism, viz., *immaterialism*.

So on this standard rendition of the problematic, because Thomism posits an immaterial and subsistent human subject for intellectual cognition and affection, it is lumped together with (a) Descartes’s version of substance dualism, according to which human beings are identified with their

¹⁰In surveying the literature in contemporary analytic philosophy of mind, I have made use of several very helpful articles from the online [Stanford Encyclopedia of Philosophy](http://plato.stanford.edu) (<http://plato.stanford.edu>), edited by Edward Zalta. These articles include “Physicalism,” by Daniel Stoljar (2001, 2009); “Dualism,” by Howard Robinson (2003, 2007), “Emergent Properties,” by Timothy O’Connor and Hong Yu Wong (2002, 2006); “Eliminative Materialism,” by William Ramsey (2003, 2007), “Zombies,” by Robert Kirk (2003, 2011), “Consciousness,” by Robert Van Gulick (2004).

immaterial souls, whereas brute animals are conceived of reductionistically as complex mechanisms that do not have sensings or feelings or any interior life at all, and with (b) something like the position that St. Thomas attributes to Plato, according to which human beings are explicitly identified with their immaterial souls, whereas the human body has other substantial forms as well.¹¹ In other words, Thomism gets put into the same general category as philosophical anthropologies according to which human beings are not properly speaking (i.e., *per se*) animals at all, but instead immaterial souls closely associated with animal bodies, regardless of whether these animal bodies are conceived of reductionistically (Cartesian dualism) or non-reductionistically (Platonic dualism). One might have hoped for a more fine-grained problematic to begin with, where Thomistic philosophical anthropology would be seen as (a) clearly distinct from dualism in insisting that human beings are both unified substances and animals in the full-blooded sense and (b) clearly distinct from materialism in insisting that there is a radical metaphysical underpinning, viz., an immaterial form, for the distinctness of the human animal from other animals.

Second — and this is exceedingly strange from a Thomistic perspective — the main contemporary arguments against one or another form of materialism have to do almost exclusively with sensing and feeling and not with intellective understanding or willing. In part, this is the legacy of Cartesianism. What I mean is that quite a few materialists share in common with their dualist opponents Descartes' assumption that any sort of interior psychological life, be it sentient or intellective, must have an immaterial immediate subject.¹² The materialists in question thus see a need to reduce (in some suitably broad sense) the mental in its entirety to the physical.¹³ Since it is intellective understanding and willing

¹¹See *Summa Theologiae* 1, q. 76, a. 3.

¹²In fairness to Descartes, however, notice that St. Thomas attributes the same assumption to Plato in, e.g., *Summa Theologiae* 1, q. 75, a. 2, resp.

¹³Indeed, sometimes the different parties to the dispute seem to just take it for granted that if materialism can 'handle' sensing and feeling, then it will be able to 'handle' intellective understanding and willing as well — perhaps conceiving of them as algorithmic processes, despite some very cogent arguments for not so conceiving of them. In fact, zombies, to be introduced

that Thomists take to be the only mental phenomena that require immateriality, we find ourselves in a very delicate dialectical position here. I'd like at least to begin to explore this dialectic.

So let's look at the materialist landscape a little more carefully and see whether we can bring some Thomistic light to it. We can begin by asking what it would be for a materialist to 'handle' sensings and feelings. What is the problem, exactly, and why is it a problem for a materialist? Here things get a bit murky. As hinted above, sensings and feelings are *not* a problem — or, at least, *should not* be a problem — for *all* materialists. (After all, by the broad criterion given above the Thomistic account of sentience in brute animals qualifies as a type of 'materialism' with respect to brute animals.) Sensings and feelings are a problem, it seems, only for materialists who subscribe to a reductionistic physicalism according to which the only things that exist *per se* are those posited by an ideally complete physics. Barring the truth of some form of pan-psychism, the sensuous appearances involved in sensings and feelings simply do not fit within such a physicalist picture.

Well, to begin with, one might think that if sensings and feelings are a threat to the physicalist version of materialism, then the paradigmatic materialist position should be simply to deny, in the spirit of Descartes's treatment of brute animals, that we human beings have sensings and feelings or, *a fortiori*, understandings and willings at all. This is precisely what the aptly named *eliminative materialism* does. According to the eliminativists, the language in which we refer to sensings and feelings and understandings and willings is a proto-scientific competitor to the language of some final, complete, and true physical theory about human beings. Once we have this latter language in hand at some unspecified future time, we will be able to (and, presumably, rationally obliged to) discard all talk about understanding, willing, sensing, and feeling, replacing it with our new scientific language. Some of you might be worried about how states or acts described in merely physical terms can be thought of as

below, are most often thought of as having intellectual understanding and willing even though they have no sensings and feelings.

directed toward intentional objects. Others might be concerned with how, say, Dante or Shakespeare — or Sacred Scripture, for that matter — will sound in ‘Eliminativese’. But, we are assured, this final physical theory will be very impressive indeed.

Eliminative materialism is what I would call an honest and robust and full-blooded version of materialism, and it is in its own way ingenious as well. In my experience, it ranks right up there with Al-Ghazali’s occasionalism, Berkley’s idealism, and Leibniz’s monadology in the degree of astonishment it produces when encountered for the first time. God has a sense of humor; it may be that one of the best indications of the immateriality of the human intellect is that the human intellect can come up with a theory like eliminative materialism.

Needless to say, very few physicalists have the audacity to espouse eliminative materialism. These run-of-the-mill physicalists are constrained to propose other solutions to the ‘problem’ posed by sensing and feeling. One popular ‘solution’ is the attempt to bypass questions about sensuous appearances by espousing some version of so-called *functionalism*, according to which the intentional content of sensings and feelings is entirely determined by the causal antecedents and consequents of the physical states that underlie them.¹⁴ This theory might not get rid of the sensuous appearances, but at least it neutralizes or tames them by rendering them scientifically irrelevant. More specifically, even if sensuous appearances are not wholly eliminable, they can still be deprived of playing any irreducible explanatory role in the behavior of animals. For instance, in ordinary parlance we might say that Arnie drank the water because he felt thirsty — i.e., because he felt a desire for water and then saw the water and proceeded to drink it. According to the functionalist, by contrast, the sensuous appearance of thirst is explanatorily irrelevant; instead, thirst can be adequately characterized in wholly relational terms, i.e., in terms of what causes the non-sensuous states that underlie it and what those states in turn cause.

¹⁴Strictly speaking, functionalism in the abstract is not necessarily a materialist position, since sensings and feelings could have an immaterial subject rather than some type of material subject. However, in the contemporary discussion, functionalism is thought of exclusively as a version of materialism.

One standard objection to functionalism involves the so-called ‘inverted spectrum’ and is meant to show that functionalism does not, despite its claim to the contrary, adequately neutralize sensuous appearances. Let us return to Arnie and his thirst, i.e., his felt desire for water, along with his sensing the water and his subsequent drinking. Suppose that his mom, Arlene, is drinking beside him, and assume that in both their cases the explanation of the drinking that is given by reference to non-sensuous causal antecedents and consequents is the same. (We might assume that this explanation is given in physiological terms.) But suppose further that before drinking, Arlene felt the same way that Arnie feels when he is bloated and stops drinking; and suppose that when Arlene stops drinking, she feels the same way that Arnie felt before he started drinking. In other words, assume that the physiological explanation is the same in the two cases, but that the feelings, i.e., the sensuous appearances, are inverted. Is such a situation possible? If it is, then functionalists seem faced with a dilemma. Either (a) they will preserve the idea that aardvarks drink because they are thirsty and call Arlene’s feeling of being bloated ‘thirst’ or (b) they will have to say that while Arnie drinks when he feels thirsty, Arlene drinks when she feels bloated. Neither choice seems particularly attractive.

Indeed, as others have pointed out, if there is a sufficient ‘causal’ explanation of Arnie’s behavior at the physiological level without reference to anything sensuous or intentional, then it seems superfluous for functionalists to bother with talk about ‘thirst’ and other feelings in the first place. This is the so-called ‘causal exclusion’ objection. The upshot is that functionalists should just abandon talk about feelings and sensings and fall back into eliminative materialism.

From a Thomistic perspective it is, I suppose, impossible to rule out inversion scenarios *a priori*. But the Thomist will insist that such scenarios involve dysfunctions and abnormalities. What’s more, from a Thomistic perspective we should antecedently expect that in cases involving feelings there will be (at least) two levels of explanation for the animal’s behavior. Or, perhaps better, the Thomist will claim that the single full explanation for the animal’s behavior will involve the integration of different layers of

explanation and different sorts of explanation, at least one of which is a higher-level explanation that invokes interior ‘sensuous appearances’ and the goal-directed activity they induce — where, in Thomistic language, the sensuous appearances are themselves simply acts of sentient cognition or movements of sentient appetite. Even if this claim is somehow shocking to a certain sort of philosopher, it is hardly surprising to ordinary people. You go to the ophthalmologist. She examines your eyes and then, after flipping a few lenses, tells you that you should be seeing the letters very clearly now; and, behold, you are indeed seeing them very clearly. Other specialists can tell you when it hurts or when you’re feeling thirsty or when your tooth has been desensitized to pain, etc. And as the relevant natural sciences advance, they are able to tell you many other amazing things about your sensings and feelings. This is exactly what one would expect from a Thomistic perspective, and it is not at all problematic. St. Thomas, for instance, tells us that the physiological changes are “posited materially in the definition of movements of the appetitive part,”¹⁵ and he is equally insistent that acts of sentient cognition are the acts of material organs. It’s only a misleading and ideologically charged picture of sensings and feelings that would have led anyone in the first place to treat sensuous appearances as a problem to be eliminated or in some way neutralized. To be sure, things get a bit murkier when it comes to intellectual understanding and willing. But even here, as noted above, the dependence of intellectual acts on the exterior and interior sensory powers guarantees that there will be many interesting correlations between even thoughts and physiological states — though there will always be limits to what these correlations can be used to ‘prove’.¹⁶

Finally, notice that, from a Thomistic perspective, the inverted spectrum objection is wholly irrelevant to the debate between materialism and immaterialism, since it has to do with sensings and

¹⁵*Summa Theologiae* 1-2, q. 22, a. 2, ad 3.

¹⁶For an interesting reflection on the limits of neuroscience, see Raymond Tallis, “What Neuroscience Cannot Tell Us About Ourselves,” pp. 3-25 in *The New Atlantis*, Fall 2010 (thenewatlantis.com/docLib/20110315_TNA29Tallis.pdf).

feelings, and sensings and feelings do not in themselves require an immaterial subject.

At any rate, in the face of challenges such as the inverted spectrum objection and the causal exclusion objection, some materialists retreat to what is called ‘property dualism’, a position according to which human cognition and affection have no immaterial subject, but do involve irreducibly psychological properties that are correlated with physiological properties ‘in the right way’ — whatever that right way turns out to be.¹⁷ So one finds a standard property dualist claiming that sensings, feelings, etc., are not identical with or in any way reducible to physiological events, but that they nonetheless necessarily *supervene upon* such events. The promise is that somehow a way will be found to integrate the psychological and the physiological into a coherent causal picture. (I won’t pause here to ask about the exact nature of supervenience. That’s a whole separate literature unto itself. But emergence, which I will mention below, is at least one form supervenience in a general form can take.¹⁸)

Now enter the zombies.¹⁹ A zombie-world is one which is just like ours in its physical constitution and physical events, but in which there are no sensuous appearances.²⁰ Is a zombie world possible? If it is, then even so moderate a form of materialism as property dualism is false, since the presence of the sensuous appearances cannot be accounted for merely by the presence of the physical, no matter how the latter is constituted, and sensings and feelings do not necessarily supervene on the physical. A

¹⁷I myself am still trying to figure out why property dualism is sometimes presented as an alternative to materialism. I suppose the answer is that ‘materialism’ is said in many ways, and property dualism is indeed distinct from the sort of reductionistic physicalism that many philosophers have in mind when they use the term ‘materialism’. However, given the above characterization of materialism as the contradictory of immaterialism, property dualism, when taken as a general theory that applies to both the sentient and the intellective, is clearly a form of materialism.

¹⁸Even this modest claim I make with trepidation, given the complexities of current discussions of emergentism. See “Emergent Properties,” by Timothy O’Connor and Hong Yu Wong, cited above.

¹⁹Within the current debate zombies were first used extensively by David Chalmers in *The Conscious Mind: In Search of a Fundamental Theory* (New York and Oxford: Oxford University Press, 1996). I am here giving just one version of what we might call ‘the argument from zombies’.

²⁰Since many, perhaps most, materialists believe that intellective understanding and willing can fit into a materialist theory as algorithmic processes, I will take zombies to have some psychological properties, but no sensuous appearances, i.e., no sensings and feelings. Once again, notice how strange it will seem to a Thomist that sensings and feelings should be thought to pose more of a ‘problem’ for the materialist than intellective operations.

non-physical or immaterial subject must thus be posited to account for the presence of the psychological — or so it seems. (Could there be free-floating sensuous appearances not attached to any subject at all?)

From a Thomistic perspective, the discussion of zombies raises some pertinent questions. First of all, would it be accurate to call Thomism a form of property dualism with respect to brute animals? Perhaps, though a Thomist would rather say just what St. Thomas says about sentience in brute animals and leave it at that, since what St. Thomas says is already embedded within a full-blown philosophy of nature that is (a) capable of accommodating new findings about the physiology involved in sensing and feeling and is (b) at home with talk of causal connections between the psychological and the physiological, where by ‘causal connections’ the Thomist means a full array of formal, material, efficient, and final causes. So does that mean that Thomists have a stake in denying the possibility of, say, aardvark-zombies, i.e., of a world in which the only putative ‘animals’ are physically and behaviorally the same as aardvarks but in which these ‘animals’ lack sensings and feelings?²¹ I would think so. *A fortiori*, a Thomist should deny the possibility of a comprehensive zombie-world that includes genuinely human bodies.

Once again, however, this discussion in contemporary philosophy of mind does not, from a Thomistic perspective, establish anything at all, one way or the other, about the immateriality of the human soul. For from a Thomistic perspective, conscious activity occurs both in brute animals, which do not have immaterial souls, and human beings, who do. To the extent that philosophers of mind lump sentience and intellection together, they have conflated what a Thomist wants to distinguish. And it just may be that distinctively Thomistic contributions to the contemporary discussion could begin with the distinction between sentience and intellection and go on to show how taking this distinction seriously might re-shape the contemporary philosophical problematic and its interface with neurophysiology and

²¹This is not to deny that we can *imagine* aardvark-zombies in the sense that we could tell stories about them or make movies about them.

the other relevant sciences. This sounds like a worthy research project for the new generation of Thomists, who will want to insist with materialists on our oneness and animality as human beings, while insisting with dualists on our radical distinctiveness in the world of animals.

Empedocles and Democritus revisited

With this admittedly quick review in hand, I want to step back to complain briefly about two types of reductionism that infect contemporary discussions in philosophy of mind.

The first is what is commonly called *entity-reductionism*, the type of reductionism that is reflected in saying things like “Aardvarks are, after all, just collections of atoms (or quarks, or fire-air-earth-and-water, or whatever the ultimate constituents of matter turn out to be).” While this first type of reductionism is not explicitly a component of every version of contemporary materialism, it does seem to influence the thinking of many materialists as a kind of ideal of reason. And like any good Thomist, I detest it. In surveying some of the recent literature, I found myself balking even at the claim that hurricanes are, after all, just collections of atoms. Hurricanes are not, I suppose, paradigmatic instances of primary substances, but they sure have a lot of interesting systemic properties that can’t be reduced to the properties of atoms.

Of course, it is just this sort of reductionism that Aristotle, at the beginning of *Physics 2*, attributed to an inability to appreciate nature as *form*. And St. Thomas himself worked out in some detail an impressive and (I would say) convincing philosophical account of how to think about the status of the lower-order material constituents of higher-order primary substances. Specifically, in the case of the intellectual soul he has this to say in defending the unity or oneness of the human animal:²²

If it were true that besides the intellectual soul there are other preexistent substantial forms in the matter through which the soul’s subject is an actual being, then it would follow that the soul does not give *esse* absolutely speaking, and that consequently it is not a substantial form,

²²*Summa Theologiae* 1, q. 76, a. 4, resp.

and that at the soul's appearance there is no generation absolutely speaking, and that at its disappearance there is no corruption absolutely speaking; instead, there would be generation or corruption only in a certain respect. But all of these claims are manifestly false.

Hence, one should say that (a) there is no substantial form in a man other than the intellective soul alone, and that (b) just as the intellective soul virtually contains the sentient soul and the nutritive soul, so too it virtually contains all the lower forms, and that (c) it brings about by itself alone whatever the more imperfect forms bring about in other things. And the same should be said of the sentient soul in brute animals and of the nutritive soul in plants and, in general, of all the more perfect forms in relation to the less perfect forms.

Since we Thomists like to keep up with developments in the natural sciences, you might find it interesting that something like St. Thomas's sentiments are echoed by Nobel Prize winner Robert Laughlin in his recent book *A Different Universe*. In speaking of the quantum Hall effect, important for understanding the relationship, within physics itself, between particle physics and solid-state physics, Laughlin has this to say:²³

Over the intervening years, as I have lived inside theoretical physics and become familiar with its ways and historical currents, I have come to understand the von Klitzing discovery as a watershed event, a defining moment in which physical science stepped firmly out of the age of reductionism into the age of emergence. This shift is usually described in the popular press as the transition from the age of physics into the age of biology, but that is not quite right. What we are seeing is a transformation of world view in which the objective of understanding nature by breaking it down into ever smaller parts is supplanted by the objective of understanding how nature organizes itself.

I mention this to underscore the point, implicit in what I have argued above, that Thomists need not feel like second-class citizens among the self-proclaimed 'tough-minded' and 'scientifically informed' proponents of contemporary forms of materialism.

Thomistic philosophical anthropology is, in the end, simply an extension of Thomistic philosophy of nature. Just as what we really need today are self-consciously articulated philosophies of nature within which to situate the findings of the natural sciences, so too we need self-consciously articulated philosophical anthropologies within which to situate the findings of the sciences that are directly relevant to sentience and intellection. A sound philosophical anthropology will also give us a basis for evaluating

²³Robert B. Laughlin, *A Different Universe: Reinventing Physics from the Bottom Down* (Basic Books, 2006), p. 76.

and criticising what have become a culturally significant intellectual marker, viz., the sort of philosophically charged ‘scientific’ arguments, put forward by philosophically unsophisticated scientists, for significant metaphysical and moral conclusions.²⁴

A related side note: Since Thomists already accept what we might call ‘synchronic emergence’, there seems to be no ontological reason to be antecedently suspicious of the sort of diachronic emergence which is characteristically posited by broadly evolutionary theories, beginning from the Big Bang and culminating in the appearance of complex animal life. Nor, as others have pointed out, does a Thomistic perspective by itself require the sort of direct divine interventions in nature associated with Intelligent Design theory.²⁵ Perhaps such interventions are required during the course of the development of the universe; perhaps they are not. This is a matter for empirical discovery. The only place where a direct divine intervention is required is in the creation of the human soul, which, because of its immateriality, can come into existence only by direct creation *ex nihilo*.²⁶

The second sort of reductionism, even more pernicious to my mind, is what I will call *methodological reductionism*. By this I do not mean the claim that all the sciences will in the end be shown to be reducible to physics, or any other claims about the reducibility of one science to another. What I mean instead is the conviction that natural science is the only rationally acceptable source of explanation and of metaphysical commitment. This conviction both feeds and is fed by anthropological

²⁴I have in mind here, of course, the sort of philosophical rambling engaged in by the likes of Richard Dawkins and Stephen Hawking. You don’t have to be a Thomist to notice the gap between their premises and their conclusions; see, e.g., my colleague Gary Gutting’s “On Dawkins’s Atheism: A Response,” *New York Times*, August 13, 2010. (It’s harder to make excuses for Daniel Dennett; he should know better.)

²⁵I recommend especially William Carroll’s work on the interface between Thomism, on the one hand, and the scientific theories of evolution and the Big Bang, on the other. See, e.g., *Creation and Science: Has Science Eliminated God?* (London: Catholic Truth Society, 2011). Carroll has also written in illuminating ways about Aristotelianism and the scientific revolution of the seventeenth century. See, e.g., “Creation and Inertia: The Scientific Revolution and Discourse on Science-and-Religion,” in Jaime Navarro, ed., *Science and Faith Within Reason: Reality, Creation, Life and Design* (London: Ashgate Publishing Co., 2011)

²⁶This, of course, is exactly what the Catholic Faith teaches. For further discussion of this point, see my “Good News, Your Soul Hasn’t Died Quite Yet,” in Michael Baur, ed., *Person, Soul, and Immortality: Proceedings of the American Catholic Philosophical Association* (New York: American Catholic Philosophical Association) 75 (2002): 99-120.

materialism, and nowadays it seems to be pervasive among philosophers of mind and neuro-scientists.

This topic, which from a Thomistic perspective is just one aspect of the broader topic of the relation between faith and reason and between faith and culture, is obviously too complex to be dealt with here. But it is important to notice that what the Church's teaching has insisted upon again and again over the centuries, viz., the inability of philosophical or scientific methodology to yield all the truths necessary for us to lead the best sort of human lives and live together harmoniously in society, is at this time being openly challenged by powerful cultural elites. One crucially important task of the next generation of Thomistic thinkers will be to address this new scientism with the metaphysical, moral, and epistemological resources bequeathed to us by the Angelic Doctor himself.

Philosophical anthropology and contemporary culture

I want to close with a few brief remarks about the cultural significance of the issues we are discussing here today. As Walker Percy was fond of pointing out in oftentimes hilarious ways, in our culture we oscillate between regarding ourselves as beasts and regarding ourselves as angels. These seem to be the only two choices — just as, in the problematic I outlined above, the only two choices afforded us are materialism and dualism.

St. Thomas has already helped saved us once from immaterialism or angelism. In the brilliant first chapter of *St. Thomas Aquinas: The Dumb Ox*, Chesterton explains how the two saintly friars, Francis and Thomas, each in his own way, the one as a poet and troubador and the other as a stodgy philosopher, reintroduced a robust sense of corporeal and animal nature into 13th century Catholic thought and practice, hence staving off a tendency toward over-spiritualization that had appeared in the medieval Church. Even today, there are remnants of this tendency — or so I would claim — in the excessively 'intentionalistic' proclivities to be found in certain realms of Catholic moral theology, even among generally orthodox thinkers. To my mind, St. Thomas is still the "go-to man" on this score, and the key

is his philosophical anthropology, which insists that we are animals, albeit very special animals.

In contemporary culture at large, however, it is the opposite tendency that is most prevalent — the materialist tendency, allegedly supported by natural science, to regard ourselves as beasts who are just a bit smarter than the other beasts. Once again, St. Thomas is the “go-to man,” helping us to see how we can hold that even though we are indeed animals, we are very special animals.

The moral is that it is not hard to go wrong in philosophical anthropology. Many philosophers have done so, with unfortunate consequences that range over the whole spectrum of the philosophical disciplines. More importantly, the consequences seep down into popular culture itself. The stakes are high. This is one reason why the last two popes, echoing the documents of Vatican II, have insisted time and again on the importance of a deep and fundamentally correct philosophical anthropology, one that exhibits clearly how we are neither mere beasts nor angels, but instead a very peculiar sort of animal. These same popes keep recommending St. Thomas on this topic. No big surprise.