

The Eucharist according to gunk-relational ontology

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Die rationale Erklärung der Eucharistie steht im Zentrum einer neu belebten Debatte innerhalb der philosophischen Theologie. Nach einer Erläuterung des Konzeptes der „Gunk-relational Ontology“ wird gezeigt, inwiefern dieser neue Ansatz ein Verständnis der Transsubstantiation erlaubt, dass sich von anderen traditionellen und zeitgenössischen Zugängen unterscheidet – deren konstruktive Momente teilweise aufgenommen, aber in einer neuen Weise systematisiert werden. Gemäß dem Denkschema der „Gunk-relational Ontology“ besteht jede Substanz aus ihren eigenen Beziehungen, die wiederum ein „gunky“ Fundament aller Realität konstituieren. Die liturgische Zelebration der Eucharistie schafft für das Brot eine neue beziehungsmaßige Situation, so dass dessen Substanz durch ein rekonfiguriertes Beziehungsgeflecht seiner Natur nach gewandelt wird.

1. The Eucharist and theological creativity

The possibility of rationally explaining dogmatic doctrines regarding the Eucharist is currently at the center of a revived debate in philosophical theology, raising questions such as: Do we have a rational description of the Eucharistic mystery? What kind of metaphysics is best suited to explain it? Some current scholars start from the assumption that past attempts have left many dilemmas open. Arcadi argues¹ that dogmatic definitions define the bounds of orthodoxy while leaving space for theological creativity when we try to give a rational explanation of those dilemmas. This creativity could be understood as a new interaction between philosophy and theology, and in what follows, I try to put this creativity into practice by applying some recent ontological speculations to the Eucharistic mystery.

In particular, two trends of contemporary ontology help us understand this mystery: “relational ontology” and the lesser-known “gunk ontology”. Although the combination (“gunk-relational”) of these two ontologies may look more like a research program than a complete model, I hope to persuade the reader that it is a path worth exploring. This article is therefore “experimental” because so is gunk-relational ontology, and – assuming it is a plausible model – its application to theological questions remains an ongoing process.

In the first part of the paper, I define several metaphysical-theological problems concerning the Eucharist (§ 1) before briefly identifying a few “solutions” that have been proposed in past and recent times (§ 3 and 4), and which ones should be saved (§ 5). I then outline the fundamental features of gunk-relational ontology (§ 6) and their implications regarding

¹ Cf. *James Arcadi, An Incarnational Model of the Eucharist. Current Issues in Theology*, Cambridge 2018, 146.

God's omnipresence and "special presence", as well as the "real presence" of Christ in the Eucharist (§ 7). In the last part, I summarize the advantages of applying gunk-relational ontology to the mystery of the Eucharist, and in particular to transubstantiation (§ 8).

2. Defining problems and perspectives

The Eucharist raises numerous metaphysical questions. The churches teach us that by eating the bread, the faithful are truly joined with Christ: But how does the body of Christ enter the bread? How is it possible for a body to occupy the same space as another body? If the body of Christ is present in the innumerable pieces of bread, does it become an infinitely large sum of extended pieces? How can Christ be in heaven and on earth at the same time? How can the faithful be united with Christ through the Eucharist? How can the body of Christ (taken up into heaven and therefore immutable) be digested? And how does the event of Calvary become present in the Eucharistic celebration?²

Given the extent of the topic³, it is essential to narrow the scope of the paper. Many Christians believe in *transubstantiation*, the doctrine according to which bread and wine are changed into Jesus's body. Transubstantiation implies the *real absence* of the substances of the bread/wine and the *real presence* of Jesus' body, i. e. the fact that Jesus is really and substantially present in the Eucharist. Many others believe in *double presence* or *consubstantiation*: The substance of bread and wine is present along with the substance of the body of Christ. A kind of *via media* is that of *impanation*, in which the body of Christ is hypostatically united with the substance of the bread. Since I cannot summarise here this centuries-old debate⁴, I assume that transubstantiation is the orthodox framework, within which I plan to find a metaphysical explanation for *real presence* and *real absence*.

Real absence means that the absolute whole-being conversion corresponds to an annihilation: the bread substance is removed from the altar. There is probably no definite philosophical reason for preferring transubstantiation described in this form. However, at least according to Aquinas and the Catholic tradition, *real absence* is important to prevent the Eucharistic veneration from turning into idolatry (worshipping the bread).⁵ Of course, consubstantiation or impanation might be more philosophically defensible, but what I aim to do here is to provide a metaphysical description of the Catholic dogma. In particular, regarding the various questions connected with transubstantiation, the article tries to answer only a few specific ones:

² Cf. Pavel Butakov, The Eucharistic Conquest of Time, in: FaPh 34/3 (2017) 247–271. The various solutions provided so far (based on time travel or on the eternity of the Calvary event) still seem insufficient to Butakov, who believes that philosophers and theologians should pursue other explanatory strategies.

³ Cf. James Arcadi, Recent Philosophical Work on the Eucharist, in: Philosophy Compass 11/7 (2016) 402–412.

⁴ Cf. id., On the Intelligibility of Eucharistic Doctrine(s) in Analytic Theology, in: id.; J. Turner (Eds.), T&T Clark Handbook of Analytic Theology, New York 2022, 463–476; Simon Hewitt, Elucidating the Eucharist, in: International Journal of Philosophy and Theology 8/3 (2019) 272–286.

⁵ Cf. Marilyn McCord Adams, Some Later Medieval Theories of the Eucharist: Thomas Aquinas, Giles of Rome, Duns Scotus, and William Ockham, Oxford 2010.

- (A) How is it possible for a substance to become another substance while keeping the visible attributes unchanged?
- (B) How can the substance of the body be present in multiple places (*multilocation*) at the same time?
- (C) How does the “generic presence” of God in the world differ from the “special presence” of God in specific places, and from the “real presence” of God in the Eucharist?

Now that we have addressed specific contents, let us consider the *method*. Pruss proposes⁶ three solutions to the Eucharist’s aporias regarding the presence of Jesus’s body in the bread: (a) take it on faith that there is no contradiction, although we have no rational evidence to support this position; (b) find analogies that show that there is a clear contradiction; (c) speculate on how God might make transubstantiation possible. Despite the merits of (a) and (b), my aim here is to develop (c), which, in my opinion, underpins (a); as for (b), I believe that analogies can be problematic⁷. One might say that there is nothing new to my choice: after all, medieval scholasticism is also entirely focused on (c).

3. Traditional solutions

A crucial question raised by the doctrine of transubstantiation is (A): How can the accidents of bread and wine persist if the underlying substance has changed (i. e. if it has been replaced with Jesus’ substance), given that the accidents belong to a certain substance? The problem was famously addressed by Aquinas, who supported the doctrine of transubstantiation:⁸ what allows for the subsistence of the attributes of bread, even if the substance of the bread is replaced by that of Jesus, is *quantity* – a category which, although it is not a substance as such, acts in a certain phase as a substance for the attributes.

In Aquinas’ account of transubstantiation – in McCord Adam’s authoritative interpretation – Jesus’ substance (understood as the substance of his body, which exists in an extended, situated, quantified, and qualified form in heaven after the resurrection) is present in the Eucharist without its dimensive quantity, its extension, since Jesus’ substance relies on the categorical quantity of bread (God holds the quantity of the bread into existence so that the quantity of bread can function as a substance for the other accidents of the bread).

Likewise, the bread’s attributes are the visible ones, while “Christ’s bodily accidents are there on the altar only in the sense of being united to what is under the bread species in the mode of substance”⁹. In this way,

⁶ Cf. *Alexander Pruss*, *The Eucharist: Real Presence and Real Absence*, in: T. Flint; M. Rea (Eds.), *Oxford Handbook of Philosophical Theology*, Oxford 2009, 512–537.

⁷ Cf. also *Fergus Kerr*, *Transubstantiation After Wittgenstein*, in: *MoTh* 15/2 (1999) 115–130.

⁸ Cf. *McCord Adams*, *Some Later Medieval Theories of the Eucharist* (see fn. 5); *John Slotemaker*, *Ontology, Theology and the Eucharist: Thomas Aquinas and William of Ockham*, in: *The Saint Anselm Journal* 9/2 (2014), in: <https://www.anselm.edu/sites/default/files/Documents/Institute%20of%20SA%20Studies/Ontology%20Theology%20and%20the%20Eucharist%20-%20Thomas%20Aquinas%20and%20William%20of%20Ockham.pdf> [accessed on 07.07.2023].

⁹ *McCord Adams*, *Some Later Medieval Theories of the Eucharist* (see fn. 5), 98.

“transubstantiation does not strip the Body of Christ of its accidents [...]. [T]he substance of the Body of Christ is there in the mode of substance, because it is the primary term of transubstantiation, while quantity is there not in its natural quantitative mode but only in the mode of substance.”¹⁰

The “natural quantitative mode” would be the quantity of Jesus’ body. Nevertheless, in the Eucharist, we have Jesus’ substance that is there in the mode of substance, but not in its quantity. The quantity is that of the bread: its substance is gone, but its quantity remains. Thus, God has the power

“to make the Body of Christ to be present in a non-natural way on altars where Eucharistic bread has been consecrated. That is, God can make the Body of Christ to be present in a non-natural way (unextended, without categorial position) in the place where the bread accidents are present in a natural way (extended, with categorial position) at the same time.”¹¹

The quantity of the bread supports its accidents, which are in the bread in a natural way. On the contrary, Jesus’ accidents are there with the substance, but in a non-natural way (unextended, so that they do not manifest themselves).¹² In this way, according to Aquinas, it is possible to avoid violating Aristotelian metaphysics, according to which a body cannot be multi-located because the quantity of Jesus’ body (that is what brings extension and location to a body) is in heaven and not multi-located in every piece of bread.

However, there are at least three problems with this solution: (I) whether quantity can assume the ontological role of substance (i. e. the role of being that in which the other categories inhere); (II) whether quantity can be separated from its substance (and *vice versa*); (III) how can there be an “unqualified quantity”: quantity seems to be a “thisness”, something that should not have accidents because it is the basis of accidents. In other words, Aquinas’ solution seems to “reify” quantities, an operation somewhat problematic in an Aristotelian framework. These problems arose immediately after Aquinas: Ockham refuted the possibility “to reify quantities – that is, to treat them as things distinct from substances and qualities – for philosophical reasons”¹³. He did so because, in his view,

“the quantity of Christ’s Body is just as immediately present to the bread quantity as its substance is; and both the quantity and the substance of Christ’s Body are as immediately present to place as the bread quantity is.”¹⁴

However, if Aquinas violates Aristotelian metaphysics by attributing substantiality to quantity, Ockham accepts *multilocation* (an option excluded by Aquinas), which is an equally serious violation. Ockham and Scotus prefer to state, against Aristotle, that “the

¹⁰ Ibid., 116.

¹¹ Ibid., 121.

¹² Alternatively, one could say that Jesus’ body is present on the altar in its non-natural way, without quantity and therefore without the other accidents of Jesus body, which he has in heaven. The choice depends on whether we believe that, in order for the body of Christ to be present as a body, it must carry at least certain attributes, i. e. whether we can separate all the attributes from the substance without the latter ceasing to be that substance.

¹³ McCord Adams, *Some Later Medieval Theories of the Eucharist* (see fn. 5), 238.

¹⁴ Ibid., 240.

multiple locations of bodies and body parts must be metaphysically possible for Divine power”¹⁵. Here the problem is, again, that Ockham’s (and Scotus’) position, based on multilocation, explains real presence “by appeal to an idea that is equally un-Aristotelian: namely, that bodies can be present to a place without being extended in it”¹⁶. Moreover, these authors “deny that Christ’s Body and Blood are on the altar in the normal and natural way”¹⁷. Another violation of the Aristotelian metaphysics, in Ockham’s account, is the reification of qualities: If the substance of Christ’s body is multi-located (bringing with it the inseparable aspects of quantity and accidents), the accidents of the bread must “subsist in themselves”, i. e. they must be reified and rely on the substance of Christ’s body. In conclusion,

“Theological consensus that the bread substance does not survive transubstantiation drove our authors all to the conclusion that it must not be metaphysically necessary for really extant accidents to exist in a subject, and that independent accidents must be possible by Divine power.”¹⁸

However, this is a way of referring to a highly mysterious divine power: The very presuppositions of Aristotelian metaphysics are missing, and if Aristotelian metaphysics is ruled by reason, then God would violate reason by producing a contradictory situation on the altar.

What we learn from the dispute between Aquinas and Ockham (and Scotus) is that transubstantiation forces us to violate Aristotelian metaphysics. Fidelity to Aristotle is not an obligation. The problem here is the coherence of metaphysics resulting from the violation of fundamental Aristotelian assumptions (i. e. the distinction between the categories of substance, quantity, and quality). The criticism between Aquinas and Ockham (and Scotus) shows that it is difficult for Aristotelian metaphysics to resolve Eucharistic aporias from within its paradigm. In the next section, I will analyze some recent attempts to justify multilocation while trying to show that even these attempts require new metaphysics.

Let us assume that the recent objections to these three medieval authors are justified and that theological perplexities concerning the solutions based on the traditional, Aristotelian notion of substance can be added to those about the notion of substance itself, that is, to Aristotelian-Thomistic metaphysics as commonly understood. For these reasons, instead of introducing *ad hoc* hypotheses to “save” Aristotelian metaphysics (generating aporias in it), I will consider an ontology (a gunk-relational one) that revises the notion of substance, relation, and quality.

However, before turning to this “new” ontology, we might ask whether a solution inspired by *trope theory* – which salvages at least part of the Aristotelian legacy – could help us. In a trope model, the substantiated properties (of the bread and of Jesus) would be *co-present*, and God would only need to make the tropes of bread manifest. However, it seems that trope ontology is not entirely compatible with the doctrine of transubstantiation. Since

¹⁵ Ibid., 241.

¹⁶ Ibid., 239.

¹⁷ Ibid., 239.

¹⁸ Ibid., 245.

God-tropes and bread-tropes would only be present together, the result would be a form of *consubstantiation*. If, on the other hand, tropes were the ontological function of substance, then the tropes of bread should be replaced with those of the body of Christ, and the “classical” problem would emerge again. Of course, if we really need to “reify” an entity, it is better to introduce tropes. However, trope theory forces us to rethink the co-presence between tropes: if they were only “juxtaposed” to each other as in a cluster of reified micro-properties, we would only have a form of consubstantiation, but not transubstantiation. Although there could be some way to fix these problems of trope theory, at present the metaphysical debate has taken different directions.

4. Recent solutions

Process-relational ontology radically criticizes the notion of substance. Briefly, the premise, typical of Whitehead’s process ontology, is that every entity (*actual occasion*) is neither static nor separated from the rest of the world: It is the ongoing synthesis of past experiences (the “many that become one”). In other words, every entity is a process, and substances are an enduring one. All the internally related processes that take place in the world as a whole are due to the process that encompasses and precedes them (although being determined by them). In the process theology – or at least in one of its forms – that derives from this ontology, this process is called *creativity*, which in a sense is the nature of God and all his manifestations (the entities of the world).¹⁹ The world is God’s body, his manifestation, and is like an organism in which every part feels (*prehends*) and is connected with the others.

Cobb tries to explain²⁰ the presence of Jesus in bread and wine from this perspective. In particular, his account of real presence is inspired by Whitehead’s above-mentioned view. Cobb claims that “the philosophy of organism is an account of how past actual entities are effectively immanent in their successors”²¹. The past can be considered present in the “present” at least in a specific sense: it is *causally present* because any actual occasion “takes account of the past realities or, in Whitehead’s language, prehends them”²²; this means that the whole past is causally present to each new occasion. However, Cobb specifies, “it would not be helpful to speak of ‘real presence’ as identical with causal presence in general”²³. On the contrary, “the causal presence of a past noncontiguous occasion is ‘real’

¹⁹ Cf. Donald Viney, Process Theism, in: E. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy*, 2022, in: <https://plato.stanford.edu/entries/process-theism/> [accessed on 07.07.2023]: “Creativity is not a metaphysical agency that produces anything; rather, it is the character of every concrete fact, from the humblest flicker of existence in non-divine actual entities to God”.

²⁰ Cf. John Cobb, The Presence of the Past and the Eucharist, in: <https://www.religion-online.org/article/the-presence-of-the-past-and-the-eucharist/> [accessed on 07.07.2023]; previously published in: *ProcSt* 13/3 (1983) 218–231. I refer to the online version.

²¹ *Ibid.*

²² *Ibid.*

²³ *Ibid.*

when it is *rightly felt* as originating elements of feeling that are important to the becoming occasion”²⁴. The result of the combination of these metaphysical premises is the following:

“If the possibility of unmediated prehension of noncontiguous events is allowed, that category can be applied to Jesus’ presence and can deepen the understanding of the experience of presence.”²⁵

When such a presence is *rightly felt* as important to the becoming occasion, in the Eucharist, “the otherwise diffuse and vague causal presence of Jesus [becomes] vivid, consciously effective, and therefore real”²⁶. This is an important point:

“Without a suitable intention there is no real presence [...]. Although the general causal presence is independent of subjective factors, the real presence is a result of the polar interaction of the *objective and the subjective*. [...] The reenactment of the symbolic repetition of Jesus’ eating with his disciples is the appropriate and adequate way to make Jesus’ presence real.”²⁷

We can say that the real presence is an effect of the generic causal presence of Jesus in a *particular objective relational context*, namely the celebration of the Eucharist, in which the past is specifically and *subjectively* important to the believers.

Taking inspiration from process theism – and in particular from Charles Hartshorne’s notion of divine relativity – Schärfl proposes a model based on a pan-sacramental and cosmo-organic framework:²⁸ If the universe is the body of God, as process theology teaches us, then the body of Christ is “everywhere” (provided that this body be hypostatically united with divine nature). Nevertheless, not everything in this “extended body of Christ” has the same role. Some material objects become the extended embodiment of the glorified human nature of Christ in our world because their types have become an integral cornerstone of the narrative identity of Christ and the participants in the Eucharist. In this process view, the believers’ commitment to the celebration plays, once again, an important role.

In the field of analytic philosophy of religion, in more recent years, Pruss has developed strategy (b) mentioned in the previous section to answer point (B) by claiming²⁹ that a body can have a real presence in multiple places at once. To develop a consistent account of multilocation, he uses the analogy of the “time machine”: if an object travels to the past, once it arrives there, there are “two” copies of the same thing in the same place. By analogy, the body of Jesus could be (by God’s decision) in *multiple locations*, that is in every place where the Eucharist is consecrated.

Similarly, Pickup claims³⁰ that, in the case of the Eucharist, *there are multiple consecrations*, and when the pieces of bread are distributed among the believers, all of the resulting entities are the whole body and blood of Christ. We have, in this case, a *multiple-located*

²⁴ Ibid., italics added.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid., italics added.

²⁸ Cf. Thomas Schärfl, The Eucharistic Experience. Process Theology and Sacramental Theology, in: M. Pugliese; J. Becker (Eds.), Process Thought and Roman Catholicism, Lanham 2022, 147–170.

²⁹ Cf. Alexander Pruss, The Eucharist (see fn. 6), 512–537.

³⁰ Cf. Martin Pickup, Real presence in the Eucharist and Time-Travel, in: RelSt51/3 (2014) 1–11.

Eucharist. This claim, he says, will raise issues of mereology, that is, concerning the relation between parts and wholes: The distributed parts of the bread have parts, and each of these parts is identical with the whole body and blood of Christ. To solve this problem, Pickup also uses Pruss' example of the time machine, but with more interesting implications: Let us imagine that an object travels in the past and that when it is in the past it is also much smaller than in the present; it does so many times and, as a consequence, it is repeated many times in the past. In this way, we can construct in the past an object made of these smaller objects. Here is an example: We can build a wall in the past made of bricks that consist of smaller versions of the wall of the future, which traveled repeatedly through time shrinking itself. The result is a "gunky wall" and, by analogy, we can imagine a "gunky Eucharist". In Pickup's words:

"You would then have an object in which, no matter how closely you looked, you would still find the whole original object. Thus, *if the world is gunky* one can use this as a model for the behaviour of the Eucharist."³¹

Pickup concludes: "Thus it has been proven that, whether the world is gunky or contains simple objects, time-travel can give models [for the Eucharist]"³². I agree with him about the possibility of gunk, but I think that it needs to be disentangled from the model of time travel, whose implicit problem lies with *its logical possibility*. Although this issue cannot be fully addressed here,³³ the very existence of a debate on the "paradoxes of time travel" shows us that using "a time-travel machine" (or a miraculous act of God with the same effect) to solve a theological problem is, at any rate, problematic.³⁴

Here are a few examples of the problems entailed: If I travel to the past, when I arrive there, I inaugurate another future, and therefore the future I come from would disappear: Therefore, my copy in the past would disappear, and I would not be located in either place. Alternatively, I would inaugurate another universe, but multiverses are not present together, as would be required by the multilocation of the Eucharist. Furthermore, if I split myself in such a way as to become the same person but in two different bodies, each of the two bodies, to be entirely me, would need to be both parts at once because after the split "I would be the two bodies". If this argument is correct, none of the copies of the body of Christ could be *wholly* the body of Christ (and this seems to be an important point for the dogma). Considering these difficulties, in the next sections, I propose a "solution" based on a *gunky world without time machines*. This means that the world is *structurally gunky*, not by God's interventions (miracles) or by means of a "time machine". Moreover, as mentioned above, Pruss and Pickup's accounts seem suitable for consubstantiation or impanation, but *not* for transubstantiation.

³¹ Ibid., 8, italics added.

³² Ibid., 8.

³³ Cf. Ryan Wasserman, *Paradoxes of Time Travel*, Oxford 2017.

³⁴ Cf. also Butakov, *The Eucharistic Conquest of Time* (see fn. 2).

Cockayne, Efird, and their co-researchers propose another interesting solution³⁵ by understanding the relation between Christ and the bread as “iconic”. They reject the model of “fundamental localization”, whereby a new substance substitutes the substance of the bread. Their model is inspired by Stump’s view, according to which omnipresence can be explained as a presence in the form of *shared attention*. I cannot dwell on this model, which, while consistent and interesting, is lacking in one fundamental aspect: It can help us explain the “special presence” of Christ in the Eucharist, but not the “real presence” of the *body* of Christ. However, the model can be appreciated insofar as it stresses the importance of a personal relationship between the participants and Jesus – also a central point in my model based on gunk-relational ontology.

Other useful insights can be found in *Arcadi’s panpsychist-panentheistic-incarnational model*,³⁶ according to which our view of the Eucharist is intertwined with our ontology of the cosmos. This ontology, however, is not explicitly laid out by the pronouncements of the Councils, and therefore we are free to combine new ontologies with the Councils’ definition. Arcadi tries to combine various theories, generating a kind of impanation theory: “post-consecration, the consecrated object is both bread and the body of Christ, yet remains unified by being only one object”³⁷, in a kind of hypostatic union (the concept used to explain the Incarnation, i. e. the union of the two natures of Jesus). The first theory that he uses is an *additionalist perspective* on the Incarnation, in which

“the second person of the Trinity merely ‘adds on’ whatever necessary and sufficient features for being human are requisite. In this manner, the second person need not transform into a human and thus cease to be divine. Nor, however, does one need to hold that the second person becomes related to something somehow somewhat independent of the second person. Rather, whatever it is to be a human can be added on to the second person of the Trinity such that this person can properly said to be both divine and human.”³⁸

The second is a *deflationary thesis about panentheism* that simply states that “God exists, the cosmos exists, and the relation between God and the cosmos is sufficiently intimate to warrant the attribution of ‘in’ of the cosmos to God”³⁹. In this manner, in Arcadi’s account of *omnipresence* “God’s causal activity is all that is requisite to get an explanation of omnipresence off the ground”⁴⁰. The third model used by Arcadi is *panpsychism*, whose “basic idea is that mentality is ubiquitous in the cosmos”⁴¹. In sum, “everything is in God because

³⁵ Cf. Joshua Cockayne; David Efird; Gordon Haynes; Daniel Molto; Richard Tamburro; Jack Warman, Experiencing the Real Presence of Christ in the Eucharist, in: *Journal of Analytic Theology* 5 (2017) 175–196.

³⁶ Cf. James Arcadi, A Panpsychist Panentheistic Incarnational Model of the Eucharist, in: G. Brüntrup; B. Göcke; L. Jaskolla (Eds.), *Panentheism and Panpsychism* (Innsbruck Studies in Philosophy of Religion 2), Leiden 2020, 253–271. Leidenhag also claims that *panpsychism* could be useful to achieving a sacramental notion of reality: Joanna Leidenhag, *Minding Creation. Theological Panpsychism and the Doctrine of Creation*, New York 2021; but her model is also too similar to impanation.

³⁷ James Arcadi, A Panpsychist Panentheistic (see fn. 36), 235.

³⁸ *Ibid.*, 239.

³⁹ *Ibid.*, 260.

⁴⁰ *Ibid.*, 261.

⁴¹ *Ibid.*, 262.

God is in everything causally pushing (or, one might say, teleologically pulling) the fundamental mentality or *protomentality* of all objects toward greater complexity⁴². What emerges from this picture, according to Arcadi, is that God can *intensify* divine actions in some places of the creation, and that “this intensity could reach the point at which God even took on the phenomenal experiences of some complex segment of the cosmos as God’s own. This, we might say, would be a divine incarnation”⁴³. More precisely:

“As the ontologically highest entity in which the cosmos is, God has the fundamental right to take ownership of each and every object and identify its phenomenal experiences as God’s own. God does this by *intensifying God’s causal power* exercised at the location of an object. [...] God is present by causal power, and hence God can be more present by causal power.”⁴⁴

This combination of theories can be applied also to the Eucharist:

“The consecrated bread and the wine become instruments or tools of the human nature of Christ. In this manner, as in other instances of bodily extension or prosthesis use, the instruments become parts of the body of Christ and are aptly named as such. [...] God merely needs to conjoin the phenomenality of the consecrated elements to the phenomenality of Christ’s human nature. This fusion of mentality or proto-mentality of seemingly discontinuous objects, then, fuses the objects themselves. When this conjunction is instantiated and a causal connection between Christ and the consecrated elements occurs by means of this conjunction, the liturgical utterance is warranted: this – this bread – is the body of Christ.”⁴⁵

God can intensify his causal (mental) power so that the proto-mentality of some objects (bread and wine) becomes part of God’s mentality, at least in the part of God who is now Christ’s body. In this way, Christ is “more present” in these objects than in other objects of the world.⁴⁶

The issue, as noted by Arcadi, is whether the incorporation of the bread and wine into the body of Christ causes them to cease to be bread and wine. In other words, the risk is for impanation models to collapse into transubstantiation. He concludes, however, that the dispute

“seems intractable and one will simply have to decide whether they will choose the conception of their ancestors, or choose the view of those in whose land they dwell. But as for me and my house, we will choose a version of impanation.”⁴⁷

In my view, the collapse into transubstantiation is a merit of Arcadi’s model. What I find less convincing is his definition of panpsychism: *Protomentality* is a very mysterious term that tries to grasp the nature of fundamental reality using a vague and somewhat mystical concept. This does not mean that the basic intuition of panpsychism is false, but that we

⁴² Ibid., 263, italics added.

⁴³ Ibid., 265.

⁴⁴ Ibid., 265, italics added.

⁴⁵ Ibid., 268.

⁴⁶ I think there are some similarities, here, with Leibniz’s position: see *Daniel Fouke*, *Metaphysics and the Eucharist in the Early Leibniz*, in: *StLeib* 24/2 (1992) 145–159.

⁴⁷ Ibid., 269.

need to make explicit the aporias of this model and integrate them into a more comprehensive one. Gunk-relational ontology tries to do so, as we shall see in § 6.

5. A few achievements

Let us try to list the achievements of the above-mentioned “solutions”:

(1) As noted by many authors, we can have doubts about the metaphysics of substance, heavily used by scholastics, at least with regard to its ability to explain the mystery of the Eucharist.⁴⁸ However, this should not lead us to devalue – using the Heideggerian label of ontotheology – any metaphysical attempt to explain this sacrament, but rather to seek a more suitable metaphysics. Process-relational ontology seems a promising and potentially effective new perspective.

(2) Multilocation is possible and indispensable, at least in a “traditional” ontology (which uses the notion of substance). However, if point (1) is correct, multilocation should be conceptualized within a new metaphysics, excluding problematic theoretical positions that accept the possibility of time travel and defend the existence of substances. As shown by Pickup, gunk ontology appears useful for this purpose, but it should not be entangled with the notion of miraculous time travel.

(3) If the previous points are correct, then any optimal metaphysics should combine process ontology and gunk ontology. The gunk-relational ontology that I propose below starts from the assumption that the best process ontology is based on gunk, and that gunk needs some of the fundamental insights of process ontology.

(4) Cobb, Cockayne, and Schärfl stress that the personal interaction between the participants in the Eucharist and Jesus is crucial to any model based on relational ontology. The basic intuition here, is that the *subjective* involvement of the participants affects the nature of reality, provided that it is also immersed in the *objective* event of the celebration.

(5) Panpsychist ontology provides useful tools to explain the Eucharist that could be fruitfully incorporated into gunk-relational ontology: In particular, the fact that reality is *also* mental and that God can *intensify* his presence in certain places. I believe that gunk-relational ontology can better account for these different “densities” and for the concept of “protomentality”.

(6) Real presence should not be thought of in “naturalistic” terms but in a broader framework, where a certain view of the omnipresence of God and the presence of the body of Christ throughout the cosmos finds its place. Schärfl’s account, and in general every process account, teaches us that the body of Christ can be thought of as being “everywhere”.

(7) Schärfl’s claim that entities are immersed in events is interesting, but this notion needs to be described in a more precise way: Substances *are* events, that is, they are (also) their relations. This is what gunk-relational ontology tries to develop.

⁴⁸ Cf. *Louis-Marie Chauvet*, *Symbole et sacrement. Une relecture sacramentelle de l’existence chrétienne*, Paris 1987; see *Thomas Schärfl*, *The Eucharistic Experience* (see fn. 28), 147–170.

6. A short introduction to gunk-relational ontology

Let us see what gunk-relational ontology is. Gunk ontology usually states that entities with proper parts have proper parts *ad infinitum*. This means that everything in gunk is not only potentially divisible but divided. The fundamental principle of gunk ontology is Anaxagoras' notion that "everything is in everything"⁴⁹. Marmodoro and Roselli propose a kind of gunk ontology called *gunky power ontology*, in which the infinitely divisible entities are powers. According to the authors, a power (a dispositional quality) can be divided *ad infinitum*, but each part is the same power. In this model, in every place, there could be infinite parts or properties. Every property/part is infinitely small, and in any infinitely small space, there can be infinite parts or properties. This ontology could be of great help to explain the Eucharistic mystery: the aggregate of powers that we usually refer to as "the material body of Christ" could be inserted in every single part of the world. However, as mentioned about trope theory, this model could be very useful for a theory of consubstantiation or impanation, but not for one of transubstantiation.

We must therefore turn to another model of gunk ontology that I tried to formulate in a recent work⁵⁰ under the name of *gunk-relational ontology*. If every part has infinite parts, every part is part of infinite other parts. In other words: X is the smallest divided part of Y, but Y is the smallest divided part of Z, Z of W, and so on. How long is this chain? In gunk-relational ontology, it is infinite. "Above" X there are infinite other objects, and "below" X there are also infinite objects. Strictly speaking, *gunk* is the infinite divisibility towards the infinitely small, "downwards"; the opposite hypothesis, i. e. that there is an infinity of objects "upwards", is called *junk*.⁵¹ However, I believe gunk and junk to be two faces of the same coin.

This means that each part very probably contains *all the possible parts* as well as possibly all the properties of the universe. This leads to a stronger gunk ontology, based on a radical principle: "Everything is everything". These infinite divided and dividing parts can be called *infinittings*, a term that stresses the fact that every part is necessarily an *event* of aggregations, always changing and developing (this is the basic insight of process metaphysics). In this sense, each part is a *subsistent relation* because it is the developing act of aggregation of infinite parts. Infinittings are relations because they are the infinity of rela-

⁴⁹ Anna Marmodoro, *Everything in Everything*. Anaxagoras's Metaphysics, Oxford 2017.

⁵⁰ Cf. Damiano Migliorini, *Ontologie relazionali e metafisica trinitaria*. Sussistenze, eventi e gunk, Brescia 2022; id., *Ontologie relazionali e Trinità*, Reggio Emilia 2022. Some fundamental points are summarised in an older and more experimental work in English: id., *Troubles with Trinitarian (Relational) Theism*, in: D. Bertini; D. Migliorini (Eds.), *Relations. Ontology and Philosophy of Religion*, Verona 2018, 181–200.

⁵¹ Cf. Einar Bohn, *Must there be a top level?*, in: *The Philosophical Quarterly* 59 (2009) 193–201; Aaron Coitnoir, *Universalism and Junk*, in: *Australasian Journal of Philosophy* 92/4 (2014) 649–664; James Taylor, *Priority Monism and Junk*, in: *Analytic Philosophy* 66/1 (2022) 44–61. The mathematician Lombardo Radice, analysing the thought of Cantor (and others), believes that it is impossible not to think of the actual infinite, which also implies affirming that a Non-Increasable Absolute – an all-encompassing Absolute – is contradictory: God must be an Increasable Absolute (see Lucio Lombardo Radice, *L'infinito*. Itinerari filosofici e matematici d'un concetto base, Roma 1981, 123–131). This also means that we cannot admit a "top level" of reality (junk hypothesis), just as we can admit an infinite number of "bottom levels" (gunk hypothesis).

tions between the infinitely divided. The objects of our world, then, are made by the aggregations, in different *densities*, of these infinities, and the aggregations are also the relations among infinities and the infinities themselves. Every object of the world is a subsistent relation and an aggregation event. This is the best way to account for a relational world (point [3] of the list of achievements). Of course, one might wonder whether gunk-relational ontology substantializes the relations. This is a classic objection moved to process metaphysics, at least in Rescher's interpretation.⁵² But in gunk-relational ontology, every relation (infiniting) is a relation among relations; therefore it is always a relational event.

Examining the justifications and plausibility of gunk ontology would require a lengthy discussion that would exceed the scope of this essay. For example, gunk ontology raises issues about the existence of an *actual infinite*, i. e. infinitely divided matter. Today, such a theory would be called *metaphysical infinitism*, the ontological counterpart of *infinitism* (that is, an epistemological position)⁵³. This and other issues about gunk ontology have been analyzed by Marmodoro and Roselli.⁵⁴ For the present purposes, let us simply suppose that gunk ontology is a *possible (coherent) ontology*.

Even though gunk-relational ontology may seem counterintuitive, it has at least the advantage of making some phenomena "thinkable". Here are some examples.⁵⁵ In gunk-relational ontology, the notion of space is strongly relativized: The large distance between two points at the opposite ends of our universe is infinitesimally small because our universe is infinitely small compared to any other universe that contains it. What is an infinitely large distance from our perspective is infinitely small from the perspective of another universe. This makes it possible to think about physical phenomena such as entanglement, but also to affirm that every object is – potentially – everywhere (multilocation – point [2] of the list of achievements).

A second example: the fact that, according to gunk-relational ontology, everything *is* everything allows us to accommodate the fundamental intuition of generic panpsychism (point [5] of the list of achievements) because in this ontology, the distinction between the

⁵² Cf. *Nicholas Rescher*, *Process Metaphysics*, New York 1996. According to Weeks, Rescher has domesticated process philosophy, leaving out the more audacious theories of Whitehead, Bergson and James, who argued that processes are primordial, in a radical ontology which leads towards apophatism. According to this objection, Rescher transforms processes into something very similar to substances – cf. *Anderson Weeks*, *Process Philosophy. Via idearum or Via negativa?*, in: M. Weber (Ed.), *After Whitehead*, Berlin 2004, 223–266.

⁵³ Infinitism is a controversial epistemological position; cf. *Ali Hasan*; *Richard Fumerton*, *Foundationalist Theories of Epistemic Justification*, in: E. Zalta (Ed.), *Stanford Encyclopedia of Philosophy*, online, 2016, par. 1, in: <https://plato.stanford.edu/entries/justep-foundational/> [accessed 07.07.2023]; *Peter Klein*; *John Turri*, *Ad Infinitum*, Oxford 2014; *Peter Klein*; *John Turri*, *Infinitism in Epistemology*, in: *Internet Encyclopedia of Philosophy*, online, 2017, in: <https://iep.utm.edu/inf-epis/> [accessed 07.07.2023]; on metaphysical infinitism see also *Matteo Morganti*, *Metaphysical Infinitism and the Regress of Being*, in: *Metaphilosophy* 45 (2014) 232–244.

⁵⁴ Cf. *Anna Marmodoro*; *Andrea Roselli*, *Power Gunk, or Unlimitedly Divided Powers*, in: U. Zilioli (Ed.), *Atomism in Philosophy. A History from Antiquity to the Present*, London 2020, 420–429; also on the possibility of gunky objects: *Gregory Fowler*, *A Gunk-Friendly Maxcon*, in: *Australasian Journal of Philosophy* 86/4 (2008) 611–627.

⁵⁵ This ontology could explain causation itself: *Damiano Migliorini*, *Troubles with Power Structuralism's Account of Causation*, 2023, forthcoming.

physical and the psychic realms loses its value since every part of the universe is both aspects.

At this point one could ask why God should have created an infinite number of matryoshka universes. But then, again, why not? A *relational* and *infinite* God could be at the origin of a universe composed of infinite relational universes (in the form of gunk); it is not irrational to imagine a situation in which the universe would be the infinite unfolding of God's infinite possibilities. However, the search for arguments in favour of this position goes beyond the scope of this essay.⁵⁶

7. God and the world: “omnipresent”, “especially present”, and Jesus’ “body presence” everywhere

Another strong thesis about God that could be inferred from the gunk-relational ontology is the following: If everything *is* everything, and God *is in* everything, then *God is everything*. God's substance is the “material” of everything. In which form God is this “material”, if the world is relational? God is a subsistent relation (Trinity), and the world is his coherent manifestation: The world is made of subsistent relations in the form of gunk-relational ontology because God (the world's inner substance) is relational. According to this ontology, the world is made of the substance of God because an infinite God necessarily creates the world within itself through his own substance.⁵⁷ God is omnipresent in this sense, but the gunky nature of the world and of God allows us to say that, if infinities can come in different densities – as maths teaches us – God can do the same. Gunk-relational ontology implies that every particle in the universe “*is everything*” and “*is God*”, even if God does not coincide with the world due to the different densities. The world is the “body of God” but is not God himself. This idea converges with Arcadi's position, described above.

Moreover, God can be “especially present”, in different densities and in different places. He can intensify his presence, as Arcadi claims. This conclusion can also be reached by means of another theological speculation: If the physical body of Christ is indissolubly united with the second Divine Person after the incarnation, and the entire Triune God is omnipresent in all creation, we can conclude that, in a mysterious way, after the incarnation, *the physical body of Christ is also present in all creation*. Such is the thesis proposed

⁵⁶ Curiously, Blaise Pascal said that the infinite divisibility of space (*gunky space* in today language) must be accepted even if it is incomprehensible. Consequently, if *géomètres* can accept this truth, so can a Christian to defend the truths of faith despite being aware of their incomprehensibility (cf. *Alberto Peratoner*, Pascal, Roma, 2011, 53–54). In my view, this means that we can believe in Christian truths because there is a correspondence between the mysterious way in which we describe the fundamental nature of reality and the mysterious way in which we describe some dogma of faith. Not only does the latter have a paradoxical nature (as argued for example by Kierkegaard; cf. *Ettore Rocca*, Kierkegaard, Roma, 2013), but also the deep structure of reality is incomprehensible.

⁵⁷ In summary: If God is in every infinitesimal part, *formal* or *material*, of an object, there is nothing in the object that is not God. What distinguishes an object from God still has God present in it. Moreover, if any aspect of the object were different from God, God would not be everywhere.

by Schärfl in the context of process ontology (see § 4), but it is also coherent with a generic Christological view of God's nature. Eleonore Stump, for example, writes:

"If God is eternal, then God's having an assumed human nature is not something characteristic of God at some times but not at others. It is something characteristic of God always. On this view, God is never in the state of not having an assumed human nature."⁵⁸

Gunk-relational ontology can explain this mystery, this profound incarnation of God. Again, let us keep these theses (the presence of the body of Christ in all creation and the "special presence" in the form of different density) as *a possibility* that meets points (5) and (6) of the list of achievements. It is from this understanding of the God-world relation that we can articulate a new understanding of the Eucharist.

8. Transubstantiation according to gunk-relational ontology

Gunk-relational ontology is a form of relational ontology because it postulates that everything is made of relations (*infinittings*). Could such a relational ontology help us explain the mystery of the real presence? Let us explore, once again, a few theoretical options. In this ontology, *every substance is the event of its relations*, and these relations are, in turn, the results of a gunky fundamental reality. This means that, in some way, the liturgical celebration of the last supper creates a *new relational situation*: The bread is (spiritually) "consecrated" by the liturgical formula, and (physically) "broken/shared" by the community. If every relation is possible thanks to the infinittings, then every new relational situation also entails a physical change in the organization of the infinittings.

The substance of the bread, which is also its relations, therefore *profoundly changes its nature* (even if not in its external manifestations) because of these two simultaneous and necessary liturgical acts. Does the relational context change the substance? Baber rightly points out⁵⁹ that the liturgical act could induce a mere Cambridge change in the elements of the Eucharist. But in her account, once the bread and wine have been consecrated, the presence of Christ in the Eucharist does not depend upon the psychological state of participants to be *real*. Cobb draws the same conclusions in his process-relational model. An account based on gunk-relational ontology makes a stronger claim that we have a real substantial change after the consecration because every new relational situation brings about a new substantial/physical situation (a re-organization of the infinittings). This claim meets points (4) and (7) of the list of achievements.

However, in gunk-relational ontology, there is no "replacement" of substances because God's substance, just like Jesus' body, is already in everything. What is, then, the substantial difference between any part of the universe and the Eucharist? Can we still talk about transubstantiation? The subjective and objective event of the celebration changes the relational context of the bread, the organization or density of the infinittings, and hence the

⁵⁸ Eleonore Stump, *The God of the Bible and the God of the Philosopher*, Milwaukee 2016, 100.

⁵⁹ Cf. Harriet Baber, *The Real Presence*, in: *RelSt* 49 (2013) 19–33.

substance, because a substance is the organization of its relations. This is, I think, a sufficient answer to question (C) of § 2, about what differentiates the presence of God in the world from the “special presence” of God in some places, i. e. from the “real presence” of God in the Eucharist. Even without the substitution of substances, we can still talk of a form of real absence and, therefore, of transubstantiation. However, the qualities of the bread are always there (everything is in everything) as part of a new relational situation, and God must only ensure that only the qualities of the bread manifest themselves at the level of reality that conforms to our way of seeing.

All things considered, I believe that gunk-relational ontology is better suited not only to the divine attribute of omnipresence, but also to transubstantiation since, as mentioned above, there is an effective modification of the substance of the bread, but not of its manifest qualities. The relational model of gunk-relational ontology accounts for real absence, which is what makes transubstantiation different from consubstantiation and impanation. Where the relations have changed, we can properly talk about a form of transubstantiation, because what has changed is what the tradition calls “substance”.

In conclusion, gunk-relational ontology seems to offer an interesting way of conceiving the Eucharistic mystery. Gunk ontology offers a better solution compared to the ones listed in the previous paragraphs, and gunk-relational ontology brings these solutions together in a comprehensive framework. Needless to say, there is still much work to be done both to achieve a complete and solid formulation of gunk-relational ontology and to assess its potentially beneficial effects in various areas of philosophical theology.

The rational explanation of the Eucharist is at the center of a revived debate in philosophical theology. After describing gunk-relational ontology, I show how it allows us to understand transubstantiation differently than other traditional and contemporary accounts, from which it draws a few points but combines them in a new way. In gunk-relational ontology, every substance is its own relations, which constitute a gunky fundamental reality. The liturgical celebration of the Last Supper, therefore, creates a new relational situation for the bread: the substance of the bread (its relations) profoundly changes its nature.