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Middle-sized Objects, Hylomorphism and Transubstantiation*

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Abstract. The fundamental philosophical problem with transubstantiation, is to give a plausible account of the concept of substance that it deploys. Aquinas admits that Aristotle's concept of substance does not naturally fit the role (ST III 75 art. 4) and neither does a modern 'chemical' concept. I argue that emphasis on the teleological nature, from a Divine perspective, can solve these problems, without falling into the unorthodoxy for which 'transignification', as found in Rahner and Schillabeeckx, has been condemned. It also liberates the doctrine from a theory of natural objects, which credits physical nature with the possession and transmission of teleology, and replaces it with one that makes teleology in the physical world the product of God's design, not part of a natural scientific hierarchy.

Keywords: substance, teleology, travelling forms, transignification.

Contribution. The author has published extensively on the philosophy of mind, including as it relates to the status of the special sciences. See his monogarph *From the Knowledge Argument to Mental Substance* (Cambridge University Press, 2016), especially chapters 9; ‚Reductionism and the status of the special sciences, and chapter 11; ‚Composite objects, the special sciences, conceptualism and realism'. He has

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also published on the relevance of Aristotle's hylomorphic philosophy of nature to modern science: for example 'Modern hylomorphism and the reality and causal power of structure; a skeptical investigation.', *Res Philosophica* vol. 91, 2014, 203–14; 'Aristotelian dualism, good; Aristotelian hylomorphism, bad', in *Encounters with Aristotle's Philosophy of Mind,* edited by Jakob Fink and Pavel Gregoric, Routledge, 2021, 283–306, and 'Appendix: Howard Robinson and Christopher Shields on the merits of hylomorphism', 325–330.

Use of AI. I made no use of AI.

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Introduction of the problem

Within what conceptual framework should one try to understand the doctrine of the real and substantial presence of Christ in the Eucharist? There is no question that the bread and wine are middle sized goods, and so are the people who will consume what they have become after the consecration. What they have become is, according to Catholic doctrine, the body and blood of Jesus Christ, substantially but also sacramentally, and not just the flesh and blood, but the whole incarnate person (ST. 3, 76, art. 3). The elements still look and taste like bread and wine, but, though these accidents remain, the substance has changed. It is not just the superficial accidents that remain, but also those of the minute parts. On the science of either Aristotle or Thomas, the smaller fragments are essentially of the same sort, for there are only the four elements to constitute anything. On a modern theory there are particles of different sorts at different levels of constitution. They must all retain their accidents. This leads the British Catholic analytic philosopher Michael Dummett to think that the Thomist distinction of substance and accidents, if the accidents 'go all the way down', and yet no flesh and blood properties show up upon scientific investigation, leads to a degenerate concept of substance, rather like Lockean substratum, according to which it becomes detached from scrutable properties at all levels – not just from superficial ones. In fact it is worse than Locke's substratum, because, at the same time as being

distinct from all its properties, it is nevertheless a substance of a definite kind, namely the body and blood of Jesus.

It might be replied that Aristotelians do not treat the accidents as just the superficial and gross properties: however minutely you divide the bread and wine, there are still accidents. Nevertheless, they are still of the same sort, for the elements with which everyone is familiar – earth, fire, air and water – manifest the same properties however far you divide them. They are just homogenous stuffs, not a hierarchy of different kinds of entity, as is the case with modern atomic structures. As we will see later on it is hard to square the idea that all discoverable properties count as accidents with a natural reading of Aristotle. It also makes it more difficult to see a role for substantial form in the way empirical reality operates.

With these worries in mind, I shall begin by looking at some of the most influential ways that Catholic analytical philosophers have attempted to defend hylomorphism.

1. Substantial forms as entities without top-down causal influence: Oderberg and Koons

Robert Koons claims that:

> if we want a non-dualistic anthropology and a Catholic account of the Eucharist, we need an Aristotelian philosophy of nature. So, hylomorphism seems to be non-negotiable for Catholics. (Koons, 2022, 5)

This is something that I want to investigate, and challenge, at least as it is understood by most of its defenders. David Oderberg , for example, says the following:

> Our concern is with form's work as the unifier of an organism— an individual living substance. The first thing that needs to be appreciated is that this is not strictly a scientific but a metaphysical matter. Form is not a scientific postulate but a metaphysical one. One way of thinking of it as an organising principle , where by 'principle' I mean, as the scholastic philosophers did in this context,

> a real, objective cause of something's being the kind of thing it is, what Aristotelians call a 'formal cause'. Not every cause is efficient, on this picture of reality: form as organising principle is a cause in the sense of being metaphysically responsible for something's having a certain nature. As such, form— the formal cause— is not the sort of thing a biologist or any other natural scientist could ever discover. What they discover are the kinds of things there are, to be sure, but they do not discover that form is responsible for the essential unity of any kind of thing, either as a kind or as an instance of a kind.
> Biologists have not and could not discover the existence of form any more than a physicist could discover, or ever did discover, the existence of matter. It is through properly philosophical reflection that we know such things must exist. Without going into detail here, matter is known to us as the metaphysical principle of change and potentiality. What we, either as ordinary observers or scientists, know are the particular material objects that exist. What we know philosophically is that that they have something in common that is the permanent substrate, to put it tendentiously, of their change and powers. So matter, as understood in purely metaphysical terms, is not the everyday matter we bump into when we interact with different kinds of thing. It is a metaphysical posit without which, claims the Aristotelian, insoluble philosophical problems arise, and which underlies the everyday matter of our common experience. The same goes for form. We know philosophically that substances have something in common that is responsible for their unity and specificity, but we know through observation, whether ordinary or scientific, the particular forms of substances that exist (Oderberg 2018, 215).

Gregory Vlastos says something which seems to be in agreement with Oderberg:

> … Aristotle speaks of his four aitiai as "all the ways of stating to *dia ti* [the because]:" Aristotle's so-called four causes are his four "becauses" (Vlastos 1973, 79).

This used generally to be taken as showing that there is no competition between Aristotle's formal and final causes and the notion of efficient cause as might be found in modern science; they just do different jobs. In this way, closure under physics and the idea that there are formal, hylomorphic explanations of how things work are taken as reconciled.

I think that this is mistaken.

The question that needs to be asked is whether Aristotle (or other hylomorphists, such as Aquinas) believed that one could, in principle, explain the distribution of matter and its motion by appeal to anything less than the four causes. The two rival hypotheses are:

(a) The mere distribution and motion of matter (or material objects) could, in principle, be explained solely from the efficient and perhaps the material causes, but other vital forms of explanation – other kinds of "why" questions – need appeal to the formal and final causes.

(b) All four causes need to be invoked to explain the distribution and motion of matter; none are sufficient alone.

I think it is plain that traditional hylomorphists believed (b). It is because the cycle of water drawn from the earth and falling as rain has a mechanical explanation, that no formal nor final cause is needed to explain this, even though it serves an essential purpose; and it is because the spine could not be formed by the mechanical breaking of a single long bone in the uterus that form must be invoked to explain how there come to be vertebrae. In that sense, they all contribute to what we would now think of as efficient causation – or just 'causation' (This argument is carried further in Robinson (2021)).

So the suggestion that, if hylomorphism were correct, a biologist would not need to postulate substantial forms to explain how things are organized is false. The concept of substantial form is not a 'place holder', in the way that prime matter might be held to be. How can something be a 'unifier' in any substantial sense if the parts would work together in just the same way without it? And if they would not work together without such a form, the biologist would have reason to postulate it.

In fact, the idea that all observable properties, including those revealed only by scientific investigation, count as 'accidents', does not seem to chime with natural reading of Aristotle, according to which some properties are accidental, some *propria* and some essential. Assuming that it is not intended that essential properties are undiscoverable, the attempt to treat all as accidents seems strange – indeed, deeming all properties *qua* properties as being on the same level seems more like Locke than

Aristotle. Perhaps the thought is that though the properties essential to being an *F* are necessary to being an *F,* they are never, even all together, sufficient: they must be the result of the presence of a substantial form, though, according to Koons on quantum theory (see below) it is logically possible that they should occur without that origin.

Robert Koons has argued in a way that has similar consequences when using hylomorphism to solve the 'many worlds problem' which Schroedinger's equation generates, especially under the Everettian interpretation. Every time there is a quantum indeterminate event – and there are uncountably many every second – the whole universe splits. Various strategies have been developed to retain one continuing universe as the 'real' one, and the rest as somehow not significant. Koons's solution, developing a line from Pruss (2019) is that the substantial forms all follow the same path, so that there is only one world that has the 'real' objects. This is the 'traveling forms' theory, as they nip across worlds as they split.

> On my traveling forms interpretation, in contrast, all branches but one are occupied by pluralities of particles that fail to compose anything at all . We might call these pluralities of fundamental quantum particles "compositional zombies." Although they have, from the microphysical perspective, everything that is needed for the potential existence of macroscopic objects (stars, planets, organisms, macro-molecules), no actual composite entities correspond to these branches. They are occupied wholly be compositional zombies (Koons 2018, 97).

It seems that, on this theory, in every world but one, all the minute properties of all the things corresponding to those that have substantial forms in the privileged world are organized in the just the same way as their counterparts in the actual world. It does not seem to me to help to say that there are no atomic *objects* in such worlds, only accidental properties, and no real *behaviour* because no real *powers*, given that they are in motion *as if* substantial forms and real powers were animating them. These other worlds are just like the mosaic world that a Humean or Lewisian believes in.

The use of the word 'zombie' is misleading. It is used in the philosophy of mind to signify creatures physically just like humans, but lacking in

consciousness. Strictly, it assumes epiphenomenalism, because the idea is that, in the absence of consciousness, behaviour would not differ, but the lack of consciousness is a vital empirical difference, whether epiphenomenal or not. In the case of non-conscious creatures, such as plants and trees, if in the non-privileged world they behave just as they do in our world, it is opaque what 'zombie' can really signify, for it does not signify the absence of anything that makes any difference to either the mental or physical properties of the object. To make the use of 'zombie' more peculiar, Koons says that 'the travelling forms version is not committed to anything like substance dualism: it is consistent with the supervenience of the mental on the physical, so long as the physical includes facts about which particles compose larger physical wholes.' (97) He explains this as meaning that the mental supervenes on the physical, in that world in which the 'travelling forms' are present. I do not think that he notices that this commits him to epiphenomenalism, because in the other worlds everything exemplifies the same apparent physical properties as in the world of the forms, so the presence of the mental in the latter makes no behavioural contribution. Even if Koons makes an exception of mental states when it comes to the macroscopic supervening on the micro, the redundancy of substantial forms will apply to all organic life without consciousness.

It is, in general, very strange to have forms the presence of which have no causal impact. Aristotle's theory of causation in the Physics is that the general process of causation is of the transmission of form from one object to another, and this is what makes empirical, that is physical, differences. The idea that the presence or absence of substantial form makes no empirical difference – just a 'metaphysical' one – seems to me to be wholly non-Aristotelian – and non-Thomist – as a general account of hylomorphism.

A very different theory designed to give priority to the macroscopic is proposed by William Simpson.

> An alternative solution to the troublesome measurement problem of quantum mechanics is available, however, which offers a different model of the

> quantum dynamics that is derived from the theory of open quantum systems. This model drops the assumption that the temporal development of every microscopic system in nature is causally closed under exactly the same microscopic dynamics. According to 'CWC theory' (contextual wave function collapse theory), which was recently proposed by the physicist Barbara Drossel and the cosmologist George Ellis, quantum systems are causally open to their 'classical' environments. It is the interaction of a quantum system with the intrinsic heat bath of a finite-temperature, macroscopic system within its environment that causes the collapse of its wave function.
> Like GRW theory, CWC theory seizes the first horn of Bell's dilemma, allowing the wave function of a microscopic system to collapse. Unlike GRW theory, however, the stochastic corrections that collapse the wave function depend upon the *macroscopic context* of the system. In short, the CWC model incorporates a feedback loop – from a particle, via the intrinsic heat bath of the measuring device, back to the particle – which introduces non-linear terms in the Schrödinger equation governing the evolution of the system that are specific to the system's context. CWC theory thus avoids introducing an ad hoc collapse mechanism into quantum mechanics in order to explain the localisation of the wave function, since these extra terms can be accounted for in terms of thermodynamics and solid-state physics.
> (Simpson ch.3)

An apparent problem with this theory that it seems to treat the quantum world and its environment as being of different ontological kinds, but the environment is presumably constituted by the just the same sort of micro entities as the quanta it surrounds. This is where the radical hylomorphist proposal comes in, which is that, just as the macroscopic object's properties are a function of its constitution, also the properties of the microscopic parts are influenced by the nature of the substance of which they are parts.

> In the first place, microphysicalism is averted because the microscopic powers of the substance must be *grounded* in the substance as a whole at every moment. The only primary powers which matter may be said to possess, independently of any substance, are powers to be determined in different ways within different substances. Any secondary powers which a parcel of matter

> may possess, in virtue of being an actual, integral part of a substance, are determined by the substantial form of the substance….
>
> Koons's hylomorphism thus introduces a synchronic, top-down dependency relation between a whole and its integral parts, in which the whole is said to 'instrumentalise' its parts. This seems to be the correct direction for this dependency: if the powers of the whole were synchronically grounded in the powers of its proper parts, then the whole could not be said to act upon its parts without falling into a vicious causal circularity, leading us back into the arms of the microphysicalist. For Koons, the proper parts of a substance can have no independent and determinate synchronic powers.

This means that a water molecule, for example, when integrated in an oak tree would not behave simply in a way that a chemist who had studied water molecules in a laboratory would have expected; and if the 'same' molecule should later find itself part of an elephant, its properties would vary again. Presumably the varieties of behaviour, though 'strongly emergent', would in some sense be 'water-appropriate', not completely alien from what the chemist would expect, however that idea might be managed.

This is a bold empirical claim which I am not in a position to evaluate, though it is worth noting that Koons and Simpson think that it is a consequence of giving hylomorphism a natural scientific content. Instead I shall look briefly at some recent radical attempts to restate transubstantiation in ways that seem to distance it radically from Aristotelianism, then state my own attempt to defend it within a revised Aristotelian framework.

2. Accounts of the real presence that seem to avoid the concept of substance

In the light of the problems posed by physical science, Edward Schillebeeckx and Karl Rahner proposed in the 1950s and '60s the doctrine of transignification (Schillebeeckx 1968; Rahner 1978). Schillebeeckx spe-

cifically emphasized that this meant a move away from stating the doctrine in terms of the category of substance, as it had 'traditionally' been.

The philosophical influence behind transignification was Heidegger, for whom, it seems, everything is what it is because of our attitude towards, and employment of, it, which threatens the objectivity of the 'real presence'.

Dummett also took up this line of thought, but making certain vital reservations. Dummett makes two modifications. First, change of significance is only true of certain kinds of things: coins are coins – that is, legal tender – only because of our attitude, but natural substances are what they are irrespective of us. It is nonsense, in other words, to treat everything as if it were an artifact, social or otherwise. There are only certain kinds of thing that we are free to deem to be such and such. Second, in the case of the Eucharist, it is not on our say-so that we can deem the bread and wine to be the Body and Blood, but on God's. Human conventions exist whether or not God does, so to speak, but this deeming is correct only if there is a God and He has sanctioned this attitude. Dummett compares this to the adoption of a child: an adopted child is not a natural one, but, if the adoption is effected by the appropriate authority, the adopted child has all the legal standing of a natural one. So, on God's say-so, we can deem the bread and wine to be the body and blood. Nevertheless, Dummett, like Schillebeeckx, seems to shy away from the use of the category of substance (Dummett 1987).

But shying away from the category of substance has not met with approval. *Mysterium Fidei* (1965) says the following.

> …it is not permissible…to concentrate on the notion of sacramental sign as if the symbolism – which no one will deny is certainly present in the Most Blessed Eucharist – fully expressed and exhausted the manner of Christ's presence in this sacrament: or to discuss the mystery of transubstantiation without mentioning what the Council of Trent had to say about the marvelous conversion of the whole substance of the bread into the body and the whole substance of the wine into the blood of Christ, as if they involved nothing more than "transignification", or "transfinalization", as they call it…

> As a result of transubstantiation, the species of bread and wine undoubtedly take on a new signification and a new finality…but they take on this new signification, this new finality, precisely because they take on a new "reality" that can rightly be called ontological.

In my opinion, Schillebeeckx's mistake comes, not in making much of the ideas of transignification or transfinalisation, but in claiming that this is a departure from interpreting the real presence in terms of substance, and hence of ontology.

As I have said Dummett noticed that an important point here is whether the signification in question is significance for us, as the official criticism seems to suggest, by its use of the term 'symbolism', or whether it is its objective significance, which I take to be a matter of teleology which is essentially independent of our interpretation or understanding – even if it exists in order that we might understand it. Which Schillebeeckx meant and whether he was clear on this, I have not the knowledge to say, though the Heideggerian background suggests the worst. All that is important for my current purposes is to emphasize that I am taking it in the objective teleological sense and hope thereby to tie it to the Aristotelian notion of substance.

3. Teleology as the mark of substance

The use of the term 'accident' in the claim that only the accidents remain suggest that the essential properties change, but Michael Dummett's worry shows how difficult it is to give content to this idea. If the properties remain 'all the way down', then surely this must include the essential properties, if there are such. The only way round this difficulty that I can see would be to deem all properties accidents in the absence of the appropriate substantial form, whereas some are essential if accompanied by and derived from a substantial form. This seems a very contrived device.

My claim will be that only by emphasizing the teleological aspect of Aristotle's concept of substance can one reconcile Aristotle with modern science, and reconcile transignification with transubstantiation.

For Aristotle, an individual physical thing possesses features corresponding to each of the four causes. It essentially possesses a material nature, a formal nature, it possesses efficient causal properties and has a final causal nature. The final cause is vital, for substances are generally defined by their ends or purposes.

Modern understandings of substance, even from analytic Aristotelians, generally want to play down or exclude this teleological element. David Wiggins, a modern Aristotelian on issues of identity and substance, for example, says that "it would have been both possible and advantageous for Aristotle to distance [his account of substance] from his concern with final causes…". (Wiggins 2001, 80) The concern with teleology is presumably thought to be too closely connected with Aristotle's theology, or the idea that it is divine design or intelligence that gives objects their essential nature. But the rejection of function forces Wiggins into what is, from him, an unexpectedly reductive view of biology and life. Living things are

> …so constituted that a delicate self-regulating balance of serially linked enzyme degradative and synthesizing chemical reactions enables them to renew themselves on the molecular level at the expense of their surroundings, such renewal taking place under a law-determined variety of conditions in a determinate pattern of growth and development towards, and/or persistence in, some particular form (Wiggins 2001, 80).

In other words, biological life is entirely about maintaining existence by chemical interchange with the environment. It is not clear how behaviours other than immediate feeding and breathing fit into this model. The teleology of hunting for food or breeding do not seem to fit.

Final causation is free from the need to deny physical closure provided that the mechanism is designed for a purpose by an intelligence: no-one thinks that a clock lacks a telos even though it is an entirely mechanical device, because the mechanism has been devised and constructed by an intelligence just for a certain purpose.

Within this framework, 'transignification' means that the substance of the elements, as defined by their final causal nature, has changed from

being – having the function of – bread and wine, to having a different function, which might be expressed as the perpetuation of the Incarnation in the spiritual transformation of the Christian; as it were, the early stages of his divinization. This is not just a symbolic thing, but a transformative and, in a sense, miraculous process.

It is important to emphasize that this is not a form of consubstantiation. One reader has suggested that my theory is a form of consubstantiation, because it preserves both substances, the bread and wine preserving their full nature and also having, by divinely ordained teleological identity, the nature of `Christ's body and blood. But this is a failure to take on board the force and significance of my account of what substance is. The more standard Aristotelian view treats it as a kind of constituent of the object, but my theory is that constitution of physical objects can be treated in a more atomistic manner. The paradigmatic cases for substance are artefacts, whose nature comes from the purpose of their creator, though their workings are explained from the interaction of their parts. Clocks require a designer with a particular intention, but their working does not require his moment by moment oversight or interference – though, of course, in God's case, He is necessary to sustain it in existence. My theory is similar. In so far as there are substances independently of our purposes, they are what they are from God's design or intention in creating them. If the role of something is changed by divine intervention, then what it is for, and hence what it substantially is, is changed. The fact that its accidents continue to have their same consequences is irrelevant to their substantial identity. This parallels quite closely the way that Koons's theory of 'many worlds' allows those worlds without substantial forms to copy the behavioural properties of the world that does have the forms. It is not an accident that the elements, once consecrated, must never be returned to the purpose of ordinary food, but must be consumed in a sacramental context, for to treat them as physical food would be to use them against their nature.

This approach to substance can be generalized from a theistic perspective. The substantial nature of a thing derives from God's purpose for it, and this is independent of whether its working involves top-down influ-

ence of some substantial form, as it is expressed in Aristotle's pre-Christian philosophy of nature, or rests in the purpose of the Divine creator, along the model of the eighteenth century argument from design. It is not an accident that, though, for Aristotle, artefacts are not real substances, they are often cited to illustrate the idea, because their teleology is more blatant than for natural creatures. If God changes the function of something in his plan, then it becomes a substantially new entity, whether or not its manifest physical properties change. This makes a significant difference to the status of middle-sized objects as substances. From the point of view of religiously neutral metaphysics of nature, the fundamental physical entities are those of the physical micro-structure; for a theological metaphysics, the fundamental entities are those that encapsulate most directly Divine purpose: the fundamental micro-structures are just the machinery that implements these purposes, as the workings of a watch realise its function of telling the time. So for theological purposes, the epistemologically fundamental macroscopic world is metaphysically fundamental, but not for a straightforward philosophy of nature.

4. A worry and a solution

Maybe there is the following worry about this use of the teleology of substance. Changing the function of something seems, in a way, external to it, but substantial presence is more intimate. Can my account accommodate this?

My answer to this is as follows.

The second person on the Trinity took on a human body and soul. Through that body he acted, mostly according to the ordinary physical laws, but also miraculously, in and upon the world in which he lived. He did this, according to orthodox doctrine, without leaving the Father's side. In His incarnation, He took on and acted in a human body and soul because that was how we, as embodied creatures, could best know and respond to him, and how he could be the agent of our redemption. In the Eucharist he acts through the consecrated elements in a way sacramentally analogous to the way he interacted with us in his body, to miracu-

lously incorporate us, over time and in the Christian life, into the family of the Trinity, as his brothers and sisters.

This account of transubstantiation makes no use of Aristotle's hylomorphism as a general philosophy of nature. Perhaps it is not incompatible with such a philosophy of nature and science, but not merely does it not need it, it is not subject to the objection, made by Wycliffe and I think most if not all secular Aristotelian scholars, that an Aristotelian substance cannot transform itself into another kind of substance in the way a traditional way of expressing the doctrine requires.

5. Hylomorphism, Catholicism and the philosophy of mind

I quoted Koons as saying that hylomorphism was essential to Catholicism for at least two reasons:

> if we want a non-dualistic anthropology and a Catholic account of the Eucharist, we need an Aristotelian philosophy of nature. So, hylomorphism seems to be non-negotiable for Catholics (Koons 2022, 5).

The idea that the mind can only be understood in a way acceptable to Catholicism within an Aristotelian framework seems to me to be wrong in a variety of ways.

A major motivation for hylomorphism is that the alternative is Cartesian dualism and that this is inconsistent with Catholic doctrine. Koons, for example, argues as follows.

> If nature is not hylomorphic, then the human body consists of a large number of elementary particles arranged accidentally in space. The human soul cannot be responsible for the existence or character of these particles, since they are not (in this epoch) capable of generation, corruption, or intrinsic alteration. Consequently, the human soul cannot be the " formal " cause of the body. So, what can the relationship be between soul and body? It must be something like efficient causation only—the soul is merely a motor that moves particles in some extra-physical manner. If so, the body is extrinsic to the soul, and thus the human being consists entirely of the soul alone, with

> the body as an accidental accoutrement. Abandoning hylomorphism means falling into Cartesian dualism and angelism (Koons 2022, 5).

First, the Cartesian position is not equivalent to 'angelism', for Cartesians, unlike Platonists, agree that the human being is incomplete without a body, for it is essential to the realization of some important human capacities. But it is unclear in what sense an Aristotelian or Thomist avoids dualism. The intellect is immaterial and the rationale of thought is entirely separate from that of physical causation – what John McDowell distinguishes as 'the realm of reason' and 'the space of causes'. The process of thinking must somehow interact with the brain and body. Given that, according to Thomists, the intellect is the human soul, it is difficult to see how this view differs very greatly from Descartes' theory, except in jargon. Furthermore, Aristotle's philosophy of conscious experience fails to make serious contact with the privacy of the mental, as demonstrated in, for example, what has been called 'the knowledge argument'. If the immateriality of this aspect of mentality is added to that of intellect, the parallel with the Cartesian tradition becomes even stronger.

6. Does hylomorphism as it seems now to be understood, really make sense?

Although I have been arguing that hylomorphism does not seem to me to be very plausible, that has not been my main purpose, which is that, contrary to Koons's claim, Catholic doctrine does not require it. Moving the paradigm of substances from the organic to the artefactual, but with God as the designer and creator allows for a perfectly suitable theologically based theory of substance which fits the sacramental nature of transubstantiation.

In what is, perhaps, a provocative suggestion, I am tempted to go further and suggest that the Cartesian account of nature makes more sense of transubstantiation than does the Aristotelian. Substantial change of this kind cannot happen naturally, but requires a miracle. But does it even make sense to suggest that God might transfer the substantial form

of an oak tree into a daffodil, leaving all the properties of the daffodil unchanged to the ordinary or scientific observer? The content of such a transfer seems entirely empty, for there is no more to the nature of an oak tree's supposed substantial form than its physical work. This seems to be a consequence of treating all discernible properties as 'accidents', at least in the absence of the appropriate substantial form. It is not empty in the case of the real and sacramental presence because what is transferred is the reality of a conscious Person who can be present behind the physical accidents to work a transformation in the recipient beyond any physical effect. In other words, it is not the doctrine of substantial form, which is just part of Aristotle's pre-Christian philosophy of nature, which does not require God to bring teleology into the system, that sustains the miracle of the altar, but the fact that that there are immaterial agents involved.

Conclusion

I have argued that there is a perfectly good theological, teleological account of what makes something a substance and that this fits the doctrine of transubstantiation more plausibly than anything that relies on Aristotle's hylomorphic theory of nature. An orthodox Catholic Christian has no more reason to hang on to Aristotle's philosophy of nature than to defend a geocentric theory of the solar system, from a scientific point of view. In terms of God's purposes, maybe we are the centre, but that does not give us any reason to hang on to hylomorphism as a foundation of natural science, or doctrine.

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