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Hylomorphism, Intentionality, and Prior's Puzzle

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Abstract

In this paper I intend to discuss the question in philosophy of mind called "Prior's Puzzle" within a hylomorphic, that is, a broadly Aristotelian-Thomistic, context. After laying the groundwork explaining hylomorphism in natural philosophy and basic psychology in Part I, I will examine Prior's puzzle about nonexistent mental objects in Part II. The connection between these two issues will become clear as the paper progresses, but the fundamental principle that will guide my presentation is that of intentionality, or "directedness."

Keywords

Philosophy of mind, hylomorphism, Prior's Puzzle, Aristotle, Aquinas

Introduction

In this paper I intend to discuss the question of "Prior's Puzzle" within a hylomorphic, that is, a broadly Aristotelian-Thomistic, context. After laying the groundwork explaining hylomorphism in natural philosophy and basic psychology in Part I, I will examine Prior's puzzle about nonexistent mental objects in Part II. The connection between these two issues will become clear, hopefully, as the paper progresses, but the fundamental principle that will guide my presentation is that of intentionality, or "directedness."[1]

The scope and method of this paper must be limited to explication, not demonstration. That is, I will illustrate *how this contemporary problem in philosophy of mind might find a solution in a hylomorphic framework*, but not argue *that the hylomorphic framework is factually correct*, which would be a question for either natural philosophy or metaphysics, or both. Even within this scope, the explication will

[1] Tim Crane, *Elements of Mind* (Oxford: Oxford University Press, 2001), 13; John R. Searle, *Intentionality* (Cambridge: Cambridge University Press, 1983), 1.

remain within the bounds of the (admittedly difficult) question posed above. It would be beyond the scope of this paper, and perhaps positively impossible, to argue that there are no problems with a hylomorphic approach to philosophy of mind, or to respond to them all. This restriction is par for the course in philosophy of mind in general, since there are deep, often unresolved or even insoluble, problems in any philosophical framework – for example, materialism (the teaching that there is only one kind of substance, which is matter in motion) and dualism (the teaching that there are two kinds of substance, matter and mind – in Descartes' terms, *res extensa* and *res cogitans*).[2] One may discuss the strengths and weaknesses of either in regard to some question in philosophy of mind without having proven them factually correct beforehand, and this paper will do the same with hylomorphism.[3]

It is not at all my intention to commit a *tu quoque* fallacy. I do not believe that hylomorphism (which I will define in Part I below) gets a pass for its flaws just because materialism and dualism do. But the fact is that materialism and dualism are discussed as serious alternates among others[4] in philosophy of mind despite their flaws and unanswered questions. This does not absolve hylomorphism of its own possible flaws, but it is a basis for allowing hylomorphism a fair chance, and if, for example, hylomorphism can help solve Prior's puzzle about nonexistent mental objects, then perhaps it deserves a serious consideration among other philosophical frameworks.

I. Grades of Intentionality

A. Proto-Intentionality: Matter and Form

For hylomorphism (to develop a working definition), all physical reality is made up of substances that are composed of the twin principles of matter and form. Matter and form are principles, not things – that is, any given physical substance must have both, and neither matter nor form can exist without the other (putting aside

[2] Problems within materialism are discussed in John R. Searle, *Mind: A Brief Introduction* (Oxford: Oxford University Press, 2004), 75-92; within dualism on pages 8-11 (a section titled "Descartes and Other Disasters").

[3] I have written elsewhere on the relationship between hylomorphism and modern science; see "If a Photon Falls in the Woods: An Aristotelian Answer to a Quantum Question," forthcoming, *Heythrop Journal*. Also, "Descartes and the Scholastics on Material Reality," and "The Fifth Way and Mathematical Physics," unpublished.

[4] Such as Emergentism, Functionalism, Idealism, Instrumentalism, Anomalous Monism, etc. I will focus on Dualism and Materialism, since many of the others boil down to them in fundamentals.

the immortality of the soul, angels, and God).[5] Hylomorphism is different from materialism in that it counts form as a distinct but absolutely essential and causal aspect of nature. It is different from dualism in that mind and body are not seen as two different substances, but as two aspects of a single substance, the human being.

This is admittedly an alien way to understand the world for us today, who have been influenced or even molded more by Descartes' critique of hylomorphism, and the Newtonian replacement of it, than we ever could have been by hylomorphism itself, as predominant as it was in the Western world centuries ago. This adds a layer of difficulty in grasping even the basic concepts of hylomorphism, which in itself is already difficult to grasp.

That said, difficult is not the same as impossible, and alien is not the same as incomprehensible. One intuitive way to see the point of the matter/form distinction is to understand it in terms of material and structure. The bricks of a house are its building-blocks, and the structure of the house is something else, even though neither can exist without the other – the bricks are only building-blocks *of a house* if the house is there; and there is certainly no house there without the bricks.[6] The same can be said for natural substances. A cat is not the same thing as the stuff it is made of. An easy experiment with a large blender can illustrate this, resulting in all the same particles and no cat at all, but rather cat soup, and then, when cooled, cat gazpacho. Less gruesomely, we know from chemistry that a hydrogen particle, another hydrogen particle, and an oxygen particle, are one set of things, and that a water molecule is another thing; the structure of the latter is something distinct from the parts themselves, and not strictly reducible to them, even functionally speaking (one would remain quite thirsty, and worse, if he tried to drink a combination of hydrogen and oxygen, even in the right proportion).

Of course, this illustration does not prove hylomorphism true, but the illustration shows that structure and material are still part of our everyday understanding of things in some way. This "everyday understanding" can serve as the basis for the explication that follows, though as I stated earlier, a defense of hylomorphism as a metaphysical doctrine would be the topic of a different work.

What does any of this have to do with intentionality? I defined intentionality above as "directedness," which means that intentional entities (for example, ideas) are directed or refer to something: to use the language we will find in Prior below, they are constituted by a relation to something else. While it is false to say that non-living

[5] Aristotle, *Physics*, tr. Glen Coughlin (South Bend, Indiana: St. Augustine's Press, 2005), 189a11-193b20.

[6] See, for example, William Jaworski, *Philosophy of Mind: A Comprehensive Introduction* (Oxford: Wiley-Blackwell, 2011), 280-5.

substances such as gold are intentional strictly speaking, there is an aspect of the matter-form relationship that gives such substances a kind of proto-intentionality. This aspect is that of limitation: matter limits form by making it not simply an abstract structure but the structure of *only this particular thing*, and more importantly here, form limits matter by making it *this kind of thing* rather than *any possible kind of thing*.[7] This is certainly not intentionality in any full sense, but any given material substance is, broadly speaking, "directed to" a limited set of possibilities in what it can become.

This limitation of possibilities is, very broadly speaking, a first step toward intentionality. It is not that a substance with form and matter is "directed" to any particular thing in and of itself, but because of its limited potentiality, it is prevented from being directed to *all* things, and restricted by being directed only to *some*. Thus the wood of a tree is capable of becoming ash, or a desk, or a baseball bat, but not (immediately, at least) a neutron star or a bottle of bourbon.

This is, admittedly, a far cry from intentionality as such, but the point here is that for hylomorphic theory, intentionality does not pop in out of a vacuum like a god from a machine, but rather arises, perhaps gradually, from the very nature of material reality itself.[8] Directedness, in this way of understanding nature, is on a continuum.

B. Primordial Intentionality: Nutrition and Sensation

The fundamental structure of hylomorphic reality as described above suggests that the delimiting dynamic which form exercises upon matter results in an increasing constriction of possibilities for what matter can become. To use an earlier illustration, more complex structures become less capable of welcoming other forms. Bricks can become parts of houses or barns or sheds, but houses have fewer possibilities for transformation without being destroyed. In the hylomorphic account, form and matter are paired principles of nature, each exerting a different kind of causality: form causing specification (making a substance to be *this* kind of thing rather than that) and matter causing individuation (making a substance to be *this* member of a species rather than any other).

While Aristotle and Aquinas see the most obvious indication of life to be some type of self-motion,[9] they both distinguish the

[7] St. Thomas Aquinas, *On Being and Essence*, tr. Armand Maurer (Toronto: Pontifical Institute of Mediaeval Studies, 1949), 43.

[8] In contrast to those who see intentionality as a primitive, such as Jeffrey E. Brower and Susan Brower-Toland, "Aquinas on Mental Representation: Concepts and Intentionality," *Philosophical Review* 117.2 (2008), 193-243.

[9] Aristotle, *De Anima*, tr. R. D. Hicks (New York: Prometheus Books, 1991), 403b27.

various kinds of life-forms into the genera of living beings capable of nutrition, those capable of sensation (as well as nutrition), and those capable of understanding (as well as sensation and nutrition). In this hierarchy we find a continuation of the increasing restriction of the potentiality that is matter.

For the first time in nutrition, we find a capacity in nature that is self-directed (or "immanent"). While the capacity of the tree to become a baseball bat results in something other than the tree (and in this case requires an agent outside itself), its capacity to use sunlight to synthesize foods from carbon dioxide and water results only in the growth of the tree.[10] But the immanent nature of photosynthesis is only one aspect of it. Because it has a particular immanent purpose, photosynthesis has a very limited number of possible objects: namely, sunlight, carbon dioxide, and water. This is a primordial form of intentionality: the nutritive power of the tree is *directed to* these particular objects and no others. The same would hold for the digestive functions of animals: they are capable of eating and digesting certain types of things and not others.[11] Certainly there is a mechanical description of this process, but the hylomorphic account allows us to look at the same time at the formal aspect of the same process in the context of the function of the animal. In this context, nutrition does not exhibit the same kind of directedness as there is in the intentionality of the mind, but it is a more focused restriction; it is a step in that direction.

The difference between nutrition and the bare potency of material things is thus not only in the immanence (or self-reference) of the former, but also in what it means for them to have an *object* to which they are directed. The potency of matter determines what it can *become*, whereas the power of nutrition determines what it can *use for its operation*. This is why I used the phrase "proto-intentionality" in reference to matter, because it has an object only analogously speaking. Nutrition, however, truly does require and intend an object, that is, material substances that can be digested. Correlatively, digestible objects are simply those substances toward which the digestive tract is capable of being directed.

In the hylomorphic worldview, sensation is a power that indicates a higher form of life, and thus a higher form. If the pattern we are observing is true, then this higher form would bring with it an increased – that is, more focused – intentionality. This seems to be exactly what we find in the oldest hylomorphic account of the senses, Aristotle's *De Anima*. The power of sight is directed to light (specifically colored light within a particular spectrum) and leaves

[10] See H. D. Gardeil, *Introduction to the Philosophy of St. Thomas Aquinas, vol. 3: Psychology* (Eugene, Oregon: Wipf and Stock, 1956), 43-9.

[11] On the necessity of appropriate matter, see Aristotle, *De Anima*, 414a20.

out all the rest of reality; the power of hearing is directed toward sound waves in the air of a particular frequency, and couldn't care less about electromagnetic waves, smells, or anything else. In fact, the very sense organs themselves are built, as it were, from the ground up, specially fit to sense the object to which they are oriented, whatever those objects might be.[12]

What is it, however, that makes the senses *more* intentional than the organs of nutrition? The difference is in their respective objects and the way in which they are received. In the case of nutrition, it is an entire substance (matter and form) that is the object of the organs, and an entire substance that is eaten, savored, and digested.[13] In the case of sensation, only a formal quality is focused on, and the matter is abstracted from, or left behind. In the example of sight, the individual photon is absorbed by the retina and goes no further, whereas the formal aspect of its wavelength is transmitted through the optic nerve and eventually into the brain. Similarly with hearing, the material air itself is blocked by the ear drum from going into the body, while the formal aspects of the sound wave such as amplitude and intensity are absorbed and transmitted.[14] Thus the nutritive organs possess a primordial intentionality toward material substances, while the organs of sense possess an intentionality toward the formal aspects of color, sound, smell, etc. With this (certainly not uncontroversial) picture of sensation in mind, we can move to the last section of this presentation of intentionality in hylomorphism, human understanding.

C. Proper Intentionality: Human Understanding

Comparing nutrition to sensation gives us a first peek into the activity of abstraction, in which material is left behind and some formal aspect is retained. Nutrition is less abstract, that is, it leaves less material behind, than sensation, which cuts out matter entirely and retains only a sensible form. Understanding, which is proper to human beings, abstracts even further, though its roots are always and forever in the senses – a fact that will be increasingly relevant as we apply these principles to Prior's puzzle.[15] Here "abstraction" is understood in a radical but non-technical way, in the sense of "drawing away" from some aspects in order to focus on others. The connection between the "abstraction" of nutrition, sensation, and understanding is not

[12] Aristotle, *De Anima*, 415a20.

[13] Aristotle, *De Anima*, 416b1-10.

[14] Aristotle, *De Anima*, 419a9.

[15] Aristotle, *De Anima*, 432a5. Expounded by Aquinas in *Commentary on Aristotle's* De Anima, tr. Kenelm Foster and Silvester Humphries (Notre Dame, Indiana: Dumb Ox Books, 1994), 219-222.

univocal: they are not the same kind of activity, but rather they are understandable as increasingly less and less material in their intentional objects.

Working our way up to the activity of the intellect we find a handful of intermediate powers with their own operations such as the "common sense," which unifies the collective data gathered from the various sense organs into a single experience, the "imagination," which stores the unified sense data (called a "phantasm"), and others, which will be discussed later.[16] It is worth noticing that, even at the highest levels, the human mind is a manifestation of hylomorphism, which in the case of human beings means the common activity of body and soul. In other words, there is nothing that the intellect does alone or that the body does alone: everything we do is the activity of a human being, which is one substance. But like every substance in the hylomorphic view, the human being has a material aspect which we call the body and a formal aspect which we call a soul (the intellect being the highest power of the soul).

Once the sensible forms enter the soul through the senses, are combined through the "common sense" and stored in the imagination as "phantasms," the "agent intellect" abstracts the universal concept from the phantasm, leaving behind what was left of materiality (that is, the mental image) and allowing only the concept or definition (called the "intelligible species") to remain in the "possible" or "passive intellect." Because this final object is stripped of all remaining materiality, both the object and the operation which is directed to it are, according to Aristotle, immaterial.[17]

An objection to this would be related to the relationship between this process and the activity of the brain. But this is exactly what a hylomorphic understanding can account for best, since form and matter are not things but principles, and it is not one or the other that acts, but always the composite of both. This is nothing more than the basic anthropology of hylomorphism. Thus there should be no surprise when we are told the brain is always firing in some way during all of our mental activities: the mind and the brain always act together.[18] Even the most immaterial operation requires frequent reference to the phantasm, a likeness stored in the brain like any other.[19]

[16] Well summarized in Therese Scarpelli Cory, *Aquinas on Human Self-Knowledge* (Cambridge: Cambridge University Press, 2014), 9-12; as well as Elena Baltuta, "Thomas Aquinas on Bridging the Gap Between Mind and Reality," in *Rev. Roum. Philosophie*, 56.1 (2012), 147-160.

[17] Aristotle, *De Anima*, 430a17; ST I.85.1-4.

[18] See James D. Madden, *Mind, Matter & Nature* (Washington, D.C.: Catholic University of America Press, 2013), 274-6.

[19] See Therese Scarpelli Cory, "What Is an Intellectual 'Turn'?", in *Topicos, Revista de Filosofia* 45 (2013), 132.

This brings us back to intentionality. In this picture that associates more focused intentionality with greater formal structure, because these higher mental powers are less tied up with materiality, they are de facto able to have intentionality toward a single thing and to be constituted completely by nothing other than their relation to the object known. This allows for concepts to be purely intentional (that is, having no other existence besides being directed to their object), and for the possible intellect to be described as "prime matter" in relation to intellectual beings – that is, having no essence of its own besides the essence it is thinking of. So the intellect is not the only thing capable of intentionality, but the most capable.

The immateriality of this intellectual operation, while often used as a premise in proofs for the soul's immortality,[20] is also a confirmation of its dependence on its mental objects for its own reality. Whereas the stomach or ear drum have an independent existence apart from their proper objects and rely on food or sound only for their activities, the intellect, as "mental prime matter," has no actual existence apart from the essences which are its proper object.[21] That makes the intellect, in a sense, nothing more than pure intentionality. This must be said even of the intellects of angels and of God – though in the case of angels, there is no need for abstraction from the senses, and in the case of God, the intelligible species are not received but created, or known within God's own essence.[22]

To conclude this section it is worth reflecting on the anthropology implied by the hylomorphic account of intentionality. In the next section, the main point to be made will be derived from the fact that all human activities are the activities of a human substance, and not of either a mind or a body. This is the case for all natural substances, including the human being, even in the act of understanding. Indeed, the mutual dependence of mind and body is of such importance in the hylomorphic framework that Aristotle in one place positively denied the immortality of the soul,[23] while Aquinas describes the soul's existence apart from the body as "confused."[24]

[20] ST I.75.2.

[21] Therese Scarpelli Cory shows that this is the case even for self-reflection: that the intellect can understand even itself only with the aid of an intelligible species, and that it is only through this intelligible species that the intellect itself becomes actually intelligible. See her "What Is an Intellectual 'Turn'?" 137-140; "Knowing as Being? A Metaphysical Reading of the Identity of Intellect and Intelligibles in Aquinas," in *ACPQ* 91 (2017): 333-351; *Aquinas on Human Self-Knowledge*, 101-112; see also Juan Jose Sanguineti, "The Ontological Account of Self-Consciousness in Aristotle and Aquinas," *The Review of Metaphysics* 67 (2013), 329.

[22] On angelic knowledge, see ST I.58.1; on God's, ST I.14.8.

[23] Aristotle, *De Anima*, 403a10.

[24] ST I.89.3-4.

II. Prior's Puzzle

A. Hallucinations

The 'Causal Argument from Hallucination' is often considered the knock-down argument against naive realism in regards to the real connection between the senses and their external objects. There are roots to this certainly going back to Descartes and his famous demon,[25] and in some ways all the way back to Plato and the cave analogy.[26] The contemporary version of the argument utilizes futuristic technology to allow for a scenario in which a subject is sedated on a table, his skull opened, and some type of device is used to stimulate the appropriate parts of his brain to cause, in him, some experience of the external world. The question is not simply how would the poor subject ever know the difference between the experiences caused by the electric probes pressed against his brain matter and real experiences, which is difficult enough, but also how we can claim that what we ever perceive is the real world itself, when such an experiment would theoretically produce exactly the same perception?[27]

In a sense, this kind of scenario is not even far from our current technology. Being plugged into such a Matrix is somehow analogous to being tricked by the fake sky at the Venetian hotel in Las Vegas, or wearing virtual reality goggles, or even (more primitively) believing that one's dream of a talking kitten is actually happening. However, the difference between the VR goggles and the blue-but-cloudy sky paintings on the domed ceilings of the Venetian, on the one hand, and the Matrix and talking kitten dream, on the other, is significant. In the case of the goggles and the ceiling, there is an actual external stimulus there. It is an experience of everyday illusion. In the case of the Matrix, the argument goes, there is no external object of perception. We are not mis-perceiving something that is truly there in reality outside ourselves. We are not perceiving anything out there at all, and yet perceiving nonetheless.

In response, I would point out that, even in the terrifying futuristic scenario of the subject on the table with electric probes poking into his brain, the fact is that there is an external stimulus for his perceptions, even if there is not an external object being directly perceived, namely, the evil doctor with the electric probe. The same can be said for the deceptive demon devised by Descartes: some being is needed to make the scenario of constant illusion even be comprehensible.

[25] In the First Meditation. Rene Descartes, *The Philosophical Writings of Descartes, vol. II*, tr. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1985), 15.

[26] Plato, *The Republic*, tr. Allan Bloom (New York: Basic Books, 1991), 514a-517b.

[27] Presented in Tim Crane, *Elements of Mind*, 132-137.

The same goes for the Matrix and for dreaming – there is some activity, some memory or anxiety in the brain, some electron moving here or there, which is needed for us even to explain the story. I would go so far as to say that no scenario can be imagined in which a human mind perceives something without any kind of stimulus at all. And if no such scenario can even be imagined, the strength of this objection to perception at least fails the test of Descartes regarding clarity and distinctness.[28] This is not to rule out such scenarios as absolutely impossible, but rather to challenge both their probability and their comprehensibility.

This is suggestive of something more. If it is unimaginable that we can perceive something without some sort of stimulus (whether a real external object or an electric probe), this is evidence that perception is in fact intentional – that the very act of perceiving is the act of perceiving *something*, and that it is an act that requires some kind of cause/effect relationship in its very constitution; this, however, is to say that perception is an intentional act that is directed to an object. The object in question might be a real external being existing at that particular time and place, or it might be something perceived decades ago and stored cozily away in some wrinkle in the brain, only to be awakened by a deranged doctor with a hacksaw and an electric probe. The latter case does not contradict the intentionality of perception, but only refers to the instrumentality of the imagination and memory - and therefore of the organ which we call the brain – as storage units for objects that have been perceived before. But those stored objects in our memory are intentional realities – those memories are *of things* that we did perceive at some time, and are directed to them still (more on this below). Even if we were to add to our scenario the ability for the evil doctor to create false memories in our brain, that is still to assert the existence of an external stimulus, which, as I asserted above, seems always to be required for any such scenario to be conceivable.

This certainly does not solve the problem of hallucinations, since the doctor could very well be implanting false memories into our minds that in turn he gained from his own experience in the real world. It does not do us much good as the patients etherized upon his table, since we still have never seen the real world. So it would make no difference that our illusions are somehow based on someone else's reality. While this point does not solve the problem of hallucinations, it very naturally leads to the question about perception of non-existent mental objects, which is the subject of Prior's Puzzle.

[28] See the second part of the *Discourse on Method*, Rene Descartes, *The Philosophical Writings of Descartes, vol. I*, 120.

B. Prior's Puzzle and Developed Hylomorphism

If some particular memory can be called intentional by its directedness to the real-life event which it recalls, what of beings which have never existed, such as a griffin, or a hobbit, or the talking kitten I dreamed about recently? How can we claim that these ideas have intentionality, directedness to anything outside the mind? A. N. Prior distills this into three propositions, at least one of which, he claims, must be denied:

(a) X's thinking of Y constitutes a relation between X and Y when Y exists, but

(b) not when Y doesn't; but

(c) X's thinking of Y is the same sort of thing whether Y exists or not.[29]

Here intentionality is described in terms of relation. Giving up premise (a) is to give up on naive realism, the assertion that our ideas always have a directedness toward beings in the world; giving up premise (b) is to deny that thinking about unreal beings is a different kind of activity than thinking about real beings; giving up premise (c) is the opposite, to assert that thinking is the same kind of activity whether the object of thought is real or not. This is a serious challenge, one which will require two refinements to answer. The first is a return to the Peripatetic axiom that "there is nothing in the mind which was not first in the senses;"[30] the second is an elaboration on the powers of the mind in developed hylomorphic theory. Once again, a complex reality will require a complex solution, and perhaps the problem's origin in the first place was an oversimplification.

The Peripatetic axiom that the senses are the primary origin of all that is in the mind can be understood as a strong statement about intentionality – though it is more than a rephrasing of premise (a) in Prior's puzzle. In the phrasing of the axiom, we are reminded not only of the intentionality of ideas but of the importance of the senses and sense-organs – a reminder that is particularly hylomorphic in nature. Everything in the mind, according to the axiom, is directed to something (in Prior's language, "related to") something outside the mind in the physical world. The pertinent issue here is not simply intentionality, but the origin of our ideas in the first place, and the Peripatetic axiom states boldly that every image or idea that we

[29] A. N. Prior, *Objects of Thought* (Oxford: Oxford University Press, 1971), 130.

[30] Found, for example, in St. Thomas Aquinas, *De Veritate*, tr. Robert Mulligan (Indianapolis: Hackett, 1994), q. 2 a. 3 arg. 19, 69.

could possibly have in our mind comes ultimately from the sensible world. If this is the case, then all ideas by their very definition could be nothing but intentional, directed to whatever sensible reality produced them in the first place. This amounts to a flat denial that Prior's premise (b) – that thinking about nonexisting things does not constitute a relation – is in any way a possibility. There is nothing in the mind that is not a relation.

This seems absurd. When I thought about a talking kitten, I was in no way thinking about a really existing thing. What could it possibly mean that this image in my mind has its origin in my senses, or is directed to something in reality, or constituted by a relation to something in realty? In answering this, I would first like to confirm, against any opposite suspicion, that I have never seen or heard a talking kitten in my life, despite the delight such an encounter might bring me. A hylomorphic account of this requires introducing the powers of the mind called imagination, memory, and the estimative power, which reside in the organ of the brain. This, in fact, was the main point in showing (in Part I) that physical things, including and especially bodily organs, can themselves exhibit a kind of intentionality. And so according to developed hylomorphic theory, when a being is sensed, for example by the eyes, a likeness ("phantasm") of the being is imprinted in the imagination, and stored in the memory. This likeness can become the basis for an "experience," which is a culmination of individual memories of similar kinds of things, from which a universal concept or definition can be formed.[31]

The phantasm can also serve another purpose, however, which is to be available as fodder for the power of "composing and dividing" to piece together with other mental objects (in this case, images or concepts derived from sense experience), for example combining and dividing them into propositions. Thus the two mental objects, "Uruk the kitten" and "fuzzy" can be combined into the proposition "Uruk the kitten is fuzzy," or divided (if Uruk, in an act of inhuman cruelty, is shaved) in the proposition "Uruk the kitten is not fuzzy." This operation can also occur with universal concepts, resulting in propositions such as "all kittens are fuzzy."[32]

C. Mental Composition

But this mental ability of combining and dividing can be used for more creative purposes, in which some aspect or part of one concept can be brought together, in the imagination, with some aspect or part

[31] See the famous "rout in a battle" passage in Aristotle, *Posterior Analytics*, tr. Hippocrates G. Apostle (Grinnell, Iowa: The Peripatetic Press, 1981), 100a1-15.

[32] See ST I.85.5, Gardeil, *Introduction*, 74-6.

of another concept. It is here, with the power of composition and division at the control panel and the imagination as the blank file, that I can combine the concept "kitten" with the concept "talking." Similarly I can combine the concept "human being" with "short" and "pleasant," and the concept "hairy" with "feet;" once combined appropriately I can give this combination the name "hobbit."[33]

This is all to describe an internal mechanism which, I believe, most of us would find familiar upon reflection. But my claim here is stronger than simply a description of a mechanism. Hylomorphic theory would assert that every possible imaginary being must be composed in this way, and only this way. It is by definition impossible for anything, even the most outrageous image or idea, to be in the mind unless it is a composition of aspects or parts of beings that were first in the senses, and therefore in the extramental world. Every possible unreal mental object must be pieced together in this way, and therefore "bottom out" in physical reality – physical reality is the ultimate source for everything we could ever imagine, and everything in our mind is directed, or related, to it. Even the subject asleep on the mad doctor's table with electrodes being poked into his brain must be given ideas and images that the doctor or someone else at some point saw in the real world, or composed in his imagination out of things seen in the real world. This in turn would lead either to an infinite regress, or to a simple denial that we are in the Matrix at all, unless some kind of positive evidence were provided to suggest that it was actually the case.

Thus the intentionality of nonexistent objects would be confirmed, and the notion of nonexistent objects clarified. What we mean by a nonexistent mental object is a combination of images and ideas that are themselves in turn directed toward real beings. So "unreal" or "imaginary" mental objects are simply the result of this intermediate step of composition, and the intentional object toward which our mind is directed is this composed image stored in the imagination. Let me clarify this by reviewing the premises of Prior's puzzle:

(a) X's thinking of Y constitutes a relation between X and Y when Y exists, but

(b) not when Y doesn't; but

(c) X's thinking of Y is the same sort of thing whether Y exists or not.[34]

[33] Indeed, Tolkien, for one, confirms that this is exactly how he created all of his creatures. See "On Fairy Stories," in *Tree and Leaf* (New York: Harper Collins, 1964).

[34] A. N. Prior, *Objects of Thought* (Oxford: Oxford University Press, 1971), 130.

In the case (a) of X thinking about an actual cat Y, hylomorphism would confirm that there is a relation of intentionality; in the case (b) of X thinking of a nonexistent talking cat Y, there is also a relation: a relation between X and the mental object Y which is composed out of fragments of other concepts and images shored from reality and stored in the imagination; so (c) can be considered true on the part of the thinking subject X, though the Y in each case is a different kind of thing – one a physical being in the world, the a mental image in the imagination.

Thus I would solve Prior's puzzle by denying premise (b). There is a relation when X thinks of Y even when Y doesn't exist, but it is a relation to what might be called a second-order image, one composed of images extracted from the real world. I would also clarify Prior's premise (c) by saying that, though thinking of an unreal object is still thinking and still intentional, it should be distinguished, as I have done above, from direct perception, from a memory of a direct perception, and also from thinking about a universal concept.

Conclusion

By first placing intentionality within the context of hylomorphic natural substances, we have seen how it need not be a purely mental, as opposed to physical, reality, but one that proceeds from the substance as a whole – in the case of the human being, the composite of both body and mind. Intentionality, and indeed mental life itself, is not a ghost in a machine as a dualist would have it, nor is it merely a machine as a materialist would have it, but rather a type of life that matter can truly participate in without necessarily comprehending in a reductive way.

The place where this is seen most clearly is in the bodily organs of sensation and understanding. Here, where body and soul most glaringly operate as one, we can find a comprehensible way in which to understand hallucinations as defects or manipulations of the brain, but always caused by an external stimulus in some way, as well as unreal mental objects as residing in the imagination but always having their intentional roots in the senses.

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