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Twentieth-Century Despair & Thomas' *Sound* Argument for God

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TWENTIETH-CENTURY DESPAIR & THOMAS' *SOUND* ARGUMENT FOR GOD

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RÉSUMÉ : La philosophie moderne est typiquement traitée comme un dépassement éclairé de millénaires de philosophie antérieure ; comme s'il fallait voir, dans les trois cents dernières années, le progrès philosophique d'une révolution scientifique ! En réalité, cette révolution a réduit la causalité efficiente selon Thomas d'Aquin à une séquence invariable d'événements. Encore que de tels événements aient été inclus dans son raisonnement modal jusqu'à une cause première, la méconnaissance moderne d'un sommet thomiste de raisonnement antique et médiéval a produit d'indicibles problèmes épistémologiques et un désespoir logiquement confus, en rejetant cette cause en tant que Dieu.

SUMMARY : Modern philosophy is typically treated as an "enlightened" suppression to the millennia of previous philosophy ; as if, in the last three hundred years, there was the philosophical progress of a scientific revolution ! In fact, this revolution reduced Thomas' efficient causality to an invariable sequence of events. Though the events were included in his modal reasoning to a First Cause, the modern disregard of a Thomistic apex of ancient-medieval reasoning yielded untold epistemological problems and a logically confused despair by rejecting the Cause qua God.

F rom our experience, Thomas infers the modal impossibility of a world without a First Cause. Reformulated as necessarily if there is no God, there is no world, there is a modal necessity that lies between a necessity of logical truth and truth deemed reasonable. The necessity is the conditional premise of an evidently sound argument for God.[1] The argument's validity is not controversial but rather the truth of the premises. Acceptance of the conditional premise renders noncontroversial the

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other and cannot be reasonably accepted as false when a current modal reasoning of science is affirmed to be true. *Pari passu*, to affirm the truth of the scientific reasoning is to affirm the conditional and to avoid a radical specter of Nature suddenly ceasing to exist ; sustained in the imagination of neither scientists nor eminent philosophers who have fostered a contemporary *angst*.[2]

Thomas' thought does not seem to be expressed by the mere material conditional that "If there is no First Cause, there is no world", where the conditional is true if *as a matter of fact* it is not the case that "There is no First Cause" is true and "There is no world" is false. He seems to hold that the falsity is impossible when there is not the Cause. Though his thought reflects important modes of scientific reasoning, contrasting it to one in current cosmologies may be helpful. Given various *universe* and *multiverse* cosmologies, astrophysicists might assert that if there had been no quantum fluctuation of a primordial black hole, the universe would not exist.[3] Whereas they would presumably acknowledge the possibility of the present space-time universe existing even if a particular "Bang" did not occur in terms of a given cosmology, Thomas' seems to suppose that it is necessarily the case that without a First Cause *qua* God the universe could not exist.

1. *Necessity*

Thomas seems hold *necessarily* if there is no God, there is no world, where our experience of it leads to this conditional. While the conditional permits such things as God not causing a quantum fluctuation, it does not allow for His nonexistence to be merely one of several possible sufficient conditions or for its being a condition that could obtain when there is a world. That is, for God's nonexistence to permit the valid inference to there being no world, it must be *impossible* for "There is no world" to be false when "There is no God" is true. "There is no God" entails "There is no world" *if and only if* "There is no God, therefore there is no world" is a valid inference : To assert that "There is no God" entails "There is no world" is to assert that "If there is no God, then there is no world" is necessarily true. And in this very manner, Thomas' conditional falls within the domain of modal logic.

Certainly, his reasoning admits of distinguishing modal necessities from logical ones in terms, say, of conclusions following premises with logical necessity. But the premises often stem from a broad common-sense (*sensus-communis*) experience, reminiscent of Aristotle's "experience of ages", by which they might be understood to have a modally necessary truth. The truth conceived by Thomas was, surely, influ-

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2. The "angst" is tied to a despairing "experience of nothingness". See Michael NOVAK's *The Experience of Nothingness* (New York : Harper & Row, 1971), back cover. Bernard Lonergan states that "meaning can be so debased [...] [the] world collapses and there follows the experience of nothingness". Interestingly, there is reference to Heidegger but none to Wittgenstein. This may be, as noted below (*fn.* 23), because Wittgenstein's followers "sanitized" some of his writings.

3. See physicist V.J. STENGER's "The Face of Chaos," *Free Inquiry*, 13 (1993), p. 13-14. Stenger refers to the black hole prior to the fluctuation *qua* Bang as having maximum entropy or peak disorder and as being a virtual "nothingness" devoid of space-time, structure, and governing laws of physics. On the peak-entropy scenario, the formation of any given universe would be unpredictable. "Universe" and "world" will generally be used interchangeably.

enced by Aristotle. The breadth of Aristotle's reasoning may be why some eminent Anglo-American philosophers, despite an antimetaphysical indebtedness to logical positivism, view Aristotle as one of the great forerunners to analytic philosophy.[4]

Aristotle's analyses, of course, were frequently concerned with modalities of propositions that ranged from "It is necessary indeed, if animal follows man, that it should follow all these also [subjects of the predicate 'man']", in the *Prior Analytics* 43^b, to the sort "A cannot inhere in B where B inheres in C, with the resulting inference that A inheres in C, and this is a known and admitted impossibility" in the *Posterior Analytics* 87^a. However, modal language concerning efficient causality would designate one thing for Aristotle and another for Thomas. Whereas Aristotle's notion of the causality involved only the cause of change, the "cause of form informing matter," Thomas' Second Way included this cause and the cause of existence as well. In being preceded by "[...] in efficient causes it is *not possible* to go on to infinity," the last half of the Second Way states (I, 2, 3) :

> [...] if there be no first cause among efficient causes, there will be no ultimate, nor any intermediate cause. But if in efficient causes it is possible to go on to infinity, there will be no first efficient cause, neither will there be an ultimate effect, nor any intermediate efficient causes ; all of which is plainly false. Therefore it is necessary to admit a first efficient cause, to which everyone gives the name of God.[5]

Thomas' Second Way goes beyond his First Way inasmuch as the First proved merely that God was the cause of universal change and the Second that He caused the world's existence *qua* ultimate effect and all intermediate (second) efficient causes. Still, the last half of the First Way is similar to this argument insofar as both arguments might be expressed by what is today called a *modus tollens* syllogism.[6] The syllogism, apart from modal considerations in the Second Way, specifies that if there is not an uncaused First Efficient Cause (~F), then there are not second efficient causes (~S) ; there are second efficient causes (S) ; therefore, there is a First Efficient Cause (F) that we name God : ~F → ~S / S // F. Now it is by reference to our experience of second causes in the Second Way, before this argument occurs, by virtue of which Thomas' first premise is formulable as Necessarily (~F → ~S). Without articulating the reasons for the formulation at this time, several things may be reiterated and noted about the syllogism.

First, the first conditional premise may also be expressed "It is impossible for ~S to be false when ~F is true". Thomas holds that our experience of the nature of second causes (S) induces us to inextricably hold that without a First Cause (F) they cannot exist. Modern logicians know that the syllogism has a valid form. A central

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4. For instance, see R. TRUNDLE's *Ancient Greek Philosophy. Its Development & Relevance to Our Time* (London : Ashgate Publishing Co., 1994), p. 8, regarding an eminent analytic philosopher who, though once calling himself "a 'not naive logical positivist' [...] [declared] that Aristotle was one of the great 'analytic philosophers'."

5. St. Thomas AQUINAS, *Summa Theologica*, I,2,3 (emphasis added), in *A Shorter Summa*, P. Kreeft, ed. (San Francisco : Ignatius Press, 1993). Future reference is to this edition.

6. See KREEFT, *A Shorter Summa*, p. 60-61, fns. 21-22, who in making this comparison, has other intriguing insights about such things as how faith and reason relate to the "Big-Bang" theory.

issue concerns soundness — the truth of the premises. The second premise "*S*" is rendered noncontroversial by the notion of "efficient causality" in the conditional, and the conditional's truth will be strengthened by Wittgenstein's *own* insights.

Second, a modal fallacy is not committed in Thomas' *modus tollens*, regarding the conclusion : "Necessarily if ~*F* then ~*S*, and *S*, therefore *necessarily F*". The fallacy also draws attention to the fact that $N(\sim F \to \sim S)$ is not equivalent to either $N\sim F \to \sim S$ or $\sim F \to N\sim S$, where, for convenience, "N" means "Necessarily" (as opposed, say, to a Polish Notation "NMN").[7]

Third, $N(\sim F \to \sim S)$ is not, of course, equivalent to $N(F \to S)$. Given that "Necessarily, if there is no First Cause, there are no second causes," we cannot validly infer that "Necessarily, if there is a First Cause, there are second causes". This fact does not weaken Thomas' general theology because a First Cause *qua* God need no more have created the universe than a universe that is finite as opposed to infinite. However, when he says that the union of a lover and beloved involves both the presence of the lover and union of affection (I-II, 28, 1), he does not merely indicate a difference between Roman Catholicism and Protestantism with regard to the sacraments. *Thomas understands, from a theological perspective, that the nature of God* qua *Love is such that He would inevitably have created the beloved.*

We love God, says the Scripture, because God loved us first. Though understanding the cupidic relationship comes through a revelation unaccepted by Heidegger and Wittgenstein, Thomas' thought suggests that the proper use of will, sensation, and intellect — in view of modal notions other than epistemic ones (explained shortly) — enable the beloved to understand the disingenuousness of the world's possible nonexistence.[8]

Necessity in revelation and argument

Some points relevant to revelation may be briefly summarized as a prelude to contrasting a modal necessity to the language of Wittgenstein and Heidegger concerning the world's possible nonexistence. A brief comparison of the First and Second Ways may be helpful in this respect. The First Way may underscore that experience and reason need to be complemented by revelation for grasping the beginning of the universe in time with time, in contrast to Aristotle's "pagan thought" in which there was no beginning. Still, although eminent scholars such as F. Copleston note that Mohammedan believers were being addressed and that "God is recognized [...]

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7. For example, "*Necessarily if* there is no God, there is no world" means it is *impossible* for "There is no world" to be false when it is true that "There is no God". However, in "*If necessarily* there is no God, there is no world", it is *possible* that "There is no world" is true or false even though "Necessarily there is no God" permits only true truth-values. While the antecedent of the latter conditional is "stronger" than that of the former, the latter conditional is weaker than the former in the sense that the former disallows a world when there is no God.

8. Compare Thomas and Augustine, in this regard, in R. TRUNDLE's "St. Augustine's On Free Choice of Will. Prologue to Twentieth-Century Meaning," *Charisteria Augustiniana*, P. Merino and J. Torrecilla, ed. (Madrid : Editorial Augustinus, Orden de Agustinos, 1993), p. 481-498.

to be the first Cause",[9] this Cause causes universal change and not existence. Thus, strictly in terms of the argument, it might be akin philosophically to an eternal Unmoved Mover that exists inseparably with the things it moves.

Now I do not submit that the Second Way establishes the existence of the Judeo-Christian God. But in going beyond God merely causing universal change to causing the existence of the world, I will argue *inter alia* that Thomas intended his Second Way to be linked modally to a divine Agent *qua* Creator as opposed, say, to anything interpretable as an eternally inseparable *Nous* or "form of the world's substance". And in proving the existence of a Creator, the Second Way, together with revelation, suggests that creation would *have had* to obtain by virtue of a God *qua* Love who by His nature wills reciprocated love in order to be in complete union with His beloved.

Given the connection of Love (*agape*) to God's holiness and notions that He "cannot deny Himself", talk about creation "having had" to obtain may reflect a "deontic modality" concerning what ought to be or must be done — though I am concerned primarily with "alethic" and "epistemic" modalities. The latter are those with connections to sentences involving respectively "necessary", "possible", "impossible" etc. and "knows", "believes" etc.

The Second Way suggests that openness to revelation may come from experience and reason. However modal notions pertain to other proofs beyond my scope, the Second Way not only involves Thomas' idea of a divine Being but one, given the world's existence, whose nonexistence is impossible. Though modal notions of impossibility and necessity have been notably applied to Aristotle's *De Interpretatione IX*,[10] they are poignantly applicable to Thomas and to a specter of "angst" in the twentieth century.

Argumentative reasoning ?

The notions seem particularly relevant to two of the greatest twentieth-century opponents of traditional metaphysics, Heidegger and Wittgenstein, who were haunted by the specter of there being "nothing" rather than "something". Heidegger's *Einführung in die Metaphysik* commenced with the primordial question "Why are there essents [existents] rather than nothing ?"[11] and Wittgenstein declared that he had a certain experience wherein : "When I have it *I wonder at the existence of the world. And I am then inclined to use such phrases as 'How extraordinary that anything should exist !' or 'How extraordinary that the world should exist !'*."[12] While these exclamations indicate astonishment, they are also congruous with a sense of despair in their disassociation from God. The biographer-philosopher Norman Malcolm notes that "Anyone on an intimate footing with Wittgenstein must have been aware of the

9. F. COPLESTON, *A History of Philosophy 2, Med. Phil. II* (New York : Image Books, 1962), p. 62.

10. See R. TRUNDLE's analysis of J. Hintikka and a traditional modal interpretation in *"De Interpretatione IX. Problem of Future Truth or Infinite Past Truth," The Modern Schoolman*, LX (1981), p. 49-55.

11. Martin HEIDEGGER, *Einführung in die Metaphysik [An Introduction to Metaphysics]*, translated by R. Manheim (New York : Doubleday & Co., Inc., 1961), p. 3.

12. N. MALCOLM, *Ludwig Wittgenstein : A Memoir* (New York : Oxford University Press, 1984), p. 59.

feeling in him that our lives are ugly and our minds in the dark — a feeling that was often close to despair."[13]

Now part of our task as philosophers is to try to rationally explain the despair or dread of other philosophers when these moods attach to important philosophical issues. The various moods connected to the existence of the world, in terms of a Thomistic explanation, might not reveal a naïveté about the "physics" of *how* things come into being, from geomorphic formations to living things, but rather 1) a surreptitious recognition, given the nature of their existence, that it is impossible for there to exist such things when there is no First Cause (called God), and 2) a dismissal of God and inference to the possibility that the things might not exist. Thomas' thought addresses contemporary nonbelievers as well as believers who, in a Judeo-Christian culture, would tend to identify the First Cause with a Creator *qua* God. Is God dismissed with the consequent of the ontological possibility and moods ?

The moods may reflect the transition, in their thinking, from a modal impossibility to a possibility of things not existing. Before considering a logical mechanics of the transition, let me defend my "introspective speculation".

One wishes to avoid psychological, as opposed to logical, assessments since they seem *ad hominem*. But questions about the "person" may properly ensue when adept thinkers contumaciously embrace questionable thinking or their thinking is enigmatic in terms of assertions that reflect unexpressed inferences and various beliefs, moods, or preferences. In a still influential positivist tradition, psychological states of the "person" are unabashedly addressed by use of a verification principle that relegates "his" or "her" undeclarative sentences to preferences, e.g. "*P* is good" to "I like *P*". My point does not commit a "You-too" (*Tu-quoque*) Fallacy. Besides avoiding an unverifiable principle, it underscores a rationality of assessing "emotive" elements of reasoning when it is, self-avowedly, entangled with moods.

Also, although "angst" is mentioned in popular culture, the mood seems relatively uncommon among secular philosophers. This apparent fact may reveal that they do not think as seriously about fundamental questions. But, from Thomas' perspective, it may also reflect their allowance for, or "personal" belief in — if not philosophical position supporting, some sort of supreme Being. What is common to Heidegger and Wittgenstein, in any case, is their impatience with traditional modes of argumentation.

Since it is characteristic of them to be impatient with arguments for God's existence in particular, the *modus tollens* might be understood as a "single-thought process". Accordingly, the more stilted argument with premises and conclusion self-consciously framed, premise over premise with conclusion underneath, might be considered in terms of a tacit inferential process. The process could, of course, be understood as a conditional statement : $[N(\sim F \rightarrow \sim S) \wedge S] \rightarrow F$. Taken with a disbelief in the inferred existence of "F", as soon elaborated on, there is left the experienced "S" and inferences to its possible nonexistence. Again, such a claim about an unexpressed

13. *Ibid.*, p. 60.

inferential process may seem presumptuous, if not *ad hominem*. Thus it might be noted, in passing, that Stephan Korner articulated a much celebrated conditional for criticizing and explaining an implicit reasoning of scientists.[14]

The sentential and argumentative formulations are in effect the same and, certainly, no one would remotely suggest that these philosophers would not be aware of the fact. I have myself defended the depth of their thought even with regard to the world's possible nonexistence.[15] What is being suggested is that Thomas' argument may give formal and structured expression to a subtle, but *natural*, mode of reasoning that explains why many theologians gave traditionally held that unqualified disbelief in a supreme Being is something both unnatural and requiring an act of the will.

Thomas' other proofs ostensibly reflect the same thing, but the naturalness would hold for efficient causality as well. (And it alone, among the "four causes", was transformed from explanatory agencies into invariably succeeding events in modern philosophies of science with various epistemic difficulties, e.g. Kant's truth-valueless *synthetic a priori* causal principle and a "K-K Thesis" whereby "if skepticism is to be avoided [about *K*nowing one *K*nows], the exploitation of [...] 'causal' regularities in obtaining *a posteriori* knowledge must not require prior knowledge of those regularities".[16])

Post-Kantian physics and metaphysics are later related to teleological agencies. Here, I note that to strengthen the case for the naturalness of reasoning to a supreme Being is to strengthen the notion that a modal possibility per se of there being no world is disingenuous. Further analysis of the disingenuousness is addressed after considering an objection.

14. Cf. KORNER's explication of the conditional in *Experience and Theory* (London : Routledge & Kegan Paul, 1969), p. 182-190, that was praised in *Philosophical Books* for showing how "our thinking about science [...] and everyday experience can be traced".

15. See my book review in *The Modern Schoolman*, LXVIII (1992), p. 165.

16. F. SUPPE, *The Structure of Scientific Theories* (Chicago : University of Illinois Press, 1977), p. 722. Modern skepticism about causal regularities is based *prima facie* on a falsely-dichotomized positivist notion of there being only immediate empirical (*synthetic*) and logical (*analytic*) truth to which to appeal and is related to problematic truth-ascriptions to scientific theories. The notion that theoretical truth is *analytic* would mean it is trivial. Theories are tested by predictions, but successful predictions do not imply empirically true theories. Arguably, as it would be *more* than reasonable to ascribe empirical truth to theories by virtue of their systematic predictive and manipulative success, since the success could not be explained unless the theories truly describe what physical reality is approximately like, it would be *equally* reasonable to ascribe truth to a causal principle since its truth is a *necessary condition* for the coherence of accepted theoretical truth. How could we coherently *affirm* that theories approximately describe processes and relationships of phenomena and *deny* a continuity of past and future to which they conceptually attach (*pace* Hume) ? The relationships and processes both reflect a dependent nature of phenomena on which depend modalities for theoretical truth-claims, *e.g.* it is impossible there is marble when there are no metamorphic processes, and find expression in "All events have causes". Since it seems *more* than unreasonable to refraim from ascribing truth to the principle when it is to theories, we might specify "Necessarily if theories are true, the principle is true". However, see *fn.* 29 for how the modern principle may be *insufficient* for a coherent notion of scientific "truth."

Objection : the reasoning in ancient philosophy ?

Some historians might object that the thought of the ancient Greeks does not evidence the naturalness of reasoning to any supreme Being. It might be argued that they did not believe in a supreme Being but rather, at best, in a pantheistic "god" or in mere mythological gods. It is beyond the parameters of my discussion to adequately establish why the objection is not convincing, but let me briefly address it to diminish its significance.

Socrates is significant, regarding the objection, since the entire history of Western philosophy prior to him is called "Pre-Socratic Philosophy". The name not only denotes his influence but his assimilation of most of the earlier essential insights. The objection, in view of this fact, does not merely ignore his intriguing assertions that "real wisdom is the property of God" and that "human wisdom has little or no value" (*Apology* 23a) which are strikingly similar to St. Paul's assertions in I Corinthians I:20 : "Where is the wise man to be found ? Where the scribe ? Where is the master of worldly argument ? Has not God turned the wisdom of this world into folly ?"

The objection may also ignore a concern, from the Pre-Socratics to Aristotle, that attached to developments of a scientific-philosophical notion of the "One" — as either the world *qua* Being or the principle Cause of "many observable things". Some secular historians may grumble that Aristotle's history of earlier ancient philosophy was self-serving. But he was closer to it than they and said in his theology that an underlying concern for this Cause was for God *qua* Wisdom as opposed to mere cleverness (*sophis*). The Sophists' relativism and Atomists' science-oriented materialism, rejecting any belief in "god" or "gods" — as in Thales' "gods in things", may be called euphemistically the "Greek Enlightenment". But beyond the fact that it no more ended religio-philosophical developments than the modern Enlightenment, Socrates, Plato, and Aristotle articulated the incoherence of their metaphysics (e.g., *Republic*, 344ᶜ ; *On Sophistical Refutations*, 164ᵃ-184ᵇ).

Furthermore, Socrates spoke of "God" as noted, Plato of a *Demiurgos* who shaped the world as a sculptor shapes marble, and Aristotle metaphorically of a God resembling the supreme Being in Homer's *Iliad* wherein, since the "world refuses to be governed badly [...] one ruler let there be" (*Metaphysics* 1065). Indeed, even his literal talk is suggestive because, while God is a unified form of the world's substance — a position to which he was ineluctably led by virtue of his criticism of Plato's Form-particular bifurcation, Aristotle speaks of God as more than an epistemological principle. This discoverer of formal logic not only speaks ontologically of God as "it" but as a *"living being"* that "thinks of that which is most divine and precious", that produces motion "as being loved", and that which "life also belongs to" (*Metaphysics* 1072ᵃ). A "supreme-Being" thesis is not being glibly advanced for Aristotle but rather a reminder that, besides the presence of some linguistic ambiguity, there are in the thought of this master of precise language the fertile seeds which fostered the "First-" and "Efficient-Cause" arguments for a divine Being in Thomas' work.

Having hopefully weakened an unqualified position that there is no historical evidence to suggest that belief in a supreme Being is something natural, we may reiterate that Thomas gives explicit expression to a subtle, though natural, experience-based reasoning. A sentential-like reasoning process that is less disjointed than argument, coupled with the rejection of such a Being, may account for the transition from a logical necessity of concluding "F" to an astonishment over the existence of "S" : "Why is there anything ?", "Why is there a world ?" That is, from a perennial theological perspective, the answer that Heidegger and Wittgenstein would have naturally inferred is the existence of a supreme Being.

In what may be a sweeping thought connected to his astonishment of the world's existence, Wittgenstein held that the traditional "notion of a being *making the world* had no intelligibility for him at all".[17] And Heidegger attacked the traditional logic, employed surreptitiously in his own thinking, by declaring that "all thinking [...] prescribed by traditional logic [for arguing to the Cause] is incapable from the very start of even understanding the question about the essent [...], let alone [...] guiding it toward an answer."[18]

Given that Heidegger and Wittgenstein were reasonable men, may we not suppose that a reasoning process was connected to their questions and moods ? A way of accounting for the process, other than by formal argument, is by an inferential thought process to a First Cause (F) that, due to religious disbelief, leaves the disbeliever with astonishment over second causes (S). An account might begin with a consideration of modal and material conditionals.

For example, if there is only *explicit* acknowledgment of material conditionals such as "If ~F then ~S" (where "It is in fact *possible* that S when ~F") but *implicit* recognition of S's dependency expressed as "Necessarily if ~F then ~S", then there arises an anomaly of the experienced S. Astonishment over S *being* may occur by implicitly recognizing its impossibility when ~F and disbelieving in F in the context of reasoning "Necessarily if ~F then ~S and S, then F". But, as soon stressed, the modal possibility of S *not being*, while inferred from how the world *is*, is consistent with this conditional. It allows for ~S to be true, for there to be no second causes, when ~F is false — when there *is* a First Cause F. Epistemologically, Thomas permits the possibility that F *qua* God need not have created a world. Again, N(~F → ~S) is not equivalent to N(F → S), though it is to N(S → F). We shall see that this point is important because Thomas' thought invites another novel conditional with F, a Creator of the world, entailed by second causes (S).

Now such causes are not disjoined from their intrinsic intelligibility by either Wittgenstein who speaks of a "world" as opposed to mere "*Being*" or by Heidegger who refers to their intelligible attributes. Consider the attributes and Wittgenstein's astonishment in terms of an analogy.

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17. MALCOLM, *Ludwig Wittgenstein*, p. 59.
18. HEIDEGGER, *An Introduction to Metaphysics*, p. 21.

Thus, by analogy, biologists are often astonished by an intelligible organization of antibodies and, yet, still deny the comprehensibility of some sort of coordinating bodily "intelligence" on which their existence evidently depends. In behaving in concert with other organismic functions, the antibodies beg for the notion of a coordinating principle of intelligence. The analogy may be weak insofar as the "intelligence" is itself dependent and not a creator or "maker". But the analogy illuminates a reasoning relevant to both the astonishment in question and a teleology still embraced in biology.

Biologists often allude to an organismic "intelligence". Some organisms are said to have organized immunity systems that "recognize" and "battle" aberrant cells and others chemical structures so complex that only *plants* could have "concocted" them in defense of herbivorous animals.[19]

If biologists both express *astonishment over harmonized immunological defenses evidencing purpose and* expressly *deny the comprehensibility of a coordinating organismic "intelligence", it seems reasonable to suppose that they had inferred but subsequently rejected "its" existence. The existence of the defenses, as with second causes, would then be anomalous.*

Such an anomaly brings us back to Heidegger and Wittgenstein who have no followers — in the case of Wittgenstein, for example, Stephen Toulmin,[20] who have successfully interpreted their thought in a way that undermines the integrity of their questions : "Why is there something rather than nothing ?" or "Why is there a world ?"

THE WORLD AND "POSSIBILITY"

We recall that denying a Cause *qua* God, whose existence follows as either a conclusion or a conditional's consequent, may reflect the transition to thoughts about the world's possible nonexistence. *I have thus far argued, among other things, that a case can be made that the peculiar moods induced by thoughts of the world's nonexistence may reflect a naturalness of Thomas' reasoning wherein without God there can be no world.*

We may now relate Heidegger and Wittgenstein to modal inferences. After arguing that they are unable to infer anything about the world from its possible nonex-

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19. See Dr. J. COLSTON, Medical Research Center at London's National Institute, *Reuter N-S*, 21 (1993) ; and C. JOYCE, "Taxol : Search For A Cancer Drug," *BioScience*, 43 (1993), p. 135.

20. While Wittgenstein is credited by TOULMIN in his *Human Understanding I* (New Jersey : Princeton University Press, 1972) for the idea that empirical knowledge yielded by a scientific theory *is* knowledge that "some general procedure [...] can be successfully applied" (p. 172-173), Toulmin not only ties success to procedure *per se*, as opposed to theory for explaining its truth, but renders unintelligible "truth" since it is tied to a rationality that is "currently accepted" (p. 134). Since what is accepted as true might be rational at one time but irrational at another, claims of the world's possible nonexistence may be incoherently both true and false. The incoherent relativism would prevent it from undermining the significance of Wittgenstein's claim. However, see *fn.* 27 for the claim's apparent inference.

istence *per se*, I will argue that Thomas begins with an experienced world for inferring the impossibility of its existence without God.

"Possibility" : beginning with modal claims

Let me say, in terms of Thomas argument thus far considered, that Heidegger might viably respond that it does not entirely ameliorate the moods associated with there possibly being no world. The world's necessary existence is not concluded but rather simply a First Cause. At the same time, it has not merely been noted that the revelation of this Cause as God *qua* Love involves a deontic necessity concerning the world's existence as a place for His beloved. Thomas' argument, even as it stands, might make way for an openness to both the revelation and to some degree of a diminishment of the moods. Afterall : *The proof of the Cause is a proof that even without the world there would not be* nothing *but rather the Cause, if not God. Though the Cause might raise the further question of why* it *exists, its existence is at least not dependent as are the things* that ostensibly led *to Heidegger's notion that they might possibly* not be — *a point expanded upon shortly.*

Heidegger treats nonexistence as an attribute wherein a "large thing" having the attribute "lying here" just as surely has the "attribute of potentially not lying here and not being so large".[21] The potentiality of *not being* "such and so" is merely a less "extreme possibility of nonbeing [...],"[22] and this extreme possibility holds not merely for given existents but for the nonbeing of their "totality". The totality is understood as the world. We need to keep in mind that the world and any given thing in it do not have the *potential attribute* of nonbeing but rather already the *attribute* of potentially *not being*. Whereas Heidegger reasons from a modal possibility of things *not being* to what possibly *might not be* concerning their totality, Thomas reasons from how things are — as *being* and *being dependent* — to a modal impossibility of there being such things and not being what is not dependent.

Now I shall argue that Heidegger seems to actually begin, in Thomistic fashion, with things *being dependent* for inferring possibilities of *not being*. Let me first seek to show that even if he begins with such possibilities, a consideration of inferential directions indicates the merits of Thomas' approach. The approach is also relevant to Wittgenstein and shall be related to him shortly. On the one hand, we might briefly consider how beginning with various modal claims lead or do not lead to definitive inferences about existence. By also considering necessity and impossibility, greater light is shed upon the greater peculiar limitation of reasoning from a modal possibility.

For example, we may simply suppose that a person named Boethius necessarily exists. What is inferred from the necessity of his existence is that he does exist. Modal necessity in this sense means that from our assertion that something *must* either exist or be a certain way, e.g. large or small, it follows that it exists or is that way.

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21. HEIDEGGER, *An Introduction to Metaphysics*, p. 25.
22. *Ibid.*

The modal supposition and inference may be unusual and unsubstantive, but the reasoning can obtain.

Thus, similarly, our supposition that Boethius' existence is impossible entails that he cannot exist. So, what may be inferred from this impossibility is that he does not exist. That is, this modal impossibility means that from our assertion that something *cannot* either exist or be a certain way, it follows that it does not exist or is not the way it is purported to be.

Finally, in supposing Boethius' possible existence, there is no implication for either his existence or nonexistence *per se*. To say he possibly exists leads simply to the inference that he *might* or *might not* exist, but not to the inference that he *does* or *does not*. Moreover, beginning with a claim that he exists *and* might possibly not exist does not lead to any significantly stronger inference. As shall be emphasized shortly, the claim cannot be tenably bifurcated from the mere possibility of his nonexistence.

Though claims regarding what is necessary or impossible about a thing may result in claims that it does or does not exist (or is or is not, a certain way), claims involving *possibilities* do not lead to definitive claims of a thing being a certain way, existing, or existing apart from possibly not existing.

Possible objections : inferences and senselessness

The expression of despair or astonishment over the possibility of there not being a world might seem to be starting with tacit nonmodal claims that there is a world. Certainly, one might object that the question of why there is a world presupposes that "there is a world". However, in addition to equally presupposing that "there need not be a world", a rule of propositional logic specifies that the truth of their conjunction requires that they both be true. And the further objection that by the rule of inference of *simplification* we can nonetheless infer that there is a world, disregards that by *addition* we could then infer that "There is a world or there need not be a world" where one or the other or both propositions (disjuncts) could be true ; a weaker inference that is logically equivalent to neither the simplified inference nor the conjunction in which both conjuncts need be true.

The point about these trickle-down inferences is that the conjunctive inference is stronger than the simplified and disjunctive ones. Thus on the strongest and most immediate inference, the question cannot be bifurcated from a modal possibility of there being no world — of there being "nothing".

Surely, an analytic approach to philosophy may suggest that the presuppositions are nonsense since the *sense* of the question is belied by the fact that it cannot be answered in any ordinary way. "Think [...]," said Wittgenstein, "of the astonishment that anything exists. This astonishment cannot be expressed in the form of a question, and there is no answer to it."[23] Yet Wittgenstein's remarks, given his linguistically

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23. Ludwig WITTGENSTEIN, "On Heidegger on Being and Dread", *Heidegger & Modern Philosophy*, Michael Murray, ed. (New Haven : Yale University Press, 1978, p. 80-83), p. 80. This little-known article was pre-

expressed astonishment, do not obviate its implicit modal status. Nor did his uneasiness with unanswerable questions, dramatized by his Anglo-American followers, lead him to disavow the importance of such putative "nonsense". Wittgenstein appealed to Saint Augustine, whose writings he revered, when he quoted the Saint as saying "What, you wretch, so you want to avoid talking nonsense ? Talk some nonsense, it makes no difference !"[24]

Wittgenstein and Heidegger, notwithstanding their vastly different philosophical approaches, are not starting with claims about how the world is but rather with implicit or explicit ones that whatever *is* need *not be*. The modal nature of the language which gives expression to the astonishment (or dread or despair), that whatever exists might not exist, cannot in principle lead to any definitive claims about how the world is, much less to modal claims that may be a basis for reasonable considerations.

In light of what seems reasonable, by contrast, consider several of Wittgenstein's insights in *On Certainty*. After noting that "only in such-and-such circumstances does a reasonable person doubt [...]," he asserts :

> The procedure in a court of law rests on the fact that circumstances give statements a certain probability. The statement that, for example, someone came into the world without parents wouldn't ever be taken into consideration.[25]

What can Wittgenstein mean other than there are no circumstances that could give the statement an improbability inducing *mere* doubt ? He adds : "There are cases where doubt is unreasonable, but others where it seems logically impossible. And there seems to be no clear boundary between them".[26] That this former leader of positivism — who later inspired the dictum that whatever can be said can be said clearly — could see that the boundary is unclear, further underscores his uniqueness among most antimetaphysical philosophers in the positivist-analytic tradition.

Interestingly, an understanding in the neo-Kantian tradition of what lies between logical impossibility and straightforward empirical falsity was articulated in the late W.H. Walsh's *Metaphysics*.[27] In struggling against a Humean-influenced positivism, he argued that a "categorial mistake" of supposing that a dropped quarter simply ceased to exist lies between a "material mistake" of thinking it rolled to the left when in fact it rolled right and a logically impossible "formal mistake" that it rolled both right and left.

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served by Friedrich Waismann and first published in the *Philosophical Review* (January 1965). However, it was a "sanitized" version in which Heidegger's name was deleted to make it "acceptable" to Wittgenstein's Anglo-American followers. Since the time of Rudolph CARNAP's "The Overcoming of Metaphysics" (1931) and A.J. AYER's *Language, Truth and Logic* (1936), Heidegger's thought was held to be a "paradigm of the worst" (editor's note, p. 82).

24. *Ibid.*, p. 81. The editor notes "According to [B.F.] McGuinness this was a favorite quotation of Wittgenstein's. Though the exact passage has not been found, he suggests [St. Augustine's] *Confessions*, I, IV : '*et vae tacentibus de te, quoniam loquacaes muti sunt*'" (81, *fn.* #4).

25. Ludwig WITTGENSTEIN, *On Certainty* (New York : Harper & Row Publishers, 1972), p. 42e, #335.

26. *Ibid.*, p. 59e, #454.

27. See W.H. WALSH's *Metaphysics* (New York : Harcourt, Brace & World, 1962), p. 154-158.

I am suggesting that there is a strong resemblance of "categorial mistakes" to modal impossibilities in terms of which also empirical truth, e.g. the quarter rolled right, involves epistemic parameters of reasonableness that are expressed by modal necessities, e.g. "Necessarily if a thing exists, it does not cease to exist in the sense of 'becoming *nothing*'." *It is untenable* prima facie *to ascribe "truth" to empirical statements and not to such modally necessary ones whose denials would, for Walsh and Wittgenstein, be more seriously mistaken than denials of empirical truth and reasonable truth-claims respectively. And although no particular circumstances count against the necessities, say in terms of a liberal verification principle, they are not meaningless or senseless in the sense of either a dogged political ideology or a speculative metaphysics without perennial points of contact with our fundamental experience of reality.*

The sense of reasoning to modal claims

It was noted that although a modal claim of either necessity or impossibility permits an inference to existence (however unsubstantial), one beginning with a possibility *per se* does not yield such an inference. Let us now consider inferences from how the world is to modal claims ; Thomas' approach for his first premise, which will be examined shortly.

Thus, on the other hand, if we begin with our experience of the world, we can appreciate how Thomas inferred modalities relevant to his *modus tollens* from various claims Importantly, beginning with such claims may be taken with other experience in a way that eludes starting with a modal claim *per se* since, for example, starting only with someone's necessary existence is incongruous with our experience of its reproductive dependence. Specifically, from our experience we may claim that Boethius exists. While we would not infer that his existence is logically necessary, we might the modal necessity "Necessarily if Boethius exists, he has two biological parents" — in light of our experience of the reproductive nature of persons.

The significance of the necessity is reflected by the religious notion that Jesus had only one biological parent. As disbelievers do not appeal to the logical impossibility of Jesus' divine conception but to its conflict with their experience of our reproductive nature, they do not hold that the nature is understood in terms of a logically necessary truth. Having noted an apparent truth of a modal necessity whose denial would be deemed physically impossible *by disbelievers*, let us note that it is inferred from experience and that Thomas does not appeal to experience for what is only known by faith.

In considering more everyday modal inferences, we might consider claims that a person named Boethius does not live in a small remote village. Though it would not be inferred that his residency is logically impossible, there might be the inference to an impossibility in the context of a census official who initially insists otherwise. Lifetime residents might infer, and proclaim, that his residency is impossible because they never heard of such a person. The impossibility may expressed : It is impossible for the statement "Boethius does not reside in the village" to be false when "Lifetime

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residents never heard of him" is true. Surely, in a remote village without reliable vital statistics, the census official would concede that it is *more* than merely likely he was wrong ; that, in fact, Boethius does not reside in the village. What about inferences with respect to uncertainties and possibilities ?

In uttering assertions about how things are, we might say that we are uncertain about them, say whether or not Boethius exists. But his possible existence is ordinarily expressed in the context of modal knowledge, based on experience, which enables us to infer other knowledge.

Though we may assert that we do not know whether or not Boethius is alive now, we might infer the impossibility of his previous existence in circumstances in which there was no pertinent parental union : Necessarily if there was not the parental union, he did not previously exist. The objection that we have no experience for formulating modally necessarily conditions on which existence depends would mean that our assertions about existence allow us to reasonably entertain the possibility of someone coming into the world without parents ; a notion contrary to Wittgenstein's own analysis and one collapsing the very distinction between experience and faith that disbelievers would themselves wish to retain !

Besides necessity and impossibility, there are modalities of possibility. From Boethius' possible existence and our knowledge of reproductive dependency, we might infer that necessarily if a relevant union occurred, he did *possibly* exist. Whereas starting with a possibility *per se* does not yield inferences to how the world is, assertions of how it is permit inferences to various modalities. Even when there are assertions about possible existence, they ordinarily arise in a context of modal knowledge (say a dependency of human existence) and the inferred modalities also express modal knowledge. Consider such knowledge from biological entities to geological formations.

Scientific modal claims and metaphysics

Geologists would naturally suppose the conditional that necessarily if certain metamorphic processes do not occur, marble is not produced. If geology students filed a field report that marble was produced without the processes, their professors might respond validly that "It's impossible it was produced !". Their response indicates a modal reasoning in which, given marble's metamorphically dependent nature, they would not consider the possibility of it production apart from the processes. Though the conditional and an empirically true statement "Marble is produced" do not yield the conclusion "Necessarily the processes occurred", they do the conclusion "The processes occurred" ; a point whose patency should not obscure that the conclusion's truth follows validly if and only if both premises are true, where the conditional's truth is a rudimentary sort of scientific one.

How may the geology example be tied more concretely to Thomas' reasoning ? Let me reiterate the significance of his notion of efficient causes. An efficient cause *that is other than* the First Efficient Cause does not refer to a cause which brings into *being* the matter, material, or substance (*ens*) of something, e.g. of the marble. Rather

the notion of "efficient cause" refers to a cause, in this context, that changes the form or essence (*essentia*) of substance wherein, for instance, the substance is changed from one mass of rock to another such as marble. Consider the case of biological entities.

Biologists will naturally suppose, from experience or the reproductive nature of organisms, that it is *necessarily* if there are no organismic parents ($\sim P$), then a given organism does not exist ($\sim E$). Thus when they come across a given organism (E), they will not merely infer that there are organismic parents (P) but that it is *impossible* that the organism exists and has no parents. The impossibility is formulable as Necessarily ($\sim P \rightarrow \sim E$).

Thomas' conditional, Necessarily ($\sim F \rightarrow \sim S$), does not suggest that without created first parents there could be no secondary offspring since, without revelation, we cannot know whether or not the offspring consist of an infinite series. His conditional specifies that an infinite or finite series, given our *experience* of the world, depends ontologically on something that is not itself dependent on pain of inferring that dependent things might, and ultimately would, not exist. *Hence, given our experience of the world, if philosophers say that existence is contingent in defense of anything's possible nonexistence, they paradoxically acknowledge the experienced dependency — though they evidently reason from it to a modal possibility of not being in terms of considering the possibility both in the absence of any modal understanding and as a more primordial fact than the dependency.*[28]

That is, if the possibility of *not being* is understood by post-positivist philosophers in the Humean-Kantian tradition as a "contingent truth" *per se* in terms of which whatever exists might not exist, then they may not only confuse an inference with its experiential origin but commit a False-Dichotomy Fallacy in disregarding modally necessary truth lying between empirical (*synthetic*) and logically necessary (*analytic*) truth. These errors would lead to an underestimation of Thomas' Proof as merely valid, but not sound, and to an overstatement of radical possibilities such as the world suddenly going out of existence. One need only recall that Hume, in a moment when he took his empiricism too seriously, checked frantically to see if the world was still there ! How are the odd behavior and moods tied more precisely to an irrationality of rejecting the soundness of Thomas' argument ? The major issue is not its validity but the truth of the conditional.

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28. In his Third "Necessary-Possible Being" Proof, Thomas does not reason from modal possibilities of beings possibly *not being* to Necessary Being. He begins with experienced beings coming into existence and perishing to infer possible beings ; arguably reflecting an impossibility of possible beings (P) existing when there is no Necessary Being (N) : Necessarily if $\sim N$, then $\sim P$. Are there implications of disregarding modal truth for the Reformation ? In being influenced by a Humean-Kantian dichotomy between empirical (*synthetic*) and logical (*analytic*) truth, both the post-scholastic Reformation and Enlightenment were also influenced by a Verification Principle. It virtually became a *"public norm of reasonableness"* in which modal reasoning would involve unverifiable pseudo-statements. Thus we might expect a complementariness of reason and faith in a Thomistic-oriented Catholicism that is diminished in Post-Thomistic Protestantism. The latter has increasingly become either *"conservative"* in relinquishing a strong role of reason or *"liberal"* in questioning "unverifiable" articles of traditional faith. See PUTNAM's "Philosophers and Human Understanding", *Scientific Explanation. Herbert Spencer Lecture*, A. Heath, ed. (Oxford : Clarendon Press, 1981), p. 99-120.

To acknowledge the conditional [N(~F → ~S)] as the impossibility that "There are no second causes" is false when "There is no First Cause" is true is to acknowledge the following : It is impossible for [N(~F → ~S)] to be false when "There are second causes" (S) is true. That is, the conditional N(~F → ~S) is logically equivalent to "Necessarily if S, then N(~F → ~S)". And when "S" is understood as the modal impossibilities that give expression to it, there is the impossibility of Thomas' conditional being false when the modal impossibilities are true.[29] Given that a denial of their truth lies between logical impossibility and empirical truth or unreasonableness, the claim that the they are false would not seem merely unreasonable but irrational. Thus to avoid an evident irrationality is to affirm the truth of the modal impossibilities and, therefore, the truth of Thomas' conditional.

However, despite the irrelevance of an infinite temporal regress, there might be a supposed dilemma of knowing that a possibly infinite number of modal impossibilities are true. In terms of sentential logic, the falsification of one conjunct falsifies any conjunction. Thomas' reference to "no case known", examined momentarily, invites the response of an atemporal knowledge *simpliciter* of the impossibilities or interrelated conditionals.[30]

It is difficult to see how the knowledge could be seriously challenged apart from the specter of Nature itself either ceasing to exist or radically changing. An instance of considering such change might be exemplified by biologists who express astonishment over an organism's existence *per se* — as if Heidegger's "attribute" of potential nonexistence was as rational and natural to suppose as existence stemming from the reproductive nature of living things. The example does not ignore Heidegger's many profound metaphysical insights, but rather underscores those of Thomas.

It is beyond my purpose to elaborate on Thomas' metaphysics. Suffice it to say that a metaphysics of the universal ("form") being "in" individual organisms may permit an Aristotelian-like *epagoge*. There is no formidable problem *prima facie* in understanding that perception together with memory and intellect enable the biolo-

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29. Since "S" finds expression in modal impossibilities, we may let "S_m" designate this understanding in Thomas' conditional without skewing its meaning. The conditional becomes "$N(~F → ~S_m)$" with the impossibility, modally, of it being false when "S_m" is true. That is,

$N[S_m → N(~F → ~S_m)]$ where : $N(~F → ~S_m) \equiv N[S_m → N(~F → ~S_m)]$

Modally-Relevant Row ⇒	FT	**T**	FT	**T**	**T**	**T**
Between Two Logically	FT	**T**	TF	**F**	**T**	**T**
Equivalent Propositions	TF	**F**	FT	**T**	**F**	**F**
	TF	**T**	TF	**F**	**T**	**T**

30. See Cornell physicists F. ROHRLICH and L. HARDIN, "Established Theories", *Philosophy of Science*, 50 (1983), p. 603-617, who suggest a knowledge *simpliciter* of theoretical truth in given domains of a historically-generated sequence of "nested domains". Their approximate truth is so well tested that it could only turn out to be wholly false on the *more* than unreasonable supposition that Nature itself could change. Is to accept the nested domains of truth to accept the truth of a modal necessity that might be common to them, say in terms of a broad concept of "cause" applicable to a "nest" that nests the others ? Interestingly, Thomas asserts that "as the natural objects of knowledge are prior to our knowledge [...], so, the knowledge of God is prior to natural things, and is the measure of them" (*Summa Theologica*, I, 14, 9). In causing our existence as rational efficient causes who obtain knowledge of which we are not the "measure", a First Cause renders coherent the idea of "discovering" objective scientific knowledge apart from what we wish, will, or think. See below my criticism of an incoherent modern determinism.

gist, for example, to inductively "abstract" universals in an "intellection process" ; to grasp intuitively the dependent nature of phenomena and related modal conditionals. The conditionals of different disciplines have in common the dependence of things.

This is not a broadside defense of an intuited first-principle (*Aristote archai*) methodology that was properly superseded by subjecting complex, often counter-intuitive, theories to empirical tests that might count against them. Rather, my remarks underscore that theories are coordinated with perception and with a broad experience that often fruitfully issues in modal claims that may rest upon a teleological metaphysics. Given the foregoing teleological remarks of biologists and an Aristotelian-Thomistic metaphysics often characterizing scientific reasoning about experienced things, one might gather that Heidegger's metaphysical "attribute" of potential nonexistence and Wittgenstein's "peculiar experience" compare unfavorably, if not seem unnatural. Their philosophies, moreover, have been aggressively exploited for criticizing traditional metaphysics in general and teleology in particular.

Furthermore, that a teleological metaphysics reminiscent of Thomas is also applicable to physics is indicated by astrophysicist Victor Stenger. In reference to recent *COBE-Satellite* data corroborating an inflationary Big-Bang theory, Stenger's "The Face of Chaos" notes that the "currently existing structure of the universe, including the laws of physics, could very well have been spontaneously generated after Planck time [...]".[31] Notwithstanding an apparent inconsistency of the spontaneity with a Thomistic "dependency", our experience of Nature would lead us to suppose that a spontaneous fluctuation depends on a black hole whose existence is itself dependent. And the further notion that the spontaneity leads to "natural processes of self-organization and event to a kind of Darwinian natural selection among [...] possibilities"[32] is linked teleologically with formations of sub-cosmic systems and their sub-systems ; each system being caused by previously evolving systems and each having an equalibrium dependent on its adaptation to parameters of possibilities caused by other systems — as solar systems cause planetary ones that continually adapt to the evolving solar systems and biophysical subsystems in terms of a "purpose" to maintain equilibrium.[33]

Such purposive adaptability, much more choices endemic to human biological systems, are related to efficient causality and not to a mechanistic determinism since its Aristotelian paradigm, that does not diminish its complex applicability, was the "sculptor" of marble or "maker" of the house.

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31. See STENGER, "The Face of Chaos", p. 14.

32. *Ibid.*

33. If physical systems of physics are self-organizations involving teleological adaptabilities (STENGER, "The Face of Chaos", p. 14), then scientists are warranted *a fortiori* in thus construing biological systems since physical systems are their ontological origin and physics their methodological model. The model is acknowledged in biosocial models involving a *telos* (purpose and choice of persons) when it is stated that a "person is not a [...] passive recipient of social forces" but part of dynamic-impact models whose analysis in "physics can be found in [...] 'Statistical Mechanics of Social Impact' [*Physical Review A* (1981), p. 45]". See D. MACPHEE, "Directed Evolution Reconsidered", *American Scientist*, 81 (1993), p. 554.

Metaphysics to methodology : anthropocentrism ?

All of the foregoing considerations are in concordance with the pre-syllogistic sentences of Thomas' Second Way that proceeds from our experience of the world to substantive modal claims (I, 2, 3) :

> In the world of sense we find there is an order of efficient causes. There is no case known (neither is it, indeed possible) in which a thing is [...] the efficient cause of itself ; for so it would be prior to itself, which is impossible. Now in efficient causes it is [also] not possible to go on to infinity [...].

In starting with how the world is in terms of an experienced order of efficient causes, Thomas not only appeals to our knowledge of particular cases (e.g. to "no known cases") but infers several modal impossibilities.

First, he infers the impossibility that a thing can be its own efficient cause. That this impossibility is an inference is indicated by a standard logical interpretation of ordinary language in which the next sentence, in beginning with the premise-indicator word "for", functions as a premise or reason for why a thing cannot possibly be found to be the efficient cause of itself.

Second, though this reason in the next sentence suggests that a thing prior to it-self is logically impossible since it would have to both exist and not exist at a prior time, intrinsic to the general integrity of the sentences is a modal understanding that is inferred from our experience. That is, given our experience of an order of efficient causes by which we grasp that it is in the nature of a thing to be caused by a prior thing, we infer various modal necessities and impossibilities that are specified in various assertions.

For instance, in asserting that "A thing must have a prior cause" or that "It is im-possible for it to be uncaused", we are not asserting what is logically necessary or impossible but rather what is impossible in light of the way the world is. If Thomas' notion of the impossibility of a thing being *prior to itself* is not understood in terms of such inferred modalities, then we could equally understand the impossibility in terms of Parmenides who would reject its inference from experience and would argue for it on the sheer logical basis that a thing *qua* being can come from neither being nor nonbeing : Not from being because it would already have to be (be prior to itself) and not from nonbeing because there would be nothing to come from.

Third, and most importantly, the impossibility of efficient causes issuing in an in-finite regress without a Creator is an inference *prima facie* from our first-hand expe-rience or ourselves as productive intellects whose choices, in being origins of our ac-tivities, are the origins of our ability to initiate "change" in matter. We change matter in the senses both of initiating change in its constituents and imposing new forms on it, and we experience ourselves in these senses as creators *qua* first efficient causes. Moreover, our incontrovertible experience of ourselves as such causes reflects a gen-eral Aristotelian-like methodology in science wherein scientific investigation should commence with the most familiar things (*ourselves*) and proceed to less familiar

organisms and entities (per Aristotle's *Physica*, 184^a 15 sqq ; *Historia Animalium*, 588^a 20-25 ; and *De Partibus Animalium*, 641^b 10-15).

The modern objection that this methodology imposes anthropocentric conceptions on the world is challenged by recent chaos theory as well as by a scientific-philosophical environmentalism. In *Environmental Philosophy*, Val Plumwood traces environmental destruction to nature being construed as "bereft of qualities appropriate to the human side."[34] Nature, she says, should not be viewed as "passive and lacking in agency and teleology [...]. So what is called for here [...] [are] alternatives to mechanistic ways of viewing the world".[35] A point she apparently makes, with some cogency, is that when a view of Nature is instrumental in its destruction, there is not something wrong with Nature but rather with the view. Those who hold the view often disparage any indeterminate immaterial reality because, paradoxically, they think it is unscientific ; a scientific anthropocentrism seems oxymoronic Thus the objection to anthropocentrism also begs for a response regarding apparent incoherencies of a mechanically-determined universe composed exhaustively of material mass particles.

In disregarding immaterial realities such as freedom and thought, a coherent concept of "truth" would collapse *prima facie* since we do not ascribe truth to material things but rather to thoughts or statements about them. And if everything is determined in terms of the transformation of efficient causes into an invariable succession of mechanistic events — as understood by Newtonian-Einsteinian equations deterministic of exactly measurable events or by equations of quantum mechanics deterministic of probabilities, then event our claims that theories are true would themselves be causally determined with no *"freedom from"* the deterministic spatio-temporal realm to rationally assess which claims were in fact true.

An Aristotelian-Thomistic methodology of beginning with ourselves for understanding the world cannot be glibly dismissed as a pejorative pre-Copernican anthropocentrism beyond which we have "truly forged ahead".

In fact, Thomas adheres to a methodology of human agency more than Aristotle. Aristotle says in the *Metaphysics* 1139^a that "The origin of human action — it efficient, not its final cause — is choice". Yet he argued that the Unmoved Mover as a final cause was not only an efficient cause by inspiring the striving (*entelechy*) of all things towards natural ends with infinite time but, as a formal cause, an *impersonal* form of the world's substance.

Thomas concedes that since it is not logically impossible that the world could have been created by God with infinite time co-eternal with Himself, it is "By faith alone we hold [...] that the world did not always exist" (I, 46, 2). But when he reasons that "by his free will man moves himself to act [voluntarily]" and that a "first

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34. Val PLUMWOOD, "Nature, Self, and Gender", *Environmental Philosophy*, M. Zimmerman, ed., *et al.* (New Jersey : Prentice Hall, 1993), p. 299. See R. TRUNDLE, *Ancient Greek Philosophy*, p. 278. A self-avowed feminist, Plumwood fails to note how many academic feminists have gone full circle from viewing Aristotle's thought as a paradigm "sexist rationalism" to insights of his sciences.

35. *Ibid.*

voluntary Agent" causes both voluntary and natural second causes (I, 46, 2 ; 83, 3), his stronger anthropocentric approach suggests an "existential connection" to a divine personal Agency *qua* Cause in which to accept ourselves as second causes is to accept the Cause, not of our action, but, of our dependent existence. We exist as both voluntary and natural second causes by virtue of having bodies in which our free will is situated (as part of a rational soul that is the body's form) and through which our action is physically effective. Thus a voluntary First Cause causes both voluntary and natural second causes that are logically and ontologically prior to, and have more potency than, mere natural causes they cause. And hence Thomas invites the idea that from our incontrovertible experience of ourselves as *potent* voluntary causes among dependent causes we do not merely reasonably infer that if there are second causes (S), there is an *omnipotent* voluntary First Cause that is not dependent (F), but N(S → F).[36]

Ceteris paribus, N(S → F) is logically and modally equivalent to Thomas' original conditional N(~F → ~S).[37] Though all things may not be exactly equal in this case insofar as "~F" and "~S" do not distinguish both sorts of second causes, the question ensues of why Thomas used the "less anthropocentric" conditional rather than N(S → F) in a more straightforward *modus ponens* argument. Inasmuch the argument refers to second causes, there would be a similar second premise "S" and conclusion "F".

The answer may be that, while Professor Copleston is correct about a First Cause identified with God because Mohammedan believers were addressed (see *fn.* 8), Thomas may have been burdened on the other extreme by nonbelievers for whom an inference from second causes to a voluntary First Cause would have been uncomfortably close to a personal Creator.

A voluntary First Cause brings to mind a freely-choosing Creator whose omnipotence involves absolute power for exercising creativity. And if such creativity is substantively tied to *analogical* powers of which we are immediately conscious in our own creative existence, then by *symmetry* our voluntary and intellectual powers are tied to a Creator (whose existence is inferable *prima facie* and in whose image we are made in terms of St. Augustine's notion of our limited free will [*liberum*] resembling His unlimited freedom [*libertas*]). That our freedom to create and a Creator's creation continue to be linked existentially, in any case, is evidenced by Pope John Paul II's statements that Christianity is distinguished from "all forms of existential pessimism" and that creation represents "the *foundation* of a creative existence in the world".[38]

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36. In arguing for our awareness of "sight and its object" in *De Anima*, 425b, Aristotle fostered the idea that we are incontrovertibly consciousness of being voluntary creative causes. For a strong *analogy* to a Creator, consider research such as E. FARHI, *et. al.*, "Is it Possible to Create a Universe in the Laboratory by Quantum Tunneling ?", *Nuclear Physics B*, B 339 (1990), p. 417-190.

37. N(S → F) and N(~F → ~S) have a sentential-logic analogue in the Transposition axiom.

38. Pope JOHN PAUL II, *Crossing the Threshold of Hope*, translated by J. and M. McPhee, V. Messon, ed. (New York : Alfred A. Knopf, 1994), p. 20-21. Thomas contributed to existentialism as well as Augustine who is

The mean between extremes, so characteristic of Aristotle himself, may find tacit, but novel, logical expression in Thomas' mediation between Mohammedan believers and nonbelievers. The believers would have embraced either a Creator or First Cause as God but nonbelievers an impersonal cause, at best, as nothing more than that without which there could be no world. At the same time, affirmation of the world, and therefore the Cause, would be a short step to a revealed personal God.

Thomas is not merely more in keeping that Aristotle with Aristotle's own scientific methodology. His experiential orientation to how the world is leads to substantive modal assertions with, among other things, the following import : There are necessities and impossibilities concerning both scientific natures of things and our awe of a First Efficient Cause ; a Cause that ameliorates the moods associated with Heidegger and Wittgenstein, if not provides an answer to why there is something rather than nothing ; and a reasoning that may induce openness to Biblical revelations.

While Heidegger declared that "Anyone for whom the Bible is divine revelation and truth has the answer to the question 'Why are there essents rather than nothing ?' even before it is asked [...],"[39] his commencement with the question involved a modality from which no answer could be forthcoming ; this, besides the fact that *Thomas begins with our experience of the world and not with divine revelation as Heidegger suggests.*

And while Wittgenstein responded to Søren Kierkegaard's declaration (that he knew Christ existed since He had saved him) by asserting "You see ! It isn't a question of *proving* anything !",[40] Wittgenstein's assertion "Not *how* the world is, is the mystical, but that it *is*"[41] embraced an epistemological mysticalness different from that of revelation. *From a Thomistic perspective, Wittgenstein's mysticalness was insufficient for any inference that might make room for the faith which could embrace the mystery of revelation ; a mystery that is in principle enigmatic with respect to philosophy and science.*

These observations are not presumptuous disclaimer to Wittgenstein and Heidegger being among the most remarkable thinkers in the twentieth century. The observations are relevant to some philosophers who try too hastily to disparage Scripture. In referring to St. Paul's I Corinthians 20 for saying that "For the original Christian faith philosophy is foolishness",[42] Heidegger may be revealing paradoxically the foolish-

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normally deemed its forerunner. For an Augustinian "existential optimism", see R. TRUNDLE, "St. Augustine's Epistemology", *Laval théologique et philosophique*, 50 (1994), p. 187-205.

39. HEIDEGGER, *An Introduction to Metaphysics*, p. 6.

40. MALCOLM, *Ludwig Wittgenstein : A Memoir*, p. 59.

41. L. WITTGENSTEIN, *Tractatus Logico-Philosophicus*, translated by D.F. Pears and B.F. McGuinness, introduced by Bertrand Russell (London : Routledge & Kegan Paul, 1961), #6.44. Malcolm alludes to a mysticalness in Wittgenstein's thought that evoked his respect for religious belief, but notes that he regarded many of its articles "as based on qualities of character and will that he himself did not possess". We need not lean on the extreme of a "causal inference" to ponder the fact that several of his most eminent students, *e.g.* Yorick Smythies and Elizabeth Anscombe, converted to Catholicism (MALCOLM, *Ludwig Wittgenstein : A Memoir*, p. 60).

42. See HEIDEGGER, *An Introduction to Metaphysics*, p. 6.

ness of philosophers who deny the complementariness of philosophy and faith. Ironically, in view of Wittgenstein's own linguistic methodology, they might be culpable for their failure to acknowledge what is being said and what can only be shown as well as ignoring the larger contexts of Scripture.[43]

A significant point is that attempts to understand science and philosophy, in terms of Scripture, may sometimes have been overzealous. But philosophical-scientific belittlement of arguments inspired by Scripture have also neglected fruitful epistemological insights. Thomas may go from insights of how the world *is* to modal claims, but his Second Way does not make claims that are merely known by faith. Many philosophers may not be concerned with faith. But his argument is not only evidently sound but fruitfully incorporates an overlooked modal reasoning that is relevant to general science and to the traditional *science* of science of metaphysics.

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43. A paper "Wittgenstein's Appearance Before the Cornell Philosophy Club," given me fifteen years ago by Norman Malcolm's former student Professor Emeritus John Nelson at the University of Colorado, contains a section by former Cornell graduate student William Gass. He states that when Wittgenstein appeared before the Club in the late 1940s : "I thought at the time I'd undergone a conversion, but what I'd received [...] was a philosophy shown, no [...] argued. Wittgenstein had uttered what he felt could be uttered [...] but what he had displayed could only be felt and seen — a method, and the moral and aesthetic passion of a mind in love. How pale seems Sartre's *engagement* against the deep and fiery colors of that purely saintly involvement. It now seems inevitable that the *Tractatus* should have stressed, so much, the difference between what can be *said* (and anything... said can be said clearly), and what can only be *shown* [...]" (p. 6). In traditional Christian ethics, especially following St. Augustine whose writings Wittgenstein revered, there is significant emphasis on what can only be *shown* in terms of personal exemplars, Christ being the quintessential Exemplar.