Toward an Absolute Physics

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Lee C. Rice

I

Introduction: The Problem Posed

Spinoza's ***Tractatus theologico-politicus***[1] is devoted primarily to the defence of freedom of thought in the (liberal) state and to the argument that the state, far from being imperiled by such a freedom, cannot survive without it.[2] But the long journey toward this conclusion takes Spinoza through a study of Old Testament history and the nature of the Jewish state (TTP 1-10), a brief consideration of the teaching of the Apostles (TTP 11), an analysis of scriptural faith (TTP 12-14), and an extended argument in support of the absolute divorce of theology from philosophical speculation (TTP 15) before he reaches the question of the foundations of civil society (TTP 16-20). Faith, for Spinoza, can be understood only as a means of securing obedience; and such an obedience is the aim of Scripture, both the Old and New Testaments.[3] That this faith is a necessary condition for obedience is one of the central arguments of TTP 14, and thus can, for Spinoza, be proven by reason. That the obedience which arises

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[1] Translations from the text of Spinoza, where given, are my own. I prefer the edition of J. Van Vloten and J. P. N. Land [***Benedicti de Spinoza opera quotquot reperta sunt.*** 3rd edition. 4 vols. The Hague: M. Nijhoff, 1914] to that of Carl Gebhardt [<Opera, im Auftrag der Heidelberger Akademie der Wissenschaften>. 4 vols. Heidelberg: Carl Winters Verlag, 1925]. A new and critical edition of the <Opera Postuma> is under preparation in the Netherlands, and will probably resemble closely the Van Vloten and Land edition. I have also profited from the excellent translation of the <Tractatus theologico-politicus> (hereafter TTP) by Samuel Shirley. References to the TTP are by chapter, with the Van Vloten and Land volume and page number(s) in braces. References to the <Ethica> are internal. E2P13Cor is the corollary to Prop. 13 of Part 2. Other abbreviations are Dem(-onstration), Schol(ium), App(-endix), and Def(-inition). I would like to express my thanks to Steven Barbone for his comments and criticisms.

[2] The subtitle itself announces this goal [2,83]: "***Dissertationes aliquot, quibus ostenditur, libertatem philosophandi non tantum salva pietate et reipublicae pace posse concedi; sed eandem, nisi cum pace reipublicae ipsaque pietate, tolli non posse.***"

[3] See TTP 14 [2,245]: "***Quis enim non videt, utrumque Testamentum nihil esse praeter obedientiae disciplinam***?"

from such a faith is also sufficient (but not necessary) for "salvation" (***salus***) is, Spinoza insists, outside the province of reason to demonstrate, though it is given us by revelation as a matter of "moral certitude.[4] There are a multitude of puzzles in these claims and particular traps for the unwary. Of what sort of "revelation" is he here speaking? How can Spinoza's rationalism accommodate "moral certitude"? How does the content of what he calls the "universal or catholic" faith relate to Old and New Testament declarations concerning faith? How does the "moral certitude" connect with the types of knowledge enumerated in the ***Ethics*** and ***Treatise on the Emendation of the Intellect***? These are but a few of the questions which are likely to leap to the mind of any reader familiar with Spinoza's philosophical system, but they are not the issues which I wish to raise in this essay. Rather, I here want to examine (and propose at least tentative solutions to) three questions, relying primarily on Spinoza's exposition in the TTP and only secondarily upon the ***Ethics*** and other works:

1. How does faith, as Spinoza understands it, produce obedience?
2. What is meant in this context by `obedience'?
3. In what does `salvation' through such an obedience consist?

Of these, the second is clearly the most difficult. The first, while Spinoza seems to address it openly and clearly, is such that some interpretations of it make the third question almost unanswerable. And the third takes us to the threshold of Spinoza's moral philosophy.

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[4] TTP 15 [2,255]: "***Sed ad haec respondeo, me absolute statuere, hoc Theologiae fundamentale dogma non posse lumine naturali investigari, vel saltem neminem fuisse, qui ipsum demonstraverit, et ideo revelationem maxime necessariam fuisse; at nihilominus nos judicio uti posse, ut id jam revelatum morali saltem certitudine amplectamur.***" The fundamental dogma is stated several lines earlier [2,254]: "***. . . quod scilicet homines vel sola obedientia salvantur. . . .***"

II
Faith and Dogmas of Faith

Faith, for Spinoza, is defined as the adherence to beliefs about God which are necessary for obedience.[5] Spinoza characterizes the claim that we may be saved through obedience alone as a deliverance of revelation, but argues as a deliverance
of reason that faith is necessary for obedience. It is not the faith itself which saves, but rather the obedience which flows from it.[6]

In TTP 14, Spinoza enumerates seven "dogmas of universal faith" ("***fidei universalis dogmata***," [2,247]):

1. God exists as the exemplar of true life.
2. God is one.
3. God is omnipresent.
4. God has supreme right and power over all things.
5. The worship of God, and obedience to him, consists solely in justice and charity, or love of one's neighbor.
6. All who obey God by following this way of life, and only those, are saved ("***salvos tantum esse***").
7. God forgives those who repent their sins.

The truth-values of these dogmas are surely questionable in the light of Spinoza's naturalism. The first three are (or at least can be interpreted to be) based on claims made in the ***Ethics*** (cf. E1P11, E1P14, E1P15), but the

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[5] TTP 14 [2,245]: "*. . . nempe quod nihil aliud sit, quam de Deo talia sentire, quibus ignoratis tollitur erga Deum obedientia, et, hac obedientia posita, necessario ponuntur.*"

[6] TTP 14: "*Videlicet I., fidem non per se, sed tantum ratione obedientiae salutiferam esse, vel, ut ait Jacob. cap. 2 vs. 17, fidem per se absque operibus mortuam esse. . . .*"

exemplarism of the first, like the anthropomorphism of the fourth, is directly contrary to what Spinoza declares to be an adequate idea of God. The fifth has no correspondence in the ***Ethics***. Half of the sixth (`obedience implies salvation') amounts to what Spinoza calls a claim knowable only through revelation, whereas the other half (`salvation implies obedience') will be later seen to conflict with Spinoza's own account of obedience. And the last seems inconsistent with Spinoza's claim that repentance is a vice rather than a virtue[7] and that God neither judges nor forgives.[8] Matheron (1971, 131-137) argues that the seven dogmas can be `reinterpreted' as true claims within Spinoza's system, while granting that any reinterpretation of the seventh will be marginal (137). Misrahi (1977, 397-404) argues that all seven doctrines are, ***stricto sensu***, false for Spinoza. Zac (1965, 140-142) argues that they are a mixed lot, containing some theses coherent with Spinozism and others directly contradicting it.

Despite the disagreement among the commentators, the issue is less important than it may seem at first sight, for Spinoza tells us:

> Finally, it follows that faith requires not so much true dogmas as pious ones, i.e., such as move the heart
> to obedience; and this is the case even if many of those beliefs fail to contain the shadow of truth, provided that the person who believes them should not know that they are all false. (TTP 14 [2, 246]).

So the dogmata themselves are completely ancillary to the obedience which is said to follow from them. I shall argue that, while faith and obedience for Spinoza are self-implicative, the latter implies salvation but not conversely. For

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[7] E4P54: "***Poenitentia virtus non est, sive ex ratione non oritur; sed is, quem facti poenitet, bis miser seu impotens est.***"

[8] See Letter 21 (1665) to Blyenbergh [3,85-92], where Spinoza is careful to point out that God is not a judge, and that the concept of 'sin' is man-made.

the wise person (who attains to the true love of God, according to the fifth part of the ***Ethics***) will not have faith and does not require obedience to attain salvation. This is what separates Spinoza both from the "***fides quaerens intellectum***" theme of the medievals, and puts him at odds with both Maimonides[9] and Averroes.[10] Spinoza affirms a radical separation between faith and philosophy, each having its own "***droit d'occupation***" (Haddad-Chamakh, 1988, 165) with neither either opposed or subservient to the other. It is also what enables Spinoza to uphold an account of freedom which is consistent with liberal democracy and which is unknown to both his medieval and his Arabic predecessors.[11]

These considerations answer only in part the first of my three questions. The semantic properties of faith are nil for Spinoza, and the importance of faith lies only in its practical effects.[12] The `trust' sense of `faith'

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[9] See Wolfson (1934, 2, 328): ``Now, the religion of reason which Spinoza briefly outlines for us here is nothing but a modified form of the philosophic conception of Judaism as described by Maimonides. The chief points of difference between them are two. In the first place, Spinoza eliminates the need for revelation. In the second place, he narrows down the scope of religion to what Maimonides considers to be the first object of the Law, namely right living, and eliminates from it right thinking, which according to Maimonides is a second object of the Law." See also Moreau (1988).

[10] Haddad-Chamakh (1988) offers a point-by-point comparison between Averroes' <Facl el-Maqal> (``Traité Décisif") and the TTP. While their language is often similar, Spinoza's separation between faith and reason is more radical; and, while Averroes' primary goal is that of defending the primacy of Aristotelianism as an interpreter of Scripture, Spinoza's aim is that of providing a framework for religious belief consistent with democratic pluralism. It is interesting to note that Spinoza's friend and collaborator, Louis Meyer, followed the Averroistic line (see Meyer, 1988).

[11] "***La conclusion qu'il tire de cette constatation de l'indépendance des deux ordres de connaissance sera de proclamer pour chacune le droit de jouir de `la liberté de jugement' et de lui reconnaître `le pouvoir d'interpréter' les fondements de la foi, ce qu'Averroès ne reconnaît nullement et ne surait reconnaître.***" (Haddad-Chamakh, 1988, 166).

[12] "***Rien ne montre mieux que ce `credo' minimum la portée stratégique du nominalisme spinoziste. Spinoza accepte une foi encore la lettre et les mots de la croyance,***

may be uppermost in Spinoza's analysis. Where lack of adequate knowledge is present, trust engenders a species of heteronomy which is a primary component of obedient action. To assess fully the sense of this claim, however, we must examine the obedience to which such faith is said to lead.

III
Obedience Reconstructed

It is tempting, given Spinoza's remark that the data of faith need not be true, to anticipate an answer to my second question in terms of some species of Kantian heteronomy; for the remark seems to suggest that what "counts" in the faith-obedience relation is simply that the first leads to certain actions regardless of the "inner state" (adequate or inadequate knowledge) of the believer -- what Kant would call acting in accordance with the law rather than for the sake of it. And so, on such a conjecture, what obedience amounts to is simply compliance with law or moral rectitude, regardless of the reasons or motives. There are, however, two fatal problems which any such interpretation encounters. The first is Spinoza's insistence that faith is **both** a sufficient **and** necessary condition of obedience. Clearly, for a person whose belief in a false dogma leads to obedience, we may claim that **that** person's faith is or was **sufficient** for **that** person's obedience; but Spinoza requires also that, given any person who is obedient, we must be able to conclude to his or her faith, and it is just such a condition which is precluded by the type of heteronomy envisaged by Kant.

The second problem is that Spinoza himself denies that obedience is ***simply*** a behavioral feature, but rather insists that it is less an "external than an

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sachant fort bien que ces mots ne pensent adéquatement aucun objet, et ne sont pas des idées adéquates" (Tosel, 1984, 251).

internal action of the mind."[13] This internal action of the mind can, however, still be characterized as heteronomy, but of a more limited nature, as Spinoza makes clear in the following remark:

Nevertheless, in order that we may rightly understand the extent of the right and power of civil authority, we must note that such an authority [***imperii potestatem***] is not defined by the fact that it can compel persons to act from fear, but rather that in absolutely all respects they follow its commands. For it is **not** the motive which underlies obedience, but the obedience itself which produces a subject.[14]What matters, then, in obedience, is that the action produced is done because of the presence of a command, but not the (perceived or negative) effects which are perceived (rightly or wrongly) to follow upon noncompliance with such a command. The notion of `motive', which is used in both the Wenham and Shirley translations of the TTP, somewhat masks the sense of Spinoza's claim. The use which he makes of "***causa***" here, as elsewhere,[15] refers to the source which gives rise causally to the action, and not to any internal state (`motive' in one sense) which may accompany such a force.

Obedience, then, consists of action done for the sake of authority, where the authority itself is a causal factor which gives rise to the action.[16] Strauss's remark that obedience expresses itself only in works is true if it means that obedience is both intentional and behavioral, but it is false if taken to mean

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[13] TTP 17 [2,270]: "***Quod etiam hinc quam clarissime constat quod obedientia non tam externam quam animi internam actionem respiciat; adeoque ille maxime sub alterius imperio est qui alteri integro animo ad omnia ejus mandata obtemperare deliberat. . .***"

[14]TTP 17 [2,270]. The last sentenceis of particular importance: "***. . . non enim ratio obtemperandi, sed obtemperantia subditum facit".***

[15]TTP 17 [2,270]. The last sentence is of particular importance: "***. . non enim ratio obtemperandi, sed obtemperantia subditum facit.***"

[16]See TTP 5 [2,149]: "***. . . obedientia in eo consistit, quod aliquis mandata ex sola imperantis authoritate exequatur."*** Also Matheron (1971, 153-54)***: ``Obéir, c'est exécuter un ordre pour la seule raison que nous reconnaissons l'autorité de celui qui nous le donne.***"

that external behavior itself comprises the entire content of obedience.[17] What counts for an act to be obedient is that it be intentionally done for the sake of complying with a law, and what does **not** count are the motives for which one is led to comply with such a law.

While Spinoza frequently addresses the issue of constraint or fear as a component of the "***ratio***" which frequently underlies obedience, this is more of an empirical generalization arising from his understanding of the Hebrew state than a definitional component. Matheron's insistence that constraint follows from the spinozistic notion of obedience "almost inevitably"[18] requires either qualification or simple disavowal. Such constraint does not follow from the heteronomy of obedience so much as frequently accompany it; and even that remark must be further qualified by pointing out that the passages where Spinoza does connect obedience and fear or constraint deal with Old Testament narratives.[19] Even in these cases, however, as Belaief notes, the context of heteronomy is based upon an underlying disposition toward self-preservation. "The <conatus>, as the most comprehensive expression of the natural law, is the spelling out of God's power, the power of nature, as it manifests itself in human nature. Every individual is determined by nature to live and act solely in the

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17. See Strauss (1965, 118-120). Strauss is also incorrect is suggesting that ``. . . obedience may be justified in two ways, which stand directly opposed to each other: philosophically or vulgarly" (119). If `justified' here means `motivated', then there are many ways (fear and love are two obvious ones).

18 Matheron (1971, 154): "***De la notion d'hétéronomie nous passons presque inévitablement à celle de contrainte. La plupart du temps, en effet, ce n'est pas seulement le rapport des moyens à leur véritable fin qui échappe aux ignorants : c'est la fin elle-même qui ne fait pas pour eux l'objet d'une aspiration bien vive***."

19 Zac even questions the extent to which fear was a component of obedience in the Hebrew state. See Zac (1965, 108): "***En tout cas, c'est un thème constant de Spinoza dans le Traité théologico-politique que le patriotisme ardent des Hébreux était le fruit, non de la crainte, mais de l'amour de Dieu***." While it is not important to my purpose to decide between Matheron and Zac on this point, I should note that Zac's generalization seems primarily based upon TTP XVI, whereas Matheron seems to rely upon earlier sections of the work. See also Zac (1965) and Zac (1985).

manner which he judges to be conducive to his own welfare. The choice of each is the choice of self interest. . . . "[20]

Matheron (1971, 155-166) distinguishes a weak (heteronomy) from a strong sense (heteronomy plus constraint) of obedience, as well as a weak and a strong sense of salvation (the latter will occupy us in the next section), which compels him to pose the question of the meaning of salvation through obedience in terms of a fourfold set of possibilities (weak obedience and weak salvation, etc.). I am suggesting that we need only one sense of obedience, i.e., heteronomy of object, compliance with the law because of the authority of the command. We do not need any sense of motive, in at least one of the many meanings of this term. Indeed, Spinoza's use of ***ratio*** in the passages cited suggests that he is posing the question, "what causes the behavior," and answering in terms of (external) authority; and this question, as I have suggested, is different from the question of motive, "why the agent is moved to obey this authority rather than some other."

I now argue that, if one wishes to distinguish senses of obedience based upon motivation, then on Spinoza's own analysis we arrive at a threefold distinction, rather than a matheronian dichotomy. The following remark by Spinoza is, I believe, crucial in this respect:

> We therefore recognize a great difference between a slave, a child, and a subject, and define them accordingly. A slave is one who is moved to obey the commands of a master, where the commands themselves are related only to the benefit of the latter. A child is someone who does what s/he perceives as useful to self because of the commands of a parent. And finally the subject is one who, because of civil authority, does that which is beneficial to the common, and therefore

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[20] Gail Belaief (1971, 45). See also Errol Harris (1984, 65-67) and Lee Rice (1977, 110-114).

to his or her own, good.[21]

One might, from the logic of the above trichotomy, conclude that Spinoza has omitted a fourth possibility: one who acts because of an **internal** command knowing that this command is to his or her own benefit. This would differ from the child, the cause of whose action is external, but the motive of which is (as in the putative possibility) her or his benefit. The internal voice of reason, however, does **not** command for Spinoza. In the case of the person of wisdom (sage, philosopher, scientist), the internal voice is that of God, but the result is not obedience in any sense, but rather virtue.[22]

This explains why, while Spinoza insists that faith is both necessary and sufficient for obedience, he argues (as a matter of revelation) only that obedience is a sufficient, but not a necessary condition, for salvation. The notion of a `command', for Spinoza, is foreign to natural morality, and has a place only in revealed religion. In this respect, Spinoza is distinctively anti-Kantian:

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[21] TTP 16 [2,263]: "***Magnam ergo differentiam inter servum,filium, et subditum agnoscimus, qui propterea sic definiuntur: nempe servus est qui mandatis domini quae utilitatem imperantis tantum spectant obtemperare tenetur; filius autem qui id quod sibi utile est ex mandato parentis agit; subditus denique qui id quod communi, et consequenter quoque sibi, utile est ex mandato summae potestatis agit.***"

[22] See TTP 16 [2,266]: "***Nemo enim ex natura scit se ulla erga Deum teneri obedientia, imo nec ulla ratione hoc assequi, sed tantum ex revelatione signis confirmata unusquisque id habere potest.***" Spinoza's note to the above passage is of no less import: "***Amor enim Dei non obedientia, sed virtus est quae homini qui Deum recte novit necessario insit. At obedientia voluntatem imperatis, non rei necessitatem respicit et veritatem. . . . Adde quo jura divina nobis ut jura seu instituta videri ostenderimus quamdiu eorum causam ignoramus; hac autem cognita illico jura esse desinunt, atque eadem ut aeternas veritates, non ut jura, amplectimur; hoc est, obedientia illico in amorem transit, qui ex vera cognitione tam necessario oritur ut ex sole lumine***" (TTP 16, Annotationes, 34 [2,327-328]). See Steven Barbone (1993) for an analysis of this typically spinozistic sense of ***virtus***.

Spinoza never asks, as did Kant, how it is possible that love can be commanded. Indeed, the notion of a commandment is not defined for Spinoza by reference to the resistance to which love may be subjected in the heart of men, but rather as an order which cannot be justified by reason. Besides, the Kantian notion of a `categorical imperative' is completely foreign to Spinoza's thought: the divine commandments are hypothetical imperatives, whose condition is that of explicating that which causes the person with true faith [***le vrai fidèle***] to consent to them. And this condition is not only possible with fear, but more especially so with the aspiration for salvation and for internal tranquillity. Seen in this light, Spinoza is closer to Christianity than is Kant. (Zac, 1971, 109: translation mine)

This internal tranquillity, which is referenced as "***stabilité individuelle***" by Laux (1993, 193-194), is in contrast with a religion of exteriority, which in turn leads to what Spinoza calls a "***fluctuatio animi***," a component of superstition which bears as its fruits both social instability and sadness. The consequences of obedience through faith are twofold for Spinoza. One is social peace, a situation whereby all members of civil society live in harmony and respect, and it is this topic which Spinoza takes up in his political analysis in the closing chapters of the TTP. Beyond noting that he opposes it to the divisiveness caused by religious fanaticism and superstition, I will not be further concerned with it here.

The second consequence is internal to the obedient person, and represents the bridge to the last of my three questions. In TTP 7 Spinoza characterizes this internal stability as a species of mental contentment ("***animi acquiescentia***").[23] This is a strong phrase for Spinoza to use, for it is the same phrase which he uses at the end of the ***Ethics*** to characterize the attitude of the wise person in contrast to that of the ignorant (cf. E5P27). We have already

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[23] TTP VII (2, 176): "***Et quia vera salus et beatitudo in vera animi acquiescentia consistit, et nos in iis tantum vere acquiescimus, quae clarissime intelligimus, hinc evidentissime sequitur, nos mentem scripturae circa res salutares, et ad beatitudinem necessarias certo posse assequi.***"

seen that wisdom of this kind neither implies nor is implied by either obedience or faith. In the fifth part of the ***Ethics***, Spinoza argues that this wisdom leads necessarily to salvation. So we are confronted with the last of my three questions: without such wisdom, what does Spinoza mean by `salvation'?

IV.
The Salvation of the Obedient

The most complete statement of the meaning of `salvation' is given, not in the TTP, but in a scholium at the end of the ***Ethics***:

> From this we clearly understand in what our salvation or blessedness or freedom consists, namely, in a constant and eternal love toward God, i.e., in God's love toward humans. This love or blessedness is called `glory' in the sacred writing, and not without reason. For whether the love is related to God or to the mind, it can properly be called `acquiescence of the mind' [***animi acquiescentia***], which in fact cannot be distinguished from glory. (E5P36Schol)

Properly speaking, what is eternal (subject to neither birth nor death) is the idea of the body which is the mind (E5P23), and **our** eternity consists of those parts of this idea which are adequate in our own mind (all ideas being adequate in the mind of God). Such an eternity does not include memory or sensory input (E5P21), and it is also nontemporal, and thus not strictly an `**after**life'.[24] Some commentators suggest that it is both nonpersonal and trivial. But there are, so far as I can see, two important elements of it which can properly be described as personal. The first is that the adequate ideas are in some sense conscious states,

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[24] Spinoza does on one occasion speak of "***duratio mentis sine relatione corporis***," but this can be argued to be an extended or metaphorical use. For a review of the literature, see Rice (1992, 320-328).

and the second is that, to the extent that they are adequate in **my** (as opposed to some other) mind, they are properly **mine** (see Rice, 1992, 329-332). The charge of triviality depends to a great extent on how one interprets the Christian (or other) claims of immortality, an issue which lies beyond the scope of this study.

A central problem, from the perspective of this essay, lies in the fact that Spinoza clearly links eternity and salvation to adequate ideas, i.e., to true knowledge; and he has specifically withdrawn such a linkage from his characterization of religious faith, and thus from obedience. So our question becomes that of understanding what (if any) sense it makes to say that the **believer** (or obedient) attains salvation. The easy answer is that s/he simply does not and cannot. Misrahi (1977, 399-402), Hessing (1962, 89-92), and Matson (1990, 84-85) argue that Spinoza's claim that '***salus***' is a product of obedience represents at best simple (at worst strained) metaphor or concession to popular prejudice: to the extent that the mind of the believer has (largely or wholly) inadequate ideas, that mind is not eternal, and salvation lies outside its power. Aside from making Spinoza something of an hypocrite in the TTP, this interpretation also strikes me as robbing his analysis of scriptural religion of its own stated purpose.

Matheron offers an alternative interpretation designed to preserve the truth and meaning of the claim that obedience produces salvation. He first distinguishes (1971, 155-158) a weak sense of salvation whereby one may speak of eternity for the idea or mind of a being insofar as there is an adequate idea of that being in the mind of God. Such an interpretation he correctly dismisses, since it is genuinely trivial: such a salvation extends to all persons (not just the obedient), and even to nonliving objects.[25] From this he concludes that, if

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[25] "***Remarquons d'abord que cette conclusion, si elle était vraie, ne vaudrait pas seulement pour les ignorants honnêtes; elle s'appliquerait à tous les êtres sans exception : ignorants, méchants, animaux, plantes, pierres, etc.***. . . "(Matheron, 1971, 166).

salvation is available to the believer, it must be a "***salut nonintellectuel***" (1971, 172), but both cognitive and personal. It cannot, he goes on to argue, be the eternity which is enjoyed by the wise in union with God, insofar as this eternity is based upon adequate ideas. The sole alternative which he believes available is that of "another life":

> Those who are truly faithful, we have seen, would only be infallibly saved **if** their bodies, far from being destroyed forever, could exist once again, and **if** this new existence took place in a social environment which was more favorable. . . The hypothesis, at first sight, seems strange. But it is the only hypothesis which remains for us. . . . (1971, 208: my translation).

Reincarnationism is not much different from Christian resurrectionism from a logical perspective; but, viewed from within Spinoza's system, it must be equally false. First, as we have already seen, memory and imagination are functions of the relation between the individual and the environment, and Spinoza is at pains to tell us that they perish in death. Granted that a particular body can be reduplicated (from a cellular perspective) at another time and place, the fact still remains that memories and sensory knowledge would occur only in interaction with the new environment. Logically speaking, then, there would be little reason to characterize the reincarnate body as Rice's. Logicians will recognize this as the paradox of "trans-world-heir-lines" incurred in modal logic by allowing quantification over individual names across possible worlds. It constitutes, I believe, an insurmountable obstacle to Matheron's interpretation. Given that the reincarnate individual would not share any of the memory or personality features (and hence would not properly have the personal identity) of its originating individual, this interpretation looks no less trivial than the weak sense of salvation which Matheron rightly rejects. There is a second, textual rather than logical, difficulty, but it is no less insurmountable: there is

not a trace of such a reincarnation claim in Spinoza's writings, whether in biblical exegesis or in philosophy.

What strikes me as a viable alternative to Matheron's suggestion arises from taking seriously Spinoza's analysis of error and inadequacy. Spinoza's account of falsity (which arises from inadequate ideas) is offered in ***Ethics*** 2, Propositions 34 through 43. In broad outline, he takes falsity as resulting from partial or fragmentary ideas or mental states ("mutilated ideas"), so that error consists literally in **mis-taking** one idea (because of its confused content) as representative of some object which it does not in fact represent. A consequence of this proposal is that **all** ideas, however inadequate and confused, represent **something**. Falsity, on this account, is equivalent to partial truth. I do not want to defend Spinoza's account here. Even if it is true that many errors result from misidentification, the claim that all can be reduced to such a phenomenon appears questionable; but, like it or not, that is how Spinoza thinks that inadequate ideas function.[26]

If we move this account of error into Spinoza's claim to the effect that the content of faith need not be true, it says that, despite any inadequacies which ideas of faith may have, they are each at least partial truths, and thus partly adequate at some level. It would be tempting to say here that the adequacy in question relates to their ability to generate morally right action, but I am confessedly unsure of how one would go about analyzing the adequacy, for instance, of the dogmas of universal faith which we examined earlier. It is significant, however, that the commentators disagree on the issue of "how true"

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[26] For a more detailed analysis of this account of error, together with a review of the literature, see Bennett (1984, 178-183) and Parkinson (1954, 112-137). Interpretation and defence of Spinoza's analysis are provided by Yirmiyahu Yovel, "The Second Kind of Knowledge and the Removal of Error," in ***Spinoza on Knowledge and the Human Mind***, ed. Y. Yovel & G. Segal (Leiden: E. J. Brill, 1994), 93-110; and by Wim Klever, "The Truth of Error: A Spinozistic Paradox," **ibid.**, 111128.

they are for Spinoza; so I shall fudge that question, and say only that, however true they are, they are ***to that extent*** adequate.

From this consideration we can move directly back to the account of salvation which Spinoza gives in the ***Ethics***, namely that it results from the eternity of those **adequate** ideas which individuals have of God and nature. If the believer has ideas (or at least components of ideas) which are at least adequate in part, then to that extent the believer enjoys the same eternity as the sage. It is not, as Matheron had suggested that it must be, non-intellectual. It is fully cognitive. Is it personal? That question is more difficult to answer, but it should be clear that it is no less personal than the intellectual love of God which Spinoza describes in the ***Ethics***.

The charge of triviality, however, may still be thought to loom. Spinoza, after all, speaks in ***Ethics*** 5 of the sage as a person the greater part of whose mind is eternal. So, it may be claimed, the faithful obedient is one the lesser part of whose mind enjoys eternity; and how, one may ask, is that different from saying that some small element survives, albeit not the individual in any proper sense? To some extent the seriousness of this charge of triviality will depend upon **how** adequate the ideas of faith are as Spinoza conceives them; and I have deferred from taking this question up here. If not fully countered, however, the charge can at least be blunted somewhat; for, whatever eternity and salvation is enjoyed by the obedient does not differ in **kind** from that of the sage, but rather in ***degree***. This remark, I believe, marks an advance of my solution over that proposed by Matheron, which forces us to take Spinoza as using '***salus***' equivocally.

My analysis still leaves one logical dangler, since I have concluded that, while obedience is a sufficient condition of salvation, salvation does not require obedience. As we have seen, this is explicitly stated in the ***Ethics***, but also explicitly denied in the sixth of the seven dogmas of universal faith ("***salvos tantum esse***"). There are two ways in which such a dangler can be

accommodated. First, one may claim that the "***obediunt***" in this statement is taken in the loose sense of being in compliance with the law, not in the stronger causal sense for which I have argued. There is no reason to believe that Spinoza cannot **quote** a law which exemplifies a loose or nonliteral sense of obedience and then go on to **discuss** that law in terms of a more correct sense. Alternatively, one may simply claim that this is an example of just the sort of falsity which Spinoza claims is tolerable in faith. The sixth dogma, then, is a complex `idea' (in Spinoza's jargon) containing one true idea (known only through revelation), that all those who are obedient are saved, and one false idea, that only those who are obedient are saved.

Integral to my interpretation has been the presupposition that Spinoza does take religious faith and religious belief seriously, both in his biblical works and in the ***Ethics***. In trying to make sense of and to do justice to them within his own vision of nature, he is doing no more than any philosopher must do. One may object to my interpretation by claiming, as Strauss, Misrahi, and others do, that Spinoza pays only lip service to religiosity, attempting to replace it rather than to understand it. Trying to counter such an objection, beyond noting that it is certainly contrary to what Spinoza **says** that he is doing, is beyond the scope of this essay -- as is the still more general question of the overall adequacy of Spinoza's view of nature and the place of the human moral quest within it.

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Department of Philosophy
Marquette University
Milwaukee, WI 53233

Modality And Eternity
Averroes On The Eternity Of The World

Richard B. Davis

Perhaps the most fascinating episode in the history of Islamic philosophy pertains to the controversy over the eternity of the world. Al-GhÆzÆli, in his ***Incoherence of the Philosophers***, launches an all-out assault on the thesis of the world's eternity. As GhÆzÆli sees things, **The world is eternal** virtually implies **Atheism is true**;[1] thus, in addition to offering an argument for the temporal beginning of the world, he undertakes to refute four of the philosophers' proofs for the eternity of the world.

In this paper I shall examine Averroes' defence of the third of these proofs in some detail. I shall endeavour to show that his argument, which purports to be a ***reductio*** of GhÆzÆli's position, is unsound, since the account of modality it employs is either question begging or false.

THE ARGUMENT EXPLAINED:

Averroes states his argument as follows:

> He who concedes that the world before its existence was of a never-ceasing possibility must admit that the world is eternal, for the assumption that what is eternally possible is eternally existent implies no absurdity. What can possibly exist eternally must necessarily exist eternally, for what can receive eternity cannot become corruptible, except it were possible that the corruptible could become eternal. Therefore Aristotle has said that the possibility in the eternal beings is necessary.[2]

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[1] Al-GhÆzÆli, Al-GhÆzÆli's Tahafut al-Falasifah: The Incoherence of the Philosophers, translated by Sabih Ahmad Kamali (Lahore: Pakistan Philosophical Congress, 1958), pp. 89, 140.

[2] Averroes, Averroes' Tahafut al-Tahafut: The Incoherence of the Incoherence, translated with an introduction and notes by Simon Van den Bergh (2 vols.; London: Messrs. Luzac and Company, Ltd., 1954), I: 57.

What are the premises of this argument? How does it unfold? It seems to me that the argument is most readily understood as a ***reductio ad absurdum*** argument. In such an argument, the truth of a given proposition is established by showing that its denial implies some sort of absurdity. In Averroes' argument, the proposition to be proved is **The world is eternal**. Our first premise is given, therefore, by supposing that the world is not eternal. So suppose

(1) The world is not eternal.

Now according to Averroes, GhÆzÆli not only affirms (1), but also

(2) The world was of a never-ceasing possibility before its existence.

However, in conjunction with

(3) If the world was of a never-ceasing possibility before its existence, then the world is eternal,

premise (2) entails

(4) The world is eternal.

And since (1) and (4) are contradictories, it follows that (1) is false; accordingly, **The world is eternal** is true. What are we to make of this argument? Since it is obviously valid, we need only ask whether its premises are true. The first premise is the assumption for ***reductio***, and is therefore on sure footing. What about premises (2) and (3)? Are they true? Both premises employ the modal notion of possibility. It might be useful therefore to begin by asking what `possibility' **is** according to Averroes.

Aristotelian Possibility:

The first thing to note in this regard is that in the passage cited above the term `possibility' is repeatedly qualified by a temporal term; thus, Averroes speaks of `never-ceasing' possibility and `eternal' possibility. The reason for this seems to be that, for Averroes, as for his master Aristotle, "certain

connections between modal and temporal terms are taken for granted."[3] In ***On Generation and Corruption***, for example, Aristotle states that "`necessarily' and `always' go together . . . so that if it is necessarily, it is eternal, and if it is eternal, it is necessarily."[4] Accordingly, the following temporalized definitions of `necessity' and `possibility' suggest themselves:[5]

(N) $\Box p$ = def. $(\forall t)$(p is true at t)

(P) $\Diamond p$ = def. $(\exists t)$(p is true at t)

where $\Box p$ stands for "p is necessary," and $\Diamond p$ represents "p is possible."

There is, however, a second sense of `possible' which emerges from reflecting on what, according to Averroes, the ontological status of the world is "before its existence." Are we to understand the world to be in a state of **relative** or **absolute** non-existence prior to its existence? For GhÆzÆli and the proponents of ***kalÆm***, there are only two alternatives with respect to the existence of the world: actual existence or absolute non-existence.[6] But if these are the only two alternatives, then in what sense is the world supposed to be possible before its existence? The possibility at issue, contends GhÆzÆli "is a judgment [or: proposition] of the intellect . . . which need[s] no real existent."[7] In other words, with respect to the possibility of the world before its existence, GhÆzÆli affirms

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[3] Simo Knuuttila, Modalities in Medieval Philosophy (New York, NY: Routledge, 1993), p. 4.

[4] Aristotle, On Generation and Corruption 2. 11. 338a1-5, in A New Aristotle Reader, edited with an introduction by J.L. Ackrill (Princeton, NJ: Princeton University Press, 1987), p. 156.

[5] See Knuuttila, op. cit., p. 7.

[6] "... according to the doctrine of the theologians, the existent possesses only two conditions: a condition'¢ in which it is absolutely non-existent and a condition in which it is actually existent" (Averroes, op.cit., I: 78).

[7] Ibid., I, 60.

(5) **Possibly**, the world exists

but not

(6) The world **possibly** exists.

(5) ascribes ***de dicto*** possibility to the proposition **The world exists**; (6), on the other hand, is a statement of ***de re*** possibility, declaring that the world has the property of possibly existing.[8]

Averroes' response to this line of reasoning is to argue that (5) entails (6), since (6) is a necessary condition for the truth of (5); that is, a correspondence theory of truth demands that (5) is true if and only if there is an existing substratum outside the soul which possibly exists. This response raises many complex issues that occupy centre stage in Averroes' discussion of the fourth proof for the world's eternity. For the purposes of this paper, however, we need only point out that the possibility Averroes has in mind throughout his argument is ***de re*** and thus presupposes a substratum. But then it seems absurd to say that, before its existence, the world was **absolutely** non-existent; for "in absolute non-existence there is no [***de re***] possibility whatsoever."[9]

On Averroes' view, then, the world could not have been absolutely non-existent before its existence and yet still possibly existent. This means that the non-existence at issue must be **relative** non-existence, that is, non-existence relative to some substratum. And here Averroes' commitment to Aristotle's theory of change becomes obvious.[10] Non-existence is to be understood as privation, the lack of a particular form relative to matter. Change is the

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[8] For a powerful defence of the notion of de re modality, see Alvin Plantinga, The Nature of Necessity (Oxford: Clarendon Press, 1974), pp. 9-43.

[9] Averroes, op. cit., I: 43.

[10] In what follows, I briefly summarize a few of Averroes' comments concerning non-substantial change scattered throughout the First Discussion of his Tahafut al-Tahafut.

conversion of a thing from relative non-existence or privation - i.e., a state of possible (but non-actual) existence - to actual existence, by the removal of the condition of privation.[11] For example, I have the potential to exist in certain qualified respects (as tanned, for instance). Now if this condition of possible existence is actualized in me, then the condition of non-existence (being non-tanned) is removed and replaced by its contrary (being tanned). Possible existence, then, is the potentiality of a thing to exist as qualified in certain respects. Therefore, recalling our temporal definition of possibility above, perhaps we can combine the `statistical' and `potential' aspects of Aristotelian modality and offer the following as an approximation of Averroes' overall view of possibility:

(P′) For any substance[12] S and qualified state of existence Q, S **can** exist as Q if and only if (∃t)(S **does** exist as Q at t)

where "existing as Q" is to be read as "existing as qualified in respect Q." We might give as examples of "existing as Q:" **being six feet tall**, **being dark-skinned**, **being to the left of the pillar**, **being in the President's Office**, and perhaps even **being eternal**.

At this point it is important to note that (P′) is not to be taken as a statement of the so-called principle of plenitude **simpliciter**, which is subject to the following formulation: "no genuine possibility can remain forever unrealised."[13] For in the Aristotelian tradition, this principle is typically understood as applying to natural kinds (such as the species `man', `horse', or

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[11] It is also true, of course, that change is the transition from actual to potential existence relative to a substrate.

[12] By `substance' is meant an individual concrete thing, composed of form and matter.

[13] Simo Knuuttila, "Modal Logic," in Norman Kretzmann, Anthony Kenny, and Jan Pinborg, eds., The Cambridge History of Later Medieval Philosophy (Cambridge: Cambridge University Press, 1982), p. 344. By `genuine possibility' is meant a possibility that is not externally prevented from being realised. In what follows, I assume that this is the kind of possibility at issue in Averroes' third proof; accordingly, I shall use `possible' as a synonym for `genuinely possible'.

`tree') rather than to individual substances.[14] With this restriction noted, the principle of plenitude states that

(PP) For any natural kind K and property P, it is possible for K to have P if and only if (∃t)(K has P at t).

So **being a human being** and **being an alligator** are compatible just in case there is some time at which human beings are alligators.[15]

Now according to Simo Knuuttila, although (PP) is evidently connected with Aristotle's modal theory (in particular, his interpretations of modal concepts statistically and as potentialities), it is never used to directly define `necessity' or `possibility'.[16] This suggests that the principle of plenitude, taken by itself, does not sufficiently capture the Aristotelian notion of possibility. This is nicely illustrated in Averroes' third proof for the eternity of the world. As we shall see, the supporting argumentation for this proof presupposes Aristotle's physical model of change and, therefore, that possibility is a relative attribute which requires "a substratum with which it can be connected, and there is no substratum except matter."[17] The principle of plenitude fails to accommodate this piece of modal data. Moreover, if (PP) were employed in Averroes' third proof, then presumably `world' would have to be interpreted as a natural kind term. But is there any textual reason for supposing that `world' is a natural kind term? It is difficult to see that there is. On the contrary, Averroes seems to treat the world as a whole or totality - in fact, as an individual substance. At ***Tahafut al-Tahafut*** 167-168, for example, Averroes suggests that the world has a substantial form, namely, the relation of **being continually moved** which it bears to the Prime Mover.

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[14] I owe this point to Deborah Black.

[15] For a fascinating discussion of whether Socrates could have been an alligator, see Plantinga, op. cit., pp. 65-69. "Socrates could have been an alligator," according to Plantinga, "only if it is possible to be both an alligator and immaterial" (p. 69).

[16] Knuuttila, op. cit., p. 344.

[17] Averroes, op. cit., I: 59.

It seems to me unlikely, therefore, that the term `world' denotes a natural kind; instead, I think that `the world' is probably best understood as a definite description, referring to the system of heavenly and sublunary bodies taken as a whole. If so, then (PP) is not **directly** relevant to the mechanics of Averroes' third proof for the eternity of the world. (P′), on the other hand, encompasses both the `statistical' and `potential' themes in Averroes' theory of possibility, and therefore seems better suited to the argumentative context of the third proof and closer to the spirit of the text. Accordingly, in what follows I shall assume that (P′) encapsulates Averroes' view of possibility.

The Second Premise:

We are now in a position to examine Averroes' support for the second premise. Why should it be thought that the world, before its existence, was of a never-ceasing possibility? Surprisingly, Averroes fails to give us an explicit argument for this crucial premise; however, given his modal views and some comments made by GhÆzÆli on behalf of the philosophers,[18] it is not difficult to see what he has in mind. Suppose for ***reductio*** that "the substance of the world"[19] (hereafter W) were possibly existent in qualified respect Q, but then became impossible in this respect.[20] Then by (P′), it would follow that $\neg(\exists t)$(W **does** exist as Q at t). But this entails that $(\forall t)$(W **does not** exist as Q at t). Since, however, a given qualified state of being and its privation are contraries, `$(\forall t)$(W **does not** exist as Q at t)' is equivalent to `$(\forall t)$(W exists as non-Q at t)'. But we began with the supposition that the world possibly exists as Q, from which it follows - by (P′) - that $(\exists t)$(W **does** exist as Q at t). So on the present hypothesis, there would be a time t* at which W exists as Q and non-Q; this is flatly contradictory. Hence, the world, before it existence, was of a never-

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[18] See ibid., I: 57.

[19] Averroes speaks of the "substance of the world" at Tahafut al-Tahafut 168. 8-10. See ibid., I: 100-101.

[20] Here I state the argument in terms of qualified corruption. But nothing in the proof hangs on this point. The argument can easily be restated in terms of unqualified corruption in which a substance ceases to be what it is.

ceasing possibility. And, of course, an argument paralleling this one can be constructed for the conclusion that this possibility never began as well. It is therefore absurd to deny premise (2); so long as we grant Averroes his Aristotelian assumptions, this conclusion seems perfectly correct.

The Third Premise:

So far we have seen that GhÆzÆli and Averroes probably mean different things by `possibility' as it is employed in premise (2); GhÆzÆli is likely thinking of ***de dicto*** possibility, whereas Averroes clearly has in mind possibility ***de re***. There is, therefore, already some reason to think that Averroes' conclusion is liable to be an ***ignoratio elenchi***. A proper ***reductio*** (by definition) would begin with premises GhÆzÆli is inclined to accept and which collectively entail a conclusion inconsistent with his position on the eternity of the world. But it is unlikely that GhÆzÆli understands premise (2) as does Averroes. Nevertheless, it might be the case that Averroes can prove that commitment to ***de dicto*** possibility necessarily commits one to ***de re*** possibility; so perhaps we can concede (at least for the purposes of argument) the truth of (2). But even so, how does it follow that the world is eternal; that is, why should we think that premise (3) expresses a true conditional? We require an argument that shows that **The world was of a never-ceasing possibility before its existence** entails **The world is eternal**.

We already have the premises that the world, before its existence, was of a never-beginning possibility and a never-ceasing possibility. Furthermore, it is an uncontroversial assumption that whatever is generically eternal has neither beginning nor end.[21] It immediately follows, therefore, that the world is eternally possible. Now "the assumption that what is eternally possible is eternally existent," says Averroes, "implies no absurdity."[22] Here the

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[21] Compare ibid., I: 35.

[22] S. Van den Bergh interprets "implies no absurdity" as "is logically necessary." See S. Van den Bergh, "Notes to `Averroes' Tahafut al-Tahafut'," in ibid., II: 43, note 57.3. But this is false. A proposition P is absurd just in case it cannot be true - just in case, that is, $\neg \Diamond P$. Hence, P is

suggestion seems to be that if the world can "possibly exist eternally,"[23] then it must "necessarily exist eternally." Notice that this presupposes that **being eternal** is a legitimate way in which a substance might exist with qualification. (Perhaps we are to understand **being eternal** as falling under Aristotle's category of time).[24] At any rate, if we let E be "eternal," Averroes' claim is that

(7) If W possibly exists as E, then (∀t)(W actually exists as E at t)[25]
is a necessary truth.

(7), in turn, is defended with the remark that "what can receive eternity cannot become corruptible;" unless, that is, it is possible that "the corruptible could become eternal." The implication, of course, is that this is not possible: "that

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not absurd if and only if ¬ ¬ ◊ P, or equivalently, that ◊ P. But ◊ P is not equivalent to □ P, as Van den Bergh's remark implies.

[23] Something like a modal quantifier shift seems to have taken place here. Averroes begins with the claim that W is eternally possible before its existence, and says that this entails that W is eternally existent. But this is proved by showing that what is possibly eternal is eternally existent. In other words, he shifts from `(∀t) ◊ (W exists at t)' to `◊ (∀t) (W exists at t)'. This inference, an instance of what modal logicians refer to as the Converse Buridan formula, is not valid in the most influential contemporary systems of quantified modal logic. It is valid, however, given Aristotelian modal assumptions.

[24] Here we must be careful. For if by `eternal' we mean `everlasting production' or `eternal becoming' (see Averroes, ibid., I: 96-97, 103-104), then if the world's specific difference - that without which the world could not be what it is - consists in motion, then the substance of the world is eternally in motion. Averroes makes this point at Tahafut al-Tahafut 167-168. So it might be the case that `eternality', rather than qualifying the substance of the world, instead gives us the world's differentia. If so, then "the world is eternal" would be equivalent to "the world is eternally moving," and so an instance of predication according to specific difference. Notice, however, that if this is what Averroes has in mind at this stage of the argument, then he is flagrantly begging the question. I shall henceforth assume that this is not what he intends, and continue the convention of stating the argument in terms of qualified existence.

[25] I have interpreted `necessarily exists eternally' as `always exists eternally' in keeping with Aristotle's identification of `necessarily' and `always'. Furthermore, I interpret `always' as a universal quantifier over times.

anything could be liable to corruption and at the same time capable of eternity is incomprehensible."[26]

Once again, however, Averroes fails to furnish us with a proof. (No doubt this is to be taken as a compliment to his readers' intelligence, rather than an oversight on his part). Nevertheless, it is instructive to see wherein lies this incomprehensibility. Let us say that a substance S is liable to corruption in qualified respect Q just in case S is possibly non-Q. Then something that possibly exists eternally is liable to corruption if it has the possibility of being non-eternal. Well, consider the world. It possibly exists as eternal; so if it were corruptible, it would be possibly non-eternal.. But (P′) tells us that if the world were possibly non-eternal, then there would be a time at which it **is** non-eternal. What Averroes finds incomprehensible, therefore, is that

(8) W possibly exists as E, but (∃t)(W actually exists as non-E at t)

could be true. But why so? Since he has established that the possibility of the world, before its existence, never begins and never ceases, Averroes is entitled to assert

(9) W possibly exists as E.

Now (7) and (9) jointly entail

(10) (∀t)(W actually exists as E at t),
and (8) entails

(11) (∃t)(W actually exists as non-E at t).

But from (10) and (11), it follows that there is some time t* such that W exists as E and non-E at t*, which is clearly contradictory; (8), therefore, is impossible.

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[26] Ibid., I: 71.

Accordingly, (7) is true, since the falsity of (8) implies the truth of (7). And (7) and (9) together entail

(12) $(\forall t)$(W actually exists as E at t).

Moreover, since the world's possibility, before its existence, has neither a beginning nor an end, we can take the universal quantifier in (12) as ranging over an infinite domain of times. So taken, (12) captures the idea that the world is eternal. Presumably, then, the third premise is established, since from the assumption that the world, before its existence, was of a never-ceasing possibility, it has been deduced that the world is eternal.

THE ARGUMENT DEFENDED:

A Modal Objection:

Now GhÆzÆli has a rejoinder to Averroes' third proof - a rejoinder that sets the stage for what can be considered a second ***reductio*** of GhÆzÆli's position. The essence of GhÆzÆli's objection is found in the following passage:

> The temporal becoming of the world never ceased to be possible, and certainly there is no time at which its becoming could not be imagined. But although it could be at any time, it did not become at any time whatever, for reality does not conform to possibility, but differs from it.[27]

What this suggests is that GhÆzÆli rejects Averroes' notion of possibility; in particular, the claim that "reality does not conform to possibility" looks, at least ***prima facie***, like an attempt to deny the left-to-right conjunct of (P′) - our preferred statement of Averroes' overall view of possibility. How so? Well, it seems reasonable to suppose that the world could be bigger than it is - a fact

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[27] Ibid., I: 57.

presumably not disputed by Averroes, to whom GhÆzÆli ascribes this view. If so, however, then reality (the way the world **is**) does not conform to possibility (the way the world **could be**). So while it is possible that a body having size should exist, it does not follow that a body (the body of the world, say) should have **the actual size that is does**. Similarly, then, prior to the world's existence, its coming to be in time was possible. But that it came to be **at the time that it did** is not entailed.[28]

Perhaps so; but even if so, this objection misses the mark as a counterexample to (P′). For (P′) does not claim that if something is possible, then it will be realised at **this** or **that** time. Not at all; even the unrestricted principle of plenitude does not claim that. What it says is merely that **at some time or other** this possibility (if it is genuine) will be actualized. GhÆzÆli's criticism seems to be based on a misdiagnosis of the modal principle underlying Averroes' argument. I suspect this is due to the fact that (i) GhÆzÆli and Averroes are not contemporaries, and (ii) (P′) tends to function as a planted axiom in the discussion; it neither receives an explicit formulation nor gets brought forward for inspection. So while GhÆzÆli is mistaken in his objection, he is not (to my mind at least) culpably mistaken in this regard.

A Second *Reductio:*

Curiously, Averroes overlooks this response to GhÆzÆli altogether, seizing instead upon the suggestion that the world could have been otherwise than it is. This leads him to attribute to GhÆzÆli the view that "before the world there was an infinite number of possibilities of worlds."[29] The difficulty in holding such a position, says Averroes, is that it forces its adherent to maintain that prior to the present world there was another, and prior to that still another, and so on and so forth ***ad infinitum***. And according to the

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[28] Notice that in saying this, GhÆzÆli has begged the question against Averroes. To assume that the world came to be at a definite time entails that the world is not eternal.

[29] Ibid., I: 58. It is interesting to note that both GhÆzÆli and Averroes are anxious to attribute this view to the other, and each for the same purpose.

philosophers, so long as it is assumed that the corruption of anterior worlds is a necessary condition for the existence of any given posterior world, such an infinite series is permissible.[30] Let us agree (on GhÆzÆli's behalf) that before the world's existence there was an infinite number of possibilities of worlds. Why suppose that it is **necessary** that an infinite regress of such worlds, instantiated in temporal succession, should thereby ensue? A prior question: Is this sort of regress even possible?

Here we must examine, in some detail, Averroes' analogy between the temporal succession of possible worlds and the production of one man from another. Consider three individual men: A, B, and C. The man B, we might stipulate, produces C from the matter of A. Now according to the philosophers, a necessary condition for the production of C from A is that A undergo substantial change, lose his substantial form, and cease to be the individual substance that he is; otherwise, it would be impossible for A to become the matter for the production of C.[31] Eventually, when B perishes, a fourth man D is produced by C out of B's matter. The series formed by the coming into existence of one man from another is therefore said to be accidentally ordered; that is, although, say, a father (cause) is a condition for the coming into existence of his son (effect), the father does not cause the continued existence of the son, as is evident from the fact that the father may perish while the son continues to exist.[32] (Indeed, Averroes' discussion at ***Tahafut al-Tahafut*** 57-58 suggests that the father **must** perish if the son - when he becomes a man - is to

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[30] See ibid. Compare ibid., I: 33: "...the philosophers permit the existence of a temporal which comes out of a temporal being ad infinitum in an accidental way, when this is repeated in a limited and finite matter -when, for instance, the corruption of one of two things becomes the necessary condition for the existence of the other."

[31] "... a man comes into being from a man who has perished, through the latter becoming first a plant, then sperm or menstrual blood" (Ibid., I: 159).

[32] See William Craig, The Cosmological Argument from Plato to Leibniz (New York: Barnes and Noble, 1980), p. 108. My discussion of the distinction between accidentally ordered and essentially ordered causal series owes much to Craig's historical work on the kalÆm argument. See especially his "The Cosmological Argument and the Possibility of Infinite Temporal Regression," Archiv für Geschichte der Philosophie 59 (1977): 268-270.

produce a son of his own). The father, therefore, is said to be a merely accidental cause. On the other hand, in an essentially or hierarchically ordered series of causes (e.g., of things being simultaneously moved by another), each member depends for its continued existence on the causal activity of a `higher' member or cause. Moreover, according to Aristotle, the causal activity of each member in `vertical' series' of this sort is simultaneous, depending ultimately on a first cause.

Having said this, we can now state precisely why an infinite series of **essentially** ordered causes is impossible, whereas an infinite series of **accidentally** ordered causes is not. Consider the hierarchical series of things being simultaneously moved by another. The movement of a lower member in this series depends upon the present causal activity (simultaneous movement) of the member immediately preceding it in the hierarchy, and so ultimately on a first unmoved mover. If this series of movers were infinite, however, there would be no first mover; all the members of the series would be intermediate. But the intermediate movers move only because of the agency of a first mover. If then the series were infinite, there would be no motion, which contradicts the evidence of our senses: **Motion exists**. So the positing of an infinite series of essentially ordered causes leads to a contradiction; such a series is therefore impossible.

The reason an accidentally ordered series of causes is able to avoid these difficulties is that a series of this sort progresses **only if**, in the case of the production of one man from another, the perishing of the `anterior man' is a necessary condition for the production of the `posterior'. So in an infinite series of accidental causes, the absence of a first member poses no problem; for the present causal activity of any given member in the series is dependent neither on the simultaneous causal activity of its preceding member(s) nor, therefore, on that of a first member. In fact, as we pointed out above, the man B's causal production of C from the matter of A actually presupposes the destruction of the member preceding B -namely, the man A. Accordingly, Averroes (following

the philosophers) contends that it is not impossible that the production of one man from another should continue **ad infinitum**.[33]

Now how, exactly, is all this relevant to our envisaging (as Averroes would have it) an infinite regress of temporally instantiated worlds? Well, if we suppose that this series of successive worlds is **like** the series resulting from the production of one man from another, then, presumably, we shall be faced with the possibility of an infinite series of accidentally ordered worlds. On this view, our world - call it α -would be part of a prior world - W, say - in that the possibility of α's becoming (prior to its existence) would be connected with the matter of W. Accordingly, the existence of α would presuppose the unqualified corruption of W; otherwise, given an infinite `horizontal' series of worlds, an infinite matter would come into existence by successive addition.

True enough. If there **were** an infinite regress of temporally instantiated worlds, then there **would** be an infinite matter apart from unqualified corruption taking place. But what drives the regress? How does it get started in the first place? Averroes wants to maintain that if there were an infinite number of possible worlds before α's existence, then "if God had the power to create another world before this, and before this second world yet another, the series [would] continue infinitely."[34] In the case of the production of one man from another, the explanation of the infinite progression of the series is easy enough: biological reproduction coupled with the activity of an eternal

[33] Averroes has an important caveat, however. This process requires an eternal agent "which acts in each individual member of the series of causes at the moment of the becoming of its final effect" (op. cit., I: 159). This is not special pleading on Averroes' part. First of all, the first cause in an essentially ordered series of causes is pictured as occupying the summit of the `vertical' series; on the other hand, the eternal agent Averroes speaks of here is perhaps best understood as `standing outside' the `horizontal' series of accidental causes. Secondly, whereas an infinite series of essentially ordered causes entails the absence of a first cause in the series, an infinite series of accidentally ordered causes does not preclude the activity of an eternal agent.

[34] Ibid., I: 58.

agent (the sun, perhaps).[35] What seems to be behind the infinite regress of possible worlds, however, is (P′) and God's eternal, creative activity. (P′), then, tells us that there is some time at which each of the infinite number of possible worlds is created by God. This process of temporal instantiation, furthermore, must be **successive**, in as much as for any world W, W comes into existence in time if and only if the world immediately prior to W, in whose matter the possibility of W's temporal becoming lies, undergoes unqualified corruption.

Now "if we have to bring this series to a standstill," says Averroes, "it is more appropriate to arrest it at this world, by regarding it as eternally unique."[36] This conclusion is rather subtle. Why, we might ask, must the series be terminated? If the temporal succession of worlds is accidentally ordered, "like the [series of] transient beings in this world,"[37] then given (P′) and God's eternal activity, could it not (on the philosophers' view) continue ***ad infinitum***? It is hard to see why not; the question, however, is not whether Averroes and the philosophers are forced to terminate the regress, but whether GhÆzÆli must do so. Averroes' argument, after all, is a ***reductio ad absurdum***; he advances certain propositions which GhÆzÆli is not at all inclined to reject - like, for example, that there was an infinite number of possibilities of worlds before the existence of this world - and which jointly entail that **The world is not eternal** is false. Obviously, Averroes need not endorse **every** premise in the argument he advances; his argument is dialectical, designed to show GhÆzÆli that his belief that the world is non-eternal is mistaken.

The question at issue, therefore, is why GhÆzÆli must terminate the regress and thereby conclude that our world - α - is eternal and unique. Let us assume, for the sake of argument, that GhÆzÆli is willing to accept (i) that there was an infinite number of possibilities of worlds before this world, (ii) the

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[35] Following the philosophers, Averroes identifies this eternal agent as "the highest sphere, or the soul, or the intellect, or all together, or God the Creator. And therefore Aristotle says that a man and the sun together engender a man" (Ibid., I: 159).

[36] Ibid., I: 58.

[37] Ibid.

truth of (P'), and (iii) that God is an eternally active agent. In order to avoid rejecting an infinite series of temporally instantiated worlds on the grounds that an infinite matter would arise if corruption failed to take place, let us also agree that GhÆzÆli allows for the unqualified corruption of worlds at each stage in the temporally successive series. Given these concessions and an Aristotelian analysis of `becoming',[38] we presumably have the materials necessary for the existence of an infinite temporal regress of possible worlds. Still, perhaps GhÆzÆli cannot accept such a regress. Although the reasons for this are not made perfectly clear, something like the following argument is, I think, what Averroes has in mind.[39] If, before this world, there were an infinite number of possibilities of worlds, then the series of past worlds would be infinite. Now this series of worlds (if it existed) would be `forward-growing', ontologically speaking, in that the series would be formed by the successive addition of temporally instantiated possible worlds, one after another. But then it immediately follows that this series of past worlds could not be infinite; for as the Philosopher says, **it is impossible to add to the infinite**, and the temporal instantiation of α if what we are saying here is true, would have the effect of increasing the purportedly infinite series of past worlds by one member. And, of course, there is no guarantee, given our present assumptions, that α itself would not corrupt, giving rise to a further world and adding yet another member to the infinite series. Thus, an infinite temporal regress of past worlds is impossible. The proper response to this finding, as Averroes sees it, is for GhÆzÆli to terminate the regress at α, regarding it as eternal and unique. It seems, therefore, that not only is GhÆzÆli's objection to Averroes' third proof

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[38] "The meaning of `becoming' is the alteration of a thing and its change from what it has potentially, into actuality. It is not possible that the privation itself should change into the existent, and it is not the privation of which it is said that it has become. There exists, therefore, a substratum for the contrary forms, and it is in this substratum that the form interchange" (Ibid., I: 60, emphasis added).

[39] In what follows, those familiar with the writings of William Craig will once again recognize my general indebtedness to his way of putting things.

unsuccessful, but one of its premises (along with some plausible assumptions) actually entails that the world is eternal.

SOME PROBLEMS:

Perhaps the greatest difficulty confronting Averroes' third proof for the eternity of the world (and his defence of it) concerns the liberal use it makes of the Aristotelian notion of possibility. Although GhÆzÆli is unable to effectively challenge this notion, the essence of his objection seems to me entirely correct: "reality does not conform to possibility, but differs from it." This is an important insight; for Averroes' arguments turn on possibility being coextensive with reality. Therefore, let us once again consider

(P′) For any substance S and qualified state of existence Q, S **can** exist as Q if and only if (∃t)(S **does** exist as Q at t).

(P′) figures prominently in Averroes' supporting argumentation for premises (2) and (3), as well as the **reductio** argument he constructs based on GhÆzÆli's objection. But is it acceptable? I think not. If (P′) is true, then if I have the potential to be in a certain place (in the Oval Office, say), then at some time or another I **am** in that place. But how does this follow? Is it not possible that I have the potential to be in the Oval office, but as a matter of contingent fact never am? It is hard to see why not. I **could** be in the Oval Office; there are no external impediments, we may stipulate, to this possibility being realized. But if the quantifier in (P′) is taken as ranging over a **finite** domain of times, then it is entirely feasible that there be no time at which I **am** there. So (P′) looks false on the supposition of finite time. Maybe so; but suppose time were infinite. Would it not then follow that (P′) was true? After all, it isn't clear, it might be argued, that the principle of plenitude and its cognates are meant to range over a finite set of times.

This is a point of some interest. The short way with this objection, however, is to argue as follows. Given certain Aristotelian presuppositions

(namely, that time is the measure of motion, and that motion and body are concomitants), it seems to follow that if time is infinite, some bodies are eternally in motion. But if so, then Averroes' supporting arguments for the third proof (and its defence against GhÆzÆli) implicitly assume the argument's conclusion, and in so doing beg the question. So assuming that time is infinite does not really help to render (P′) more plausible.

The upshot of all this is that (P′) is either false or question begging. But if so, then (P′) must be rejected. Some interesting conclusions follow from this. Recall that (P′) entails and is entailed by the following propositions:

(13) $\Diamond$ p if and only if $(\exists t)$(p is true at t)

(14) $\Diamond$ p if and only if there is some **actually** existing substratum in which the possibility in question inheres.

Accordingly,

(15) If (13) and (14), then (P′).

But if we are obliged to reject (P′), we will have to accept

(16) (13) is false.

That is to say, we shall have to affirm that

(17) $\Diamond$ p and $(\forall t)$(p is false at t)

is true. But now suppose that the world could have been otherwise than it is. (To deny this is to embrace the thesis that the actual world is **necessary**.) Then what (17) tells us is that p is possibly true, and yet false at all times in **this** world - that is, in α. This suggests that rigidly defining `$\Diamond$ p' in terms of categorical

states of affairs in α is mistaken. Indeed, from (17) and the basic idea that c could have been otherwise than it is, we can infer

(18) If (17), then there is a possible world W such that p is true in W where

(19) p is true in W = def. if W had been actual, then p would have been true.

But from (18) and (19), it follows that

(20) $\Diamond$ p only if there is a possible world W such that if W had been actual, then p would have been true[40]

which, in turn, requires that we reject (14). This suggests that the truth conditions for modal statements of the form ' $\Diamond$p ' should be stated counterfactually in terms of possible worlds, rather than categorically in terms of this world alone. Another way to put this is to say that, ***pace*** Averroes, possibility ***de dicto*** does not entail possibility ***de re***.

It seems to me, therefore, that unless the Aristotelian account of modality employed by Averroes can be modified so as to evade these criticisms, we shall have to conclude that his third proof for the eternity of the world (along with its defence) is not sound.[41]

Department of Philosophy, University of Toronto
Toronto, Ontario Canada M5S 1A1

[40] I am indebted to Plantinga for the wording of (19) and (20). See Plantinga, "Replies," in Alvin Plantinga, edited by James Tomberlin and Peter van Inwagen (Dordrecht: D. Reidel Publishing Co., 1985), p. 345.

[41] I would like to thank Deborah Black for helpful comments on an earlier version of this paper.

Toward an Absolute Physics

David P. Lang

I

Must a material substance be quantified and localized? If so, in what sense(s)? What precisely are the minimal requirements of a body insofar as it is receptive to quantification and localization? Excavating this core of fundamental cosmological conclusions is tantamount to unearthing the limiting possibilities of corporeality ***per se***. To overstep these boundaries would ***ipso facto*** invade the realm of purely spiritual reality. The nomenclature "absolute physics" is meant to denote a systematic investigation encompassing those properties which bodies ***qua*** bodily must possess (in order to avoid infringments of the law of rion-contradiction) and demarcating them from those attributes which are dispensable (even if normal). Such a project, impinging on the sphere of metaphysics, evokes corresponding questions about the scope of Divine omnipotence relative to the categories of quantity and place, under the assumption that a substance remain hylomorphically composed.

No richer landmine for clues regarding material substance and the essential character of physical quantity can be discovered than the doctrine of the Eucharist. Indeed, the reciprocal influences of Eucharistic ontology and speculation concerning the predicaments of substance, quantity, and place are discernible in the works of the great Scholastics. Here we focus our discussion on Thomas Aquinas and Francis Suarez. Although these philosopher-theologians depart in their thinking on many issues, they share a common perspective in their explication of what transpires in Eucharistic confection. By exploring their concurrent views, we aspire to shed some light on the obediential potentialities to which physical substance is susceptible via the absolute power of God.

II

Through an analysis of the disparate roles played by prime matter, substantial form, and quantity, Suarez explicitly argues in favor of the proposition that the essence of continuous physical quantity is not local extension, but rather aptitudinal extension.[1] After all, a physical substance cannot be diffused in place unless it has a naturally prior accidental form inclining it so. The basis for this crucial thesis can be found in Aquinas' definition of magnitude as quantity having position[2]—from which we infer that he holds quantity itself to be a broader genus not necessarily commingled with place. Indeed, St. Thomas declares that position functions as a specific difference within categorial quantity.[3] Furthermore, he maintains that accidents sometimes inhere as aptitudes instead of fully actualized forms.[4] Although he supports this assertion with a qualitative illustration,[5] in the overall context of his writings it can also be read as alluding to quantity.

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[1] Suarez, Disputationes Metaphysicae XL, Sec. 2, par. 22: " . . . ***quantitas non est actualis extensio in spatio, sed aptitudinalis*** . . . . " Cf. ***DM*** XL, Sec. 2, par. 20 and also Sec. 4, par. 15.

[2] Aquinas, In Phys. IV, lect. 17, n. 577, trans. Blackwell, Spath, and Thirkel (London: Routledge & Kegan Paul, 1963), p. 258.

[3] Aquinas, In Boeth. de Trin., q. 4, a. 1, c; a. 2, ad 3; and q. 5, a. 3, ad 3; A. Maurer translations (Toronto: Pontifical Institute of Medieval Studies, 1987 and 1963, resp.). Note that Aquinas uses situs in two senses. In one passage he formulates the essence of predicamental "site" as consisting in "the order of parts in place." See In Phys. III, lect. 5, n. 322, op. cit., p. 151. Thus, position (and therefore magnitude) depends on place. In another text, however, he expresses "site" as additionally an "order of parts in the whole," insofar as situation is considered merely a specific difference of quantity. See In Phys. IV, lect. 7, n. 475 (last par.), op. cit., p. 215. Under either construction, Aquinas implies that quantity is a higher genus subsuming two species: one with an actual nexus to location and another insulated from dimensive extension.

[4] Aquinas, ***on Being and Essence***, c. 6[71, trans. A. -Maurer (Toronto: Pontifical Institute of Medieval Studies, 1968), p. 69.

[5] ***Ibid.***

More generally, Suarez insists that the essence of properly entitative accidents is aptitudinal inherence rather than actual inherence, acknowledging his debt to Aquinas on this point.[6] In fact, the Angelic Doctor avers that an accident has an essence to which it pertains to exist in another and not through itself (unlike a substance, whose essence mandates existence in its own right).[7] He thus recasts and mitigates the received Aristotelian interpretation by emphasizing that an accident need not actually inhere in a substance: it may merely possess the inner exigency (we might also say the dynamic tendency) for inherence.

Of course, ontological separation of an accident from its appropriate subject of inherence could be accomplished solely by supernatural power. Aquinas affirms that an accident ultimately depends for its being on ***Ipsum Esse Subsistens*** and only proximately on a material substrate; hence, God's primary efficient causality can supply for the absence of a secondary sustaining source.[8] Aquinas concentrates his attention on the intrinsic accidents of quantity and proper sensible qualities. Suarez elaborates, amplifying on this theme with a distinction between entitative and modal accidents. The former (such as locally extended quantity and proper sensible qualities) exhibit adequate ontic density for detachability, whereas the latter (such as the quantitative mode shape, qualitative powers and habits, actions and passions, "when", "where", and

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[6] ***DM*** XXVII, Sec. 2, pars. 4,6,9.

[7] Aquinas, ***In Sent.*** IV, d. 12. q. 1, a. 1, sol. 1, ad 2: "...definitio, vel quasi definitio, substantiae est res habens quidditatem, cui acquiritur esse, vel debetur, ut non in alio; et similiter esse in subjecto non est definitio accidentis, sed e contrario res cui debetur esse in alio...." Cf. ***ST*** III, q. 77, a. 1, ad 2; also ***Quodlib.*** IX, q. 3, a. 5, ad 2.

[8] ***In Sent.*** IV, d. 44, q. 2, a. 2, sol. 3, c: " . . . esse accidentis dependet a subjecto sicut a causa proximal sed a Deo sicut a causa prima. Et quia causa prima potest conservare rem in esse cessantibus causis secundis, . . . ideo divina virtute, et ea sola, fieri potest ut accidens sit sine subjecto, ut patet in sacramento altaris . . . ." Cf. ***ST*** III, q. 77, a. 1, c; ***SCG*** IV, c. 65[3], trans. C. O'Neill (Notre Dame, Indiana: University of Notre Dame Press, 1975); ***Quodlib.*** IX, q. 3, a. 5, C

situation) are utterly inseparable from material substance, even by Divine might lest the law of non-contradiction be violated.[9]

Permeating these subtle precisions, while consonant with unaided human intellection, is readily detectable an illumination emanating from the dogma of the Eucharist: they bask (so to speak) in its penumbra. Conversely they exercise a beneficial service by furnishing a viable ontological foundation for Eucharistic metaphysics. Yet no vicious circularity is involved, because intimations about substance, quantity, and place are tested and vindicated in the philosophical forum before their application back to the arena of sacred theology. On the contrary, a benign circle of intensification develops, whereby faith and reason are reconciled via mutual reinforcement.

This complex assessment is validated through the methodology of a detailed examination of Aquinas' and Suarez's theorizing on the Eucharist -- an undertaking in which we next engage.

III

God, the creator ***ex*** nihilo of all finite being, ***a fortiori*** can convert the totality of one bodily substance (the composite of matter and form) into the substance of another. He is not restricted to the transformations induced by creatures, entailing residual material substrates -- whether the prime matter persisting through substantial change or the second matter underlying accidental change.[10] (Of course, substantial conversion is a "change" only in a somewhat equivocal sense. Even accidental and substantial changes are more analogically similar than univocally identical sorts of events.)

Thus, the direct, ***per se*** term of Eucharistic substantial conversion is the very substance of Christ's body as such. It follows that transubstantiation does not change the dimensions of the offertory bread into the dimensions of Christ's

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[9] ***DM*** XXXVII, Sec. 2, pars. 7-10. Cf. also ***DM*** XXXIX, Sec. 3, par. 13.

[10] ***ST*** III, q. 75, a. 4, c, ad 3; ***SOG*** IV, c. 63[5-7,10); ***In Sent.*** IV, d. 11, q. 1, a. 3, sol. 1, c, ad 1-3.

body, which, by force of the consecratory rite, becomes present only substantially -- not according to His proper dimensive quantity.[11] Since it pertains to the essence of substance to be entirely present in the whole and in every part,[12] Christ's body is substantially complete in every part of each consecrated Host, whether actually divided or actually undivided but potentially divisible.[13] Because the substance alone of Christ's body is the direct term of this conversion, distance between portions of the former bread has no bearing on His reality,[14] and so He is indifferently present under the dimensions of a host of any size. [15]

When transubstantiation occurs, the First Cause preserves the accidents of bread and wine upon the cessation of these secondary material causes. [16] This miraculous suspension of accidental forms, held in abeyance apart from their proximate natural subjects of inhesion, is extrinsically possible owing to the Divine infinite power and intrinsically possible from the generic essence of entitative accidents. Thus, even after transubstantiation when the accidents of the quondam bread and wine continue in existence, they abide as accidents and are not transmuted into substances. For, since they retain their internal demand for inherence, they still satisfy the proposed Thomistic-Suarezian revision of the definition of accident. The fact that the Eucharistic accidents no longer actually inhere in their former (non-extant) subjects does not detract from their essence as accidents, which is inalienable, but is due instead to God's omnipotence conserving them in being without also maintaining the substances of bread and wine. [17]

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[11] *ST* III, q. 76, a. 1, ad 3; ***In Sent.*** IV, d. 10, q. 1, a. 2, sol. 3, c.

[12] *ST* III, q. 76, a. 4, ad 1.

[13] *ST* III, q. 76, a. 3, c; ***In Sent.*** IV, d. 10, q. 1, a. 3, sol. 3, c.

[14] *ST* III, q. 76, a. 3, ad 2,3; a. 4, c, ad 2,3.

[15] ***In Sent.*** IV, d. 10, q. 1, a. 2, sol. 4, ad 2.

[16] See fn. 8.

[17] *ST* III, q. 77, a. 1, ad 2; ***In Sent.*** IV, d. 12, q. 1, a. 1, sol. 1, ad 2; ***Quodlib.*** IX, q. 3, a. 5, ad 2.

Now the Eucharistic accidents remain singular and concretized; hence, the sensible qualities require a preduring pseudo-subject to bind them and constrict their extension while preventing their coalescence. It is dimensive quantity which serves as the foundation for all the other accidents of bread and wine, because it enjoys in itself a coherent individuality. Through its diverse impenetrable parts, numerically distinct accidental forms can occupy different places. Therefore, all the other accidents are sustained in dimensive quantity -- and rightly so, because the latter is by nature the first accident accruing to material substance and accounts for its property of divisibility. The Divine power confers subsistence on these dimensions, which are exactly those of the anterior physical substances. [18] In this familiar hierarchy of accidents, quantity boasts the pre-eminent rank, being closest to the primal material substrate. The office usually belonging to matter is bestowed upon dimensive quantity, which compensates for its absence.[19] Sensible qualities ensue, piggy-backing on quantity in the order of intermediary dependence. [20] Consequently, they themselves, being individuated by particular dimensions, become derivatively quantified. [21]

Aquinas repeats many times that Christ's body is present, by dint of the Eucharistic consecration, according to the manner of substance -- not accidental manifestations. The elimination of His proper dimensive quantity from the direct terminus of transubstantiation implies the exclusion of any ***per se*** occupation of place, since location hinges on quantity construed as full-fledged,

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.Suarez, ***DM*** XV, Sec. 9, pars. 6,8.

[18]***ST*** III, q. 77, a. 2, c, ad 1; ***SOG*** IV, c. 63[9]; c. 65[2,4,5];
In Sent. IV, d. 12, q. 1, a. 1, sol. 3, c.

[19]***ST*** III, q. 77, a. 5, c, ad 1.

[20]ST I, q. 77, a. 7, ad 2; q. 85, a. 1, ad 2;
ST I-II, q. 50, a. 2, ad 2; q. 56, a. 1, ad 3;
ST III, q. 77, a. 2, ad 3; In Phys. III, lect. 5, n. 322;
In Sent. IV, d. 12, q. 1, a. 1, sol. 3, ad 1, 2.
Cf. also Suarez, DM XIV, Sec. 3, par. 39; Sec. 4, pars. 1, 2;
.In Sum. Theol. III, Disp. 56, Sec. 3, par. 2.

[21]***ST*** III, q. 77, a. 1, ad 4; a. 2, ad 2.

and not merely aptitudinal, extension (although a modicum of circumincession seems operative between the two categories). Unlike the substance of bread, which was in place by means of its own dimensive quantity, the substance of Christ's body is patently not the subject of those dimensions. Hence, Christ's body is related to the place of consecration via the medium of foreign dimensions. His true corporeal dimensions are referred to that place only through His substance, whose nature is to be whole in the whole and in every part. These results contravene circumscriptive location, since there is no contiguous accommodation of Christ's body to a place by virtue of His dimensive quantity. [22] Nor is Christ's body definitively present, because otherwise its range of power would be confined to a fixed number of altars where the Eucharistic rite could occur. On the contrary, transubstantiation can be effected simultaneously at arbitrarily many sites. [23]

Now the body of Christ is a physical substance, and hence quantified, though not actually locally extended in the Eucharist according to its intrinsic dimensions. (His corporeal extension is strictly aptitudinal.) Despite the fact that it is not a spirit, His body thus shares the property suited to a form whereby it is entirely present in every part of its substance. [24] Aquinas and Suarez adduce here an instance of non-circumscriptive physical presence, which is neither definitive nor ubiquitous. This concealment of material substance under the guise of alien dimensions (along with adventitious qualitative accidents) constitutes sacramental presence. [25] Through natural circumscriptive presence a body is extended in an ordering to place, so that the whole is in the whole and the part in the part; but through sacramental presence Christ's body acquires no commensuration either to the quantities of bread and wine or to the exteriorizing dimensions of any other body. [26]

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[22] ***ST*** III, q. 76, a. 4, ad 1; a. 7, ad 1.

Cf. also ***In Sent.*** IV, d. 10, q. 1, a. 2, sol. 3, ad 2.

[23] Cf. ***ST*** III, q. 76, a. 5, c, ad 1; ***In Sent.*** IV, d. 10, q. 1, a. 3, sol. 1, c; sol. 2, c.

[24] ***In Sent.*** IV, d. 10, q. 1, a. 3, sol. 3, ad 3.

[25] ***DM*** LI, Sec. 6, par. 6.

[26] Suarez, ***In Sum. Theol.*** III, Disp. 48, Sec. 1, par. 3.

Although by virtue of the Sacrament considered in itself, Christ's body is present only substantially, nevertheless, Aquinas instructs us, the proper dimensive quantity and the other realities of Christ are also truly present from "natural concomitance". For if two things are really united, they are distinguishable solely by a mental designation, so that the one necessarily accompanies the other. In this way, the ***per se*** term of Eucharistic conversion (viz., the substance of Christ's body) additionally (but ***per accidens***) subsumes all other salient characteristics of His Being, [27] His divinity as well as His soul. [28] Aquinas elucidates that only those accidents of Christ's body which are intrinsic to it are present in the Sacrament by real concomitance. This clarification discards, in particular, the extrinsic accident of place, whose province is merely containment. [29] Obviously, allowing place to adjoin the term of substantial conversion would entwine Aquinas' explanation in a flagrant contradiction, because circumscriptive presence has already been ruled out.

This concomitance, however, does not nullify the truth that the proper accidents of Christ's body are in the Blessed Sacrament solely through His substance. Hence, they bear "no immediate relationship either to this sacrament or to adjacent bodies". [30] Aquinas underscores that Christ's body is related to the milieu surrounding the consecrated bread and wine, not by means of His intrinsic accidents, but strictly via the sacramental accidents. [31]

Suarez enters into a lengthy discussion about concomitance with reference to the precise meaning of the "body" of Christ as the direct term of Eucharistic transubstantiation. From the very force of the words of consecration, the body of Christ becomes present under the sacramental species of bread and the blood of Christ under the species of wine. But the problem

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[27] ***ST*** III, q. 76, a. 1, c; a. 3, c; a. 4, c, ad 1.
Cf. ***In Sent.*** IV, d. 10, q. 1, a. 2, sol. 3, c.

[28] ***SOG*** IV, c. 64[2].

[29] ***ST*** III, q. 76, a. 5, ad 3.

[30] ***ST*** III, q. 76, a. 7, c, trans. English Dominican Fathers (Westminster, Maryland: Christian Classics, 1981).

[31] ***ST*** III, q. 76, a. 7, ad 1.

revolves around understanding just what "body" comprises. Suarez decides that it includes the individual matter of Christ's body and all its organic parts in their perfect integrity. It follows that the substantial form (soul) determining Christ's humanity is also rendered present by dint of the consecration formula, because the substance of the body is not matter alone, but a composite of matter and form. Thus, transubstantiation, from the force of the consecration, terminates at the unified compound of ensouled body, since neither vital flesh nor blood can exist bereft of the primary specifying form. [32] Nevertheless, from the power of the consecratory utterances, the blood is not in the host and the body is not in the wine in the chalice; rather, they are united through concomitance, which Suarez explicates as consisting in the "natural dependence" between the living body and the blood, inseparably linked with each other. [33] On the other hand, accidents are instilled by concomitance according to various analogical grades of connaturality, whether necessary or contingent and whether immanent or extraneously derived. [34]

Concerning the inner situation of the parts of Christ's body in the Eucharist, Aquinas observes that situation presupposes quantity. But because the quantity of Christ's body imports no similarity to the dimensions of the offertory bread, neither does the posture of His corporeal parts. Therefore, although His body, insofar as it is under the Sacrament, has distinct parts naturally positioned, nonetheless the different parts of His body do not lie in such a way that they can be assigned to corresponding portions of the bread's dimensions. Nor does it follow that the body of Christ is in a confused state, since its parts do have order among themselves. Yet they are not comparable to exterior dimensions according to that internal ordering. [35]

IV

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[32] ***In Sum. Theol.***. III, Disp. 51, Sec. 4, pars. 6-8.

[33] ***In Sum. Theol.***. III, Disp. 51, Sec. 3, passim, esp. pars. 2,3,5.

[34] ***In Sum. Theol.*** III, Disp. 51, Sec. 5. par. 4.

[35] ***In Sent.*** IV, d. 10, q. 1, a. 2, sol. 4, ad 3. Cf. fn. 3 about usage of the term ***situs***.

Toward an Absolute Physics

We have seen that Eucharistic confection makes the body of Christ substantially present but not circumscriptively present, since physical location depends totally on the accident of dimensional extension, which is suppressed in the Blessed Sacrament. Because the substance of a material thing is wholly present in every part of it and naturally precedes its quantity, substantial conversion ***ipso facto*** consigns distance between parts to irrelevance regarding the direct object of transubstantiation. [36] Concisely enunciated, "Christ is not in this [S]acrament as in a place." [37]

Now the dimensive quantity of the bread can be fractured and hence multiplied in diverse places. But Christ's body, which is present after the manner of substance in the Eucharist, cannot be broken and locally pluralized there, since it is not the proper subject of the bread's quantity (and the other accidents based on that extension). [38] Indeed, the body of Christ is not comparable to the sacramental accidents through the mediation of His own intrinsic dimensions, which are present only consequentially. Therefore, whatever is fitting for Christ's body by the medium of His own dimensions is not suited to Him according as He is under the Sacrament. Since quantitative division could not befit Him except by means of His proper dimensionality, the breaking of the sacramental species cannot fragment His body itself, even if it were still passible. [39]

Despite the lack of equality between the body of Christ and the place of the bread (on account of the direct conversion of the wheaten foodstuff into Christ's corporeal substance, with the dimensions of the bread persisting sensibly but Christ's proper dimensions present solely by concomitance), His physical quantity is in the Sacrament via the (extrinsic) medium of the perduring

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[36] ***ST*** III, q. 76, a. 3, c, ad 1-3; a. 4, ad 1.

[37] ***ST*** III, q. 76, a. 6, c, ad 1.

[38] ***ST*** III, q. 77, a. 7, c; ***SOG*** IV, c. 67.

[39] ***In Sent.*** IV, d. 12, q. 1, a. 3, sol. 1, c. For corroboration, see ***SOG*** II, c. 49[4], where Aquinas proclaims that substance would be indivisible without (the accident of dimensive) quantity. Cf. parallel passages in ***ST*** I, q. 50, a. 2, c; ***In Boeth. de Trin.***, q.4, a. 2, c, and q. 5. a. 3, ad 3.

dimensions of the bread. In a way, then, His body is in place through the competence of these alien dimensions. [40]

The body of Christ, present in its entirety in each part of the Holy Eucharist, is unextended compared to the ambiance. Suarez astutely deduces that this non-quantitative substantial presence banishes any contradiction with respect to the multiplication of Christ's physical presence in arbitrarily numerous places, because already His body is complete in every portion of a consecrated Host, howsoever spatially distant or minuscule. The discontinuity of segments in a fragmented Host introduces no germane objections, since the Eucharistic Christ has no connatural capacity for a proportionately determinate magnitude. [41]

According to Suarez, the propinquity of Christ's bodily mode of presence to the sacramental species is merely a relation from an extrinsic denomination. [42] Notwithstanding, the sacramental being of Christ's body includes a certain inseparable conjugation to the species, in such a way that this intimate mutual presence constitutes the essence of the Eucharist. [43] This relationship arises by Divine agency sustaining the sacramental accidents through the instrumental efficient causality of Christ's body. [44]

Although Christ's body is essentially indivisible, it undergoes an indirect division (as it were) through the fragmentation of the sacramental species -- in the sense that He is wholly substantially present wherever the accidents of the consecrated bread are located. [45] This prodigy is not an instance of circumscriptive multilocation, however, for Christ's sacramental presence is strictly non-circumscriptive. [46] Instead, it exemplifies an incidental multilocation.

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[40] ***SCG*** IV, c. 64[4].

[41] ***In Sum. Theol.*** III, Disp. 48, Sec. 3, par. 3.

[42] ***In Sum. Theol.*** III, Disp. 47, Sec. 2, par. 12.

[43] ***In Sum. Theol.*** III, Disp. 47, Sec. 3, par. 13.

[44] Cf. ***In Sum. Theol.*** III, Disp. 47, Sec. 3, pars. 11-13.

[45] ***SOG*** IV, c. 64[5].

[46] ***In Sent.*** IV, d. 44, q. 2, a. 2, sol. 3, ad 4.

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Even though Suarez disagrees with his illation, Aquinas propounds a convincing demonstration that genuine multilocation is metaphysically impossible, primarily because the simultaneous circumscriptive presence of a being in a plurality of places would destroy its transcendental unity. [47] This disruption of internal undividedness would not arise, though, in the case of several bodies occupying one place at a given time. Therefore, compenetration of physical substances is metaphysically possible, according to both Aquinas and Suarez. Nonetheless, it would require God's miraculous intervention to overcome the natural impenetrability stemming from the resistive impediment of dimensive quantity or local extension. [48] (Such questions, bordering on the horizon of eschatology, exert a magnetic fascination for absolute cosmology.)

V

We recognize that difficulties can be raised about some key factors of Thomistic-Suarezian Eucharistic physics, and in this section we endeavor to address them.

Among the three chief potency/act distinctions in creatures (essence/existence, matter/form, substance/accidents), we ascertain a descending order of intimate connection. For Aquinas, the first two pairs encapsulate merely co-principles of finite being which are utterly inextricable, and thus evince minor real distinctions. Substance and accidents, however, lack, essential unity of composition. Unlike the perfect union of matter and form, the conjunction of substance and accident does not give rise to a single essence. [49] The separability of the terms shows that the distinction between them is greater

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[47] Ibid.

[48] *In Sent.* IV, d. 44, q. 2, a. 2, sol. 2, c; sol. 3, c; sol. 4, c.
Cf. *In Boeth. de Trin.*, q. 4, a. 3, ad 1, 2; a. 4, c;
also *SOG* IV, C. 87[3]. For Suarez, see *DM* XL, Sec. 1, par. 10; Sec. 2, par. 22; Sec. 4, par. 16.

[49] ***On Being and Essence***, c. 6[2], p. 67 (Maurer trans.);
cf. also c. 6[8], p. 70.

than a minor real distinction. [50] Nonetheless, since the conservation of accidents apart from physical substance necessitates a Divine supervention, there cannot obtain between them the customary major real distinction found naturally between two diverse substances or between one substance and the accidents of a different substance. For Suarez, the first pair discloses simply a conceptual distinction with a foundation in reality. On the other hand, he ascribes an entitative act to matter permitting separability by Divine power. [51] Yet prime matter, unlike material substance, has no formal actuality, so that a higher degree of separability holds between substance and entitative accidents than between matter and substantial form. [52] In either case, we deem that both philosophers endorse a real distinction between substance and its intrinsic accidents that still falls short of a major one on the natural level. If the latter is denominated a perfect major real distinction, then we may conclude that Aquinas and Suarez embrace an imperfect major real distinction between material substance and its absolute accidents (i.e., locally extended quantity and proper sensible qualities).

The detachability of certain accidents (namely, dimensional quantity and sensory qualities) from material substance is counterbalanced by the possible existence of physical substance without phenomenal accidents. In particular, its proper extension would inhere in a real, but only a radical and aptitudinal, manner. Moreover, both dimensive quantity and sensible qualities would be present solely by a natural, but an incidental, concomitance after the fashion of substance. Therefore, Aquinas and Suarez espouse a strong, yet nuanced, mutual distinction between material substance and such entitative accidents.

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[50] ***ST*** I, q. 66, a. 1, ad 3: "Accident, inasmuch as it is a fom, is a kind of act; whereas matter, as such, is essentially being in potentiality. Hence it is more repugnant that matter should be in act without form than for accident to be without subject."

(English Dominican trans.)

[51] ***DM*** XIII Sec. 4, pars. 9, 10, 13; Sec. 5, pars. 10, 12, 13; Sec. 8, par. 8; ***DM*** XV, Sec. 9, pars. 5, 6, 8, 9, 10.

[52] ***DM*** XIV, Sec. 3, par. 47; DM XVI, sec. 1, pars. 13, 14.

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Nevertheless, the notion of Eucharistic concomitance, applied to Christ's dimensive quantity, has been attacked as self contradictory. [53] We reply, first of all, that Aquinas' theory of concomitance involves a judgment arrived at as the conclusion of discursive reasoning. We have a simple apprehension neither of the direct term of transubstantiation nor of its accompaniments. This admonitory defense merely prepares the way for a refutation of the accusation of logical inconsistency. To exonerate Aquinas' (and Suarez's) thinking, we must pay closer heed to the significance of sacramental presence. Christ's proper dimensions accompany His body in the Sacrament only after the manner of His substance, which is entirely present in every part of the consecrated Host. Consequently, there is no local configuration to external surfaces. The body of Christ in the Sacrament has real internal quantity ***qua*** substantial, but then this dimensionality is radical. Relative to the enviroment, His natural corporeal extension is purely aptitudinal. The key to unlocking the enigma is an avowal of the real distinction between the essence of physical quantity and the nature of place. This thesis is intelligible, even if not imaginable.

Those with Nominalist sympathies register protests about the Thomistic-Suarezian explanation of the process by which Eucharistic confection happens. Furthermore, they criticize the traditional Scholastic conception of quantity. [54]

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[53]See Edith D. Sylla, "Autonomous and Handmaiden Science: St. Thomas Aquinas and William of Ockham on the Physics of the Eucharist."

The Cultural Content of the Medieval Learning: Boston Studies in the Philosophy of Science, 26, eds. J. E. Murdoch and E. D. Sylla (Dordrecht, Holland: D. Reidel Publishing Company, 1975), 349-396. Sylla impugns Aquinas for committing an alleged contradiction in his theory of concomitant quantity, which entails, she claims, unextended dimensions or "non-extended extension" (p. 365). Her article lands Ockham's employment of philosophy in theology and assails Aquinas for inventing an ***ad hoc*** "sublimated" (or religious) metaphysics. Interestingly, she conjectures that Ockham's convictions about quantity, sensible quality, and place were influenced, too, by pondering the. doctrine of the Eucharist.

[54]See, along with Sylla's article cited above, T. D. Sullivan and

With regard to the initial charge leveled, the alternative hypotheses (spurning substantial conversion) that the bread's substance might be annihilated and instantaneously replaced via creation of Christ's body, or that Christ might descend to take over the bread, cannot be disputed on ***a priori*** philosophical grounds; this controversy can be settled at best through official pronouncements of the ecclesial Magisterium. We refuse to become entangled in theological polemics here.

On the other hand, the second quarrel is more amenable to cosmological adjudication. The reductivist view that quantity has no absolute entity but is merely an intrinsically perspectival feature of material substance and sensible qualities obliquely naming the co-relational posture of these things, [55] though not internally contradictory and in fact commanding some plausibility, nevertheless seems to conflict with our experience of the distinctive reality of quantity perceived through accidental change (augmentation and diminution in size) amidst the basal constancy of substance and qualities. Suarez devotes a good deal of energy to confronting Ockham and his disciples on this topic. For example, he proffers Aristotle's argument that quantity is ***per se*** a (common) sensible object, whereas substance is only sensible ***per accidens***. [56] That local extension functions as a quasi-subject imparting differentiation yet cohesiveness to relatively **tenous sensible qualities**, which otherwise would be

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Jeremiah Reedy, "The Ontology of the Eucharist", ***American Catholic Philosophical Quarterly***, LXV (1991), ed. J. Gracia [Special Issue on Francisco Suarez], 373-386. These two authors , expend much effort scrutinizing and rejecting the standard Thomistic-Suarezian arguments for the absolute reality and Divine detachability of (continuous) physical quantity.

[55] According to Sylla, ***op. cit.***, p. 371,, "the quantity of the species of bread is only a connotative tem referring to the qualities directly and to their coextension in space with other bodies indirectly." See also Allan B. Wolter, "The Ockhamist Critique", ***The Concept of Matter***, ed. E. McMullin (Notre Dame, Indiana: University of Notre Dame Press, 1963), 144-166, esp. 157-159. Wolter describes (p. 157) Ockham's position that "'quantity' is . . . a connotative term which denotes either the substance (matter or form)

> or some corporeal quality, and connotes that the integral parts
> thereof are so arranged that to go from one to the other requires local motion."

[56] ***DM*** XL, Sec. 2, par. 7. Cf. Aristotle's ***De Anima*** II, 6: 418a6-25.

compenetrated by other material substances or merely exhibit a vague association among themselves, is another Suarezian rejoinder to the Nominalist identification of quantity with physical substance and proper sensible qualities. [57]

In the absence of a substantial material subject, God undeniably **could** perform a novel miracle to bind the sensory appearances of bread after their disengagement and maintenance in being; however, it seems more congruent with the precept of parsimony (Ockham's own economical razor) to posit simply transubstantiation and the remediating efficient conservation of all entitative accidents -- including a real aboriginal quantity qualified by sensible characteristics. [58]

Moreover, conflation and equivocation must be averted by distinguishing between the two senses of quantity: aptitudinal extension, which is an accident inseparable from material substance (even by Divine power), and local extension, which **can** be detached if modified by proper sensible qualities. Of course, the idea of preserving quantity-in-itself, isolated not only from substance but also from all sensible qualities, **would** plummet us down the precipice of ontological absurdity, because quantity is laden with an analogical intentionality: it is both **of** a substance and **for** supporting sensible qualities as a categorial intermediary. [59] In Eucharistic confection, the bread's local extension and qualities are conserved upon its substantial conversion, while the substance of Christ's body emerges with aptitudinal extension in tandem, devoid of actual local extension.

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[57] ***DM*** **XL,** Sec. 2, pars. 11, 17; ***In Sum. Theol.*** III, Disp. 56, Sec. 3, pars. 2,4.

[58] ***DM*** XIV, Sec. 4, par. 7; Sec. 3, par. 39.

[59] For expatiation on the teleological intentionality of quantitative extension, see George Kendall, "Space-Time and the Community of Beings: Some Cosmological Speculations", ***The Thomist***, LI (1987), 480-500.

VI

A compact general proof for the rational possibility of sacramental presence might run along the following tracks. Substantial conversion can be effected through Divine omnipotence. Its direct term, then, is a new substance as such, whose nature is to exist whole in the whole and whole in every part. Therefore, its own proper quantity merely accompanies it as an intrinsic aptitude, but is not directed to affecting the external environs. In other words, it is not circumscriptively located. By God's unlimited power, neither would it necessarily demand definitive presence. If God were to exercise efficient causality by conserving the spatial extension (together with separated qualities) of the initial material stuff while sustaining the new substance, the latter would be physically present under the aspect of alien dimensions (together with some other foreign accidents). Hence, we infer the metaphysical possibility of sacramental presence. [60] (Obviously, the actual occurrence of Eucharistic transubstantiation remains purely an article of religious belief.)

VII

At any rate, an incipient framework for a minimalist structure of absolute physics has been erected. We survey the planks of this skeletal outline in a synoptic review. Material substance and quantity (construed as aptitudinal extension) are inseparable; however, physical substance and quantity (considered as actual local or dimensive extension) are mutually detachable by the almighty power of God. Therefore, it is possible for corporeal substance to exist without a (circumscribed) place. Although certain accidents (viz., local

[60]Both the Nominalists and their Thomistic-Suarezian opponents seem to have reached a dialogic impasse, where neither side finds the other's rebuttals cogent. The fate of quantity, fortunately, does not vitiate or compromise an intelligible ontology of the Eucharist, however divergent its lineaments for different camps of Scholastic thought.

quantity and sensible qualities) can be preserved by Divine agency apart from a material subject of actual inherence, such accidents are themselves inextricably forged. That is, separated dimensive quantity must be existentially informed by sensible qualities, for otherwise it would constitute a kind of idealized, abstract mathematical dimensionality, and so would not be extramental physical quantity. Moreover, corporeal quality must be subjected **in** (or at least **to**) some quantitative extension. [61] Finally, simultaneous occupation of the same place by a plurality of bodies is possible through Divine efficacy; nevertheless, for a single body to be circumscriptively present in more than one place at a time would result in metaphysical contradictoriness.[62]

We should notice an ineluctable oscillation between the attractive poles of faith and reason in sparking the engine of absolute physics. Aquinas and Suarez undoubtedly appreciated this epistemic inevitability. They have probed a dogma of revelation, accepted on the authority of Scripture and Tradition, at sufficient depth to warrant our assent to its harmony with the dictates of reason reflecting on the superlative cosmic genera. The resources of both noetic lodestars are exploited to a maximum degree in charting the categories. This profound integration of faith and reason ensures for absolute physics its ultimate synthesis into the unity of truth.

David P. Lang, Ph. D
14 Queen St.
Franklin, MA 02038

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[61] Aquinas would insist on the first preposition, according to his theory of the order of accidental inherence. The alternative preposition represents a slight concession to the Nominalist stance.

[62] We subscribe to Aquinas' position rather than Suarez's on the debate over multilocation, appraising the former's compelling arguments (given in ***In Sent.*** IV, d. 44, q. 2, a. 2, sol. 3, ad 4) superior to the latter's unpersuasive justification for simultaneous spatial replication (offered in ***In Sum. Theol.*** III, Disp. 48, Sec. 4, par. 5).