The Holy Grail of Postmodernism:
A meta-prolegomena for 21st century theology

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1. Introduction

Postmodernism (PoMo) is primarily defined by its rejection of modernism, and in the process, most of fruits of the Reformation. Therefore to understand its effect on theology in a quixotic search for meaning without guideposts, we must understand what it rejects. In the modernist mythology, the Enlightenment era was the birth of acience, when men opened their eyes to facts and stopped following dogmatic decrees—such as Aristotle's dictum that heavy objects fall faster than light objects—when the dogma of revealed truth was finally replaced with empirical data and rational argument. Of course, it is not that men didn't experiment before Galileo, or that the Church lacked dogmas after, but the emphasis changed. That is, if we represent the ways of knowing, epistemology, as a triangle with vertices labeled revelation (theology), experience (science) and reason (philosophy), then the pre-Enlightenment held rheology superior, (the Queen of the Sciences), whereas the modern period inverted the triangle, alternating between science and philosophy superior, but always with theology inferior.[1]

The Enlightenment required a new method for obtaining knowledge, epitomized by Francis Bacon's prescriptions for an inductive science. This is often contrasted with René Descartes' method of rational deduction, when in fact they share the same feature—a logical reasoning from data. As many 20th century philosophers of science have argued,[2] a pure Baconian prescription

1 Perfectly illustrated byLawrence Krauss, head of President Bush's biothics panel, who responded to Pope Benedict XVI's *Dignitas Personae* on the ethical necessity of IVF biotechnology. "I began my lecture with the somewhat glib remark that it was important for the theologians to listen to me, but not as important for me, as a scientist, to listen to them.". As reported in http://www.newscientist.com/article/mg20126947.200-why-the-catholic-church-cant-ignore-science.html accessed 2/10/09.

2 From a history of science viewpoint, see *Science and Religion: Some Historical Perspectives* John Hedley Brook, Cambridge Univ. Press, Cambridge, 1991. A more philosophical approach can be found in Stanley Jaki *The Savior of Science* Grand Rapids: Eerdmans 1988. A Reformed approach in Vern Sheridan Poythress *Redeeming Science*, 2006 at http://www.frame-poythress.org/Poythress_books/NAllPoythressRedeemingScience20061017.pdf accessed 2/18/09.

results in recipes, such as medieval alchemy, and not the chemistry of Antoine Lavoisier, which requires a rational model or mind. Likewise, a pure Cartesian approach produces the astronomy of an Immanuel Kant rather than a Johannes Kepler. So in practice, science incorporated elements from both Descartes and Bacon: the data being theory-laden, and the theory being data-grounded.

But what both methods have in common is what they leave out. They leave out that third source of knowledge, revelation, which is a greater loss than just the loss of dogma. For dogma is but the cinders of a theology burnt by the fires of the Enlightenment, while its living heart is found in relationships, in connections to truth.[3] Just as faith without works is dead, so also doctrine without spirit is ash. This paper is about those revelatory relationships.

What I say in this paper is nothing new, desiring only to recover the precious pearls of Christendom trampled in the mud of modernism. For what gave the medieval synthesis its power, what was discarded in the Enlightenment, what permeates modernism with its indefinable absence, is the holy.[4] Shot through the history of the last half-millennium has been this quest for the holy grail, the many attempts to recover the soul of the modernist Frankenstein monster that is blindly destroying his creator.[5] Romanticism (and the Oxford movement) looked for it in beauty, pietism in morality, and charismatics in experience, but none ensouled the beast. In desperation, PoMo commits all to the flames in the hope that from the ashes holiness will spring up again, giving new meaning to Jesus' words, "to those who have not, even what they have will be taken away." (Matt 25:29)

St Paul cautions us against such a vain hope. It is only in Christ that death is defeated, and through death, new life is found. For without Christ, we are of all men most to be pitied (1Cor15:19). A postmodern world without Christ is in a far worse state than a modern world

3 Consider that evangelicalism inserts the word "personal" into a confession of belief in Jesus as Savior, in order to emphasize that dogma without relationship is lacking salvific power.
4 CS Lewis discusses this from a different angle in his *Abolition of Man*, 1947.
5 Mary Shelley "Frankenstein" 1818 at http://www.gutenberg.org/etext/84 accessed 2/18/09.

with His shadow, and yet this seems the condition urged on us by theologians and academicians alike.[6] To recover the Spirit of Christ, we will have to reconstruct how the Enlightenment lost the holy, and what, in PoMo theology, we must undo to retrieve it.

2. Methodological Prolegomena: Metaphysics from Epistemology

With the Academy reeling from the PoMo attack on modernist foundations, many theologians wonder if all of Reformed theology, with its peculiar dependence on 16th and 17th century confessions, must be rewritten if not discarded, and a new, PoMo foundation relaid. The proliferating PoMo, however, lack consensus as to what the replacement should look like beyond a general agreement that it not be modern.[7]

PoMo's principle dislike of modernism is that it pretends to be an objective way to find universal and certain truth, which is, in the final analysis, fatally contaminated by the stain of fallen human finitude. In critiquing modernism, PoMo uses recursion (or self-reference or circular reasoning) to demonstrate that their core principle of objectivity is itself not an objective statement. Now recursion can be used positively or negatively, enabling us to talk about our talking, to vote about our voting, to commune with the one who created communication. Recursion turns out to be one of the most important abilities given to man, making him both human and eternal. This paper proposes that PoMo desires to recover the circular reasoning that was lost in the Enlightenment, while not recognizing what that recursion entails. In contrast, we will attempt to correct this loss, pointing the way forward without discarding the progress of the past five centuries.

When PoMo criticizes philosophy, it usually starts with an analysis of what is wrong, a prolegomena. Since I am criticizing their criticism, therefore, this work is a meta-prolegomena, an attempt to look at PoMo analysis to discover why they cannot find what is wrong. Since the questions that PoMo tries to answer are metaphysical, this paper will focus on metaphysics. But I

6 E.g. John Franke (2005) “The Character of Theology”, 8, Grand Rapids: Eerdmans, 2005.
7 Franke, 22.

do not immediately turn to the Bible for metaphysics, because the necessary hermeneutical task of extracting it from the Bible has been forbidden by PoMo, as have all things linguistic. But if God made the universe, and the universe is true, then looking at the thing God made should tell us something about God even without language, making science a way to know God's thoughts without hermeneutics. If we try to understand language while relying on language to understand language, we are caught in a circle, but by going to science, we go to God's actions, using His deeds to understand His words.

In this paper, I will attempt to infer metaphysical foundations from empirical epistemology, avoiding the trap of PoMo discourse, where language becomes destructively recursive. To illustrate this inductive approach, consider Francis Guthrie's 1852 conjecture that it takes only four crayons to color any map such that no adjacent countries are the same color. His assertion was only proven in 1974, when, with the aid of a computer, it became possible to search all 1,936 distinct maps exhaustively for a counter-example. When none was found, the claim was made that this constituted a proof.[8] In the same way, Paul Helm has suggested that the finite size of the Word of God permits such theological proofs by exhaustion, so the serpent's question "Did God say?" can be answered if there be a limit to the number of His words.

A further advantage to the inductive approach is that it avoids some of the over-reliance on rationality, the "methodism" inherent in a Cartesian argument from deductive Reason. That is, by collecting all the different ways that recursion occurs and enumerating the ways in which recursion can be implemented, we hope to show the unique character of these types, which turn out to be the metaphysical building blocks on which theology, logic, and ethics is built. Then we can rebuild logic or theology in a way that is not subject to the criticism of PoMo or to the blindness of the Enlightenment.

A marked disadvantage to the inductive method lies in its inelegant cataloging of

8 Wikipedia http://en.wikipedia.org/wiki/Four_color_map_theorem accessed 2/9/2009.

particulars, reducing genius to tedious arithmetic. Nevertheless, the labor is not in vain if it find an anchor for the storm-tossed ship of doctrine.

2.2 Metaphysics from Epistemology: Aristotelian Logic

This section points out that recursion shows up in the scientific method and then is intentionally abandoned. How did the Enlightenment make such an advance in logic and science? What was the process? And how did it intentionally abandon recursion in this process?

In order to understand recursion, we have to understand logical reasoning. The syllogism is often taken to be the acme of deductive argument as presented by Aristotle. Its major defect was that it gave no new information; it could only prove what was already latent in its premises. Accordingly Bacon offered a recipe, a prescription for uncovering new laws by accumulating information logically.[9] The relevant point is that the data are processed with reasoning, making the inductive method a superset of deduction, instead of a completely independent method.

Aristotle's logic is best seen in data-based syllogism chains or logical binary trees, which are used extensively in computers, programs, and modern technology. Despite many attempts to improve on Aristotle, it remains the most powerful product of the scientific method.

2.1. Binary Trees

Much has been made of "the scientific method," with equally many detractors pointing out that reliance on a method for obtaining truth is itself an unsupported claim, which is an example of recursion and the key to understanding the PoMo critique. But if we concede the method, a few examples will demonstrate the power of the process, so ably harnessed by the Enlightenment, as well as the lack of any suitable replacement.

2.1.1. MS Troubleshooter

In times past, when a piece of hardware would malfunction on my PC, the "help" option would bring up a "troubleshooter" program. By distilling the experience of thousands of hours of

9 Francis Bacon, "Novum Organum" translated by Spedding, Ellis and Heath 1863 at http://www.constitution.org/bacon/nov_org.htm accessed 2/9/2009.

conversations with help desk personnel, Microsoft automated the process of uncovering the problem by a series of "yes/no" questions. "Make sure your device is plugged in. Did this help? []Yes []No" would always occur early in the "expert system," followed by five or six more questions that rarely solved my problem. The program was drilling down to a solution by traversing a binary tree, attempting to use Aristotle's logic of the excluded middle combined with my experimental efforts. The point is that much of the success of the Enlightenment science, modern technology, and computer programming relies heavily on the power of such binary logic trees.

2.1.2. Any Alternatives?

Well if binary, two-state, logic is so powerful, would three-state logic be better? During the Cold War, the Russians tried to finesse the superior American computers with tri-state logic, whereby a transistor or flip-flop could be in one of three states: -V, 0, and +V. Truth tables become quite a bit more complicated, from all this sophistication, yet the computers ran no faster than the simpler bi-state American ones. And in fact, there was nothing a tri-state computer could do that couldn't be emulated with a bi-state system.[10]

In a similar way, a decade or two later the Japanese became enamored of non-Aristotelian categories called "fuzzy logic," replacing A and not-A with a grayscale probability distribution.[11] Once again, extravagant claims were made for this supposed advance in Artificial Intelligence, but in the end, implemented the logic with binary arithmetic that encoded the "fuzzy" values in a standard binary computer chip. In the end, Aristotle's logic appears to be more basic than all these claims to progress, because all these supposed replacements for Aristotle are coded in binary form.

The most recent challenger is the new field of "quantum computing," which replaces binary

10 Brousentsov, NP et al. Development of Ternary Computers at Moscow State University, at http://www.computer-museum.ru/english/setun.htm accessed 2/9/2009.
11 Wikipedia, http://en.wikipedia.org/wiki/Fuzzy_logic accessed 2/9/2009.

logic bits with "qubits".[12] A mathematical theorem by Peter Shor in 1994 predicted that should a number be represented in qubits, it could be factored much faster than by a binary computer, raising the possibility that the common method of computer encryption could be "cracked" if one had access to a "quantum computer."[13] And while no one disputes the theorem, the implementation has been problematical, for speaking philosophically, qubits do not supercede Aristotelian logic, only providing a novel way of manipulating it.

The take-away lesson is that one should not confuse quantitative with qualitative differences. Improving on Aristotle's law of the excluded middle is not accomplished by changing the arithmetic base or adding columns to truth tables. Therefore it seems fair to say that in developing the science of induction and deduction, the Enlightenment discovered powerful tools of logic, truth tables, and binary decision trees that remain unsurpassed in power and applicability to this day, but paid the price of adopting a dualist metaphysics.

2.2. Linear Logic: Hegel and 2's

Binary Aristotelian elements are but the first step in understanding the Enlightenment revolution; we also need to understand the topology of binary decision trees. Returning to the earlier example, supposing I have lost my internet connection, and Microsoft uses their troubleshooter program to diagnose the problem. I get to the end of the program, my internet still doesn't work, and the program says it is unable to help me. Since I am dealing only with silicon and electrons, I am quick to admit that I may have answered a question incorrectly, so I page back through the binary tree until I find a question that conceivably was ambiguous, and pick the other option. In this manner I can peruse every possible outcome in the faint hope that somehow I can find the winning combination that will restore my lost connectivity. The problem is finite, and my patience for machines nearly infinite, so victory is assured if the solution be in the system.

12 D. Bacon and Mermin, D., Two bits on qubits, Physics Today, March 2008 at http://scitation.aip.org/journals/doc/PHTOAD-ft/vol_61/iss_3/8_1.shtml accessed 2/9/2009.

13 Wikipedia, http://en.wikipedia.org/wiki/Shor's_algorithm accessed 2/9/2009.

G.W.F. Hegel described the binary progress of philosophy as “dialectic” where one's thesis is opposed by another's anti-thesis until some third party finds a synthesis.[14] This synthesis then is itself opposed by an anti-synthesis until a fifth party finds a new synthesis.[15] So the process of doing philosophy endlessly climbs an infinite binary tree. And while Hegel did not seem to think it odd that novelty could be infinite, he is quite conventional in adopting for that novelty the format of a binary decision tree, albeit a growing one.

His insight, however, lay not in the idea of an infinite series, but in his deep pessimism concerning binary logic. For if there be two sides to an issue, there can be no resolution without recourse to a third, external adjudicator. But the adjudicator itself must have an explanation, which forces one to take sides about the nature of the adjudication. This conflict then requires yet another external adjudicator, and so the sequence continues. Only in the case of a finite decision tree is binary logic helpful, and then only when it is complete, having an answer for every possible arrangement of facts. As soon as it is incomplete or unbounded, however, the power of the method begins to falter.

2.3. Recursive Logic: Russell and Gödel

This brings us to the meat of the Enlightenment problem. Bertrand Russell was a great advocate of Enlightenment logic and binary decision trees, co-authoring with philosopher A. N. Whitehead, the *Principia Mathematica*, a foundationalist approach to math.[16] An ardent atheist, he was convinced that bringing the tools of mathematics to language would solve the many logical knots that so perplexed philosophy. His greatest metaphysical problem, and the source of his purported innumerable ills, were the proofs for the existence of God. Accordingly, he proposed to use the methods of symbolic logic to reduce language to its essential meaning and eliminate the parasitical metaphysics. Both positivists and early Wittgenstein are examples of

14 I don't pretend to be a Hegel scholar, but this is the caricature associated with him.
15 Wikipedia, http://en.wikipedia.org/wiki/Dialectic accessed 2/9/2009.
16 Bertrand Russell and A. N. Whitehead, “Principia Mathematica” 1910 at http://plato.stanford.edu/entries/principia-mathematica/ (and links therein) accessed 2/9/2009.

Russell's program. But the positivist program ran out of steam, as Paul Helm put it, or failed to convince a new generation as Thomas Kuhn put it,[17] an outcome I attribute to Kurt Gödel's 1931 paper that electrified mathematics, *On Formally Undecidable Propositions in Principia Mathematica and Related Systems I.*[18]

Gödel showed that by clever use of recursion, the formal rules of logic can construct statements that are neither true nor false, such as "This statement is false." The implication is that Russell's logical system is incomplete and ambiguous. Gödel showed that math (and presumably language even more so) is an incomplete system and can never achieve such inductive certainty, even when begun deductively. Hegel's pessimism about Enlightenment logic is vindicated, because the philosophical process will be infinite.

And Gödel accomplished this powerful result by relying on recursion. When Russell tried to avoid this weakness by outlawing recursive statements, Gödel would make statements about outlawing. In a clever reversal of Theseus who cracked a recursive puzzle by linearizing it, Gödel corralled Russell's escape into the infinite (like Hegel) by linearizing it, labelling all possible propositions with cardinal numbers, and then writing a proof about the numbers. Recursion was the inescapable noose around logic, holding it captive to the Labyrinth of uncertainty.[19]

My introduction to the raw power of recursion came in reading Douglas Hofstadter's 1979 book, *Gödel, Escher, Bach: An eternal golden braid*.[20] In example after example, he demonstrated the pernicious and pervasive capabilities of recursion. For example, our immune

17 Thomas Kuhn, *Structures of Scientific Revolutions*, Chicago:U of Chicago Press, 1962.
18 Wikipedia, http://en.wikipedia.org/wiki/Kurt_Goedel accessed 2/9/09.
19 A popular pastime often realized in the month of October, is the walking of a labyrinth or maze, where hedges or maize plants provide the separating walls. The usual advice is to keep one's left hand continuously following the wall in order to find a way through the maze, by taking only "left-hand" branches. However this will work only if there are no "circular paths" inside the maze, a section of wall that is disconnected from the outside. Topologically, a disconnected section of wall corresponds to an internal loop, and defeats the strategy of wall following. The Labyrinth of Minos was such a maze, which was penetrated by Theseus using the strategy of unrolling a ball of thread so to retrace his steps. Mathematically, a topological loop is flattened or unrolled by the method of serially labeling the structure. The key point is that topological loops are tricky, and require great ingenuity to convert them to a binary tree structure that can be solved with linear logic.
20 Douglas R. Hofstadter, *Goedel, Escher, Bach*, Vintage Books, 1979.

system must fight off invaders, while an invading parasite attempts disguises. Since the cure must not be more fatal than the disease, the body must not attack itself in the process of eliminating parasites, having a way to distinguish between itself and invaders, which in most cases is by sight, the exposed proteins of the invader. But viruses leave their protein coats outside, and surreptitiously inject their indistinguishable DNA into the cell. So one way a cell defends against viruses, is that if it finds DNA in the cytoplasm, an immune response is triggered, because eukaryotes keep their DNA all bundled up in a nucleus, where viruses have no direct access to it.[21]. Like the timer on bank vaults, the thief must not only have the right key, but he must appear at the right time; the virus must not only look like the host, it must act like the host. So host and parasite are in a literal life-and-death struggle of recursion, which the AIDS epidemic perfectly illustrates because it is a viral infection of the cells of the viral immune system. Recursion is not only essential, it is vital.

This brings up the important point that recursion cannot be tackled piecemeal. If Rome is to defend against Hannibal's elephants it must attack Carthage; if England is to defend against marauding Vikings, it must evangelize Denmark. For most of a week, I battled a pernicious computer virus that ran two copies of itself, where deletion of one would instigate copying of the other. Recursive systems must be tackled in their entirety. They are an entity greater than the sum of their parts. This unity in action will be discussed later as the ontological foundation for "foundationalism".

2.4. Trinitarian Logic: Topology and 3's

Recursion also has a place for trinities, which both John Frame and Vern Poythress reported in many areas of theology and science.[22] My own epiphany came in discussing with a topologist the possibility of coding superior algorithms for solving Maxwell's equations. He made the offhand comment that Maxwell's equations can only be constructed in 3-dimensions, not in 2-,

21 Laurie Wang at http://medicine.ucalgary.ca/about/muruve accessed 2/9/2009.
22 For example see Vern Poythress "Reforming Ontology..." at http://www.frame-poythress.org/poythress_articles/1995Reforming.htm accessed 2/9/2009.

4-, 5-, or 6-dimensions because of the high degree of symmetry required by the relations. I realized that just as relationships can be pictured geometrically, so also geometry determines the types of possible relations. So when the Bible gives a number, it encodes a great deal more than some arbitrary multiplicity of meaning, but the very character of the relationships between the members. Three, therefore, is a very special number, as we endeavor to show next.

In addition to this ontological unity of recursion, there is a sense in which the logic, the decision tree can be recursive. If what distinguishes a foundation is a tight loop of self-reference, making them self-defined (see next section), then a logic path that makes a large or lazy loop can be recursive without being foundational.

Before we begin cataloging recursive arguments, we insist on irreducible or essential loops, lest we unnecessarily count trivial modifications. By analogy with a rope, pulling on one end will often reduce a loop to a knot, reducing loopy logic back into a self-referential identity. But should a logical loop be resistant to collapse into a knot, it must have more than one or two members. If it has only one member, then there is no logic, it is a self-defined object. If it has two members, and A→B and B→A, then A=B, and the pair collapses to a knot again. But if A≠ B then they become unstable, just as Hegel's thesis-antithesis pairs were unstable without an adjudicator. History is littered with these polarities that cannot find a balance. For example, at the council of Chalcedon, the only solution to the controversy over Christ's nature was a fiat declaration of the Church that Jesus was 100% divine and 100% human. Yet even in this decision lies the hint that three parties to a bipolarity stabilize it.

If the loop has three members, then from symbolic logic, we see that it is possible for A→B, B→C and C→A, where the implications (→) are not equivalences (=), lest the system collapse into a knot again. Thus three elements are the smallest loop that does not itself become a knot or a foundational statement. By the rules of symbolic logic, we can also write this as !A→!C→! B→!A. Therefore there are two distinct chiralities or directions of the arrows around the triangle:

the (A,B,C) of the version above, and the opposite direction (A,C,B), with the corresponding rule that !(A,B,C)=(!A,!C,!B).[23] That is, a right hand chirality looks like a left hand in a mirror.

Just as Jonathan Edwards applied Enlightenment epistemology to develop his doctrine of the trinity, we can see how his project can be continued with post-Enlightenment epistemology. From our brief study of recursion, we see how the two simplest graphs are the unitary "knot" of self-recursion, and the trinity of mutual recursion.

2.5. Logical Conclusions

In conclusion to this section, we saw how binary decision trees and Aristotelian linear logic is the foundation of Enlightenment thought, power and influence even today, but that such thought is limited, corralled, or attacked by recursive methods, which accounts for their Enlightenment avoidance. With Hegel and Gödel, however, we find recursion makes us deeply pessimistic about the Enlightenment project of logical certainty. Nor are recursive methods themselves easily decomposed or disposed of, but must be battled in their entirety. If this unity of recursion is to have parts, it cannot be two, but a minimum of three. In the next section we hope to demonstrate how Scripture turns that Enlightenment dualist pessimism into Christian trinitarian optimism.

3. Theology from Epistemology: The Holy and the Profane

Many post-moderns have suggested that the deep pessimism arising from the failures of the Enlightenment is a consequence of Methodological Foundationalism (MF), where MF is defined as an epistemological reliance on the scientific method for obtaining truth. Applying recursion to the tenets of MF, they argue that the premises are themselves not MF, that science relies on a method that is itself unscientific. (We recognize this as a restatement of Gödel's theorem.) On the strength of this critique, they generalize that there can be no unique method, no foundation on which to base universal truth. In contrast, Gödel's theorem doesn't deny validity to mathematics,

23 For completeness, there is also the Möbius solution: A→B→C→!A and its inverse, A→!C→!B→!A (and mirror images) but you will notice (i) that given A, all other elements are/aren't true, it is self-contradictory; and (ii) ! A→Ø, it implies nothing, it doesn't actually form a self-reinforcing loop.

only certainty. Likewise other critiques of modernism such as Romantics, Pietists, and Charismatics never said that the logic was invalid, only that the scientific method was incomplete, needing something extra. For example, G.K. Chesterton argues that the idolatry of science is a form of insanity, not the method.[24]

In contrast, post-moderns argue that the method itself is invalid. Now it is one thing to say that your sparring partner lacks technique, but quite another to say that no men are your equal. The absolutist denial of absolutes is itself quite inconsistent. That is, the radical skeptic has no certainties, only doubts, but nonetheless doubts he is certain of.

The key to understanding Foundationalism within a Biblical context, is to see that the recursion so fiercely wielded by PoMo is in fact intrinsic to both the Bible and MF. Recursion is neither the enemy of logic, nor the club of PoMo, but the cross that turns defeat into victory. For if MF builds the edifice of logic and contingent matters (binary trees) on the unshakable foundation of irrefutable fact, those same foundations, those same self-evident truths that PoMo so readily lampoons, are also self-referential, recursive knots of logic. They must be, for there is no other way to terminate a chain of logic, no other solution to stop the unraveling of the rope of reason. Aristotle said causes must have causes, so to prevent an infinite regress, there must be a first cause, a self-existent existence, an unmoved mover. Only self-reference can supply a starting point, only the *sui generis* has no creator. Therefore we easily see how recursion identifies what Aquinas called God.[25]

Then PoMo's use of recursion to destroy MF is highly ironic, for it is recursion that establishes MF. Even more ironic is that MF and PoMo alike use recursion both to establish their position and criticize the opposition. Recursion is a double-edged sword, forbidding us from Eden and calling us to Armageddon.[26]

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24 G. K. Chesterton, (1911) *Orthodoxy*, at http://www.ccel.org/Chesterton/orthodoxy.html accessed 2/9/09.
25 Thomas Aquinas, *Summa Theologiae* at http://www.fordham.edu/halsall/source/aquinas3.html accessed 2/9/2009.
26 Gen 3:24; Rev 1:16;19:15

Nor is this merely a philosophical nicety, but an attribute of biblical theology and biblical exegesis. It is not for no reason that Augustine finds in the creation account, the self-existent *ex nihilo* that eliminates eternal matter, which was the Greek escape, demolishing Plato and Democritus with one blow.[27] The same God who recursively made man in his own image, also gave him the words with which to talk about it. It was this God who announced to Moses that He was the "I AM" in the most explicit and profound recursion in all history. It was He who gave a law that the law must be kept.[28] For if the law is merely the rule of a community then who defines the community? Even a coherentist view of truth as a web must have a view of itself, and where does that view first arise? The atheist escape from infinite regress by faith in the eternal is the Greek answer, which neither scripture nor science will now permit.

So we see that in these foundational questions, there is only one answer and it is the recursive one. We also see that scripture is full of recursion, self-consciously aware of self-reference, for which it chose the word "holy". When Moses encountered the self-defining God at a bush that burned without being consumed, he was ordered to remove his sandals for he stood on holy ground (Exodus 3). The holy is that which is recursive, self-generated, self-aware, self-existent, self-determined. And though there be other uses of the word, generating dictionary meanings of "dedicated to the Lord", these other uses acquire their attribute by being in close proximity to a recursively defined thing. Therefore, I argue, there are three principle, foundational, holy things described for us in Scripture: God, Man and the Word.

3.1. God, Man, and the Word

3.1.1. God

I do not know if I have exhausted the list of essential self-referents, but there in no doubt among theologians beginning with St Paul that God is the only self-existent being, and all else derives its existence from Him (Acts 17:24ff). How then do I consider man and the word to be

27 Augustine *Confessions*, 11:5 at http://www.ccel.org/augustine/confessions.html accessed 2/10/09.
28 Gen 1:26; Exodus 3; Dt 11:22

holy? Simply that they are unique in being created in the image of God, in the image of the Holy. When God creates, He chooses what qualities to include, and in man and the word He has put this quality. Man alone is made a sub-creator, an initiator, a first cause. And Proverbs 8, as well as John 1 describe the divine Word, the Logos of God, as the co-creator of the Cosmos. But this is an argument from lineage, from birth, we can also argue from nature, from upbringing. For both Man and Word are unique in their function and properties.

3.1.2. Man

Despite 150 years since the publication of Darwin's *Origin*[29], materialistic science has been unable to define or explain man's consciousness. The self-aware mind is more mysterious now than it was then, despite fMRI brain scans and neuro-chemistry and multi-colored axons, proving to be a recursive loop impenetrable to modern science.[30] Even if we knew nothing of Scripture or God or language, like Descartes we could marvel that we alone in God's creation, know ourselves. It is becoming clear that in this respect, no amount of signing gorillas or clever chimpanzees can ever achieve that kind of objectivity. In an earlier paper, I argue that this is what distinguished Neanderthal from (Cro-Magnon) Man, the ability to stand outside the body and look back at oneself.[31] Thus man alone, of all earthly creatures past and present, occupies the seat of the sentient.

3.1.3. Word

It is a peculiarity of language that the list of word meanings, the dictionary, is itself written with words, it is self-defining. On just about any entry selected at random, there will be a loop of definitions that refer back to themselves. Some loops are "tight" with only two members, whereas others meander over several words before returning. But return they must, for there is no other way a dictionary can be written. In his book *Tractatus Logico-Philosophicus*,[32] the

29 Charles Darwin, *Origin of the Species* 1859 at http://www.gutenberg.org/ebooks/2009 accessed 2/10/09.
30 Michael Bearegard and Denyse O'Leary *The Spiritual Brain*, NY: Harper One, 2007
31 Robert Sheldon, "A scientific study...support for Trichotomy", 2008 at http://rbsp.info/WTS/ST761-ii.pdf accessed 2/9/2009.
32 Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, 1921 at http://www.gutenberg.org/etext/5740 accessed

young Ludwig Wittgenstein seemed to think he could construct a logical, linear language, though vehemently opposing the Vienna Circle for attempting it, but in his later years, seemed to hold that all such "language games" were futile, for language could not be extracted from its environment. Whether we agree with Wittgenstein or not, it was recursion that seemed to destroy his early optimism about a "picture theory" of language.

In that earlier paper, I argue that language is not the *imago Dei*, (Gen 1:26), but the *neshemah* of God (Gen 2:7) that transformed Cro-Magnon into modern man. Thus language is that which was incarnated twice (John 1:1), and possesses most of the attributes of a self-aware, self-conscious person. For example, when Jesus said "I am the way, the truth, and the life" (John 14:6), we do not immediately cover our faces with gauze as the Hindu Jainist does, to prevent the accidental inhaling of gnats, for we quickly recognize "the life" to be something other than biology, just as we recognize "the truth" to be more than math theorems, or "the way" to be more than Roman roads. Rather we see the divine Word appropriating these human words and making them refer back to himself, making them holy. Let us not think, then, as Humpty-Dumpty[33] and PoMo do, that we can be masters of the word, for it was God who called out the stars by name (Ps 147:4) and gave Adam the words to speak, the power to name (Gen 2:19). For language is not in the service of nature, but nature in the service of the Word.

Therefore just as God is widely understood to be *sui generis*, so also Man with respect to the rest of creation is self-determined, and likewise language is self-defined. These three are holy, they are recursive, they are stubbornly resistant to linear logic, and cannot be broken into more manageable subunits. In one form or another, they become the foundation of logic, meaning, and epistemology because they are irreducible. Just as Christian theology and Cartesian philosophy made God the foundational base, while Enlightenment humanists, followers of both John Locke and Descartes, made Man (the measure of all things) the base, so also PoMo and

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33 Carroll, Lewis Through the Looking Glass, 1871 at http://books.google.com/books?id=YGEHa6a9_xkC (accessed 11/3/08). ""The question is, which is to be master—that's all."122

Wittgenstein made the Word ("language games" or "speech acts") the base. They all rely on holy things for their foundation, and likewise accuse the others of violating the holy.

3.2. Trinities of Language

As we said earlier about recursion, holy can refer not only to foundations, but also to the logic, the decision tree, where the smallest irreducible loop of logic is a trinity. In Poythress' recent book on the philosophy of language, "*Our Meaning: A God-centered Approach to Language*",[34] he presents a three-fold process of communication involving intention, production, and reception of language. He relates these to the Father, Son and Holy Spirit, which may not be the only mapping, but our uncertainty about the specifics of the connection with the Holy Trinity should not blind us to the fact that it takes all three in the communication of truth. As proof, try to conceive a communicative act that lacks one of these three elements. Poythress' trinity is correctly irreducible because each element is interpretive of the others and mutually necessary.

That is, there is a tendency to see language as an impenetrable barrier to reality, as if the grammar of language hides or hinders the grammar of reality. And while it is true that language shapes our thinking, it is also true that reality shapes our language. They are not independent, but mutually reinforcing. Elsewhere, I attempt to show the inner consistency of all the different ways one can map the trinity, taking one member at a time as interpretive of the others.[35] In this multiperspectival approach we find a deep unity between the Nicene Creed's ontological trinity, Poythress' communicative trinity, and our recursive trinity. This fluidity with which one can move between subjects (Father, Son, Spirit), verbal nouns (intention, production, reception), and objects (God, Man, Word) flags the fact that it is a recursive task, where language becomes the object of its own analysis.

For example, because the English language requires subjects and objects, some would argue

34 Vern Poythress "Our Meaning: A God-centered Approach to Language" 2009 at http://campus.wts.edu/homepages/VPoythress/nt123/docs/BLang.pdf accessed 2/10/2009. See also"God Centered Biblical Interpretation" 1999 at http://www.frame-poythress.org/Poythress_books/GCBI/

35 Robert Sheldon "Math, Aesthetics and Theology" at http://procrustes.blogtownhall.com/2008/02/22/math,_aesthetics_and_theology.thtml accessed 2/18/09.

that Biblical analysis draws an inappropriate subject / object distinction,[36] but in the case of the trinity, we can avoid this theoretical problem by saying everything three, mutually reinforcing ways. Likewise we should not conclude that there is an unavoidable theory / practice distinction in verbal communication because once again, the theory and practice also become the object of the same recursive analysis.[37] The message to all those fearful PoMo analysts who despair of ever uncovering meaning through the filter of language is—"Open your eyes to the data! You are using language to explain your fear, apparently without fear that your fear will be incomprehensible." Yes, language is recursive, but it does not thereby make it incomprehensible or impossible or irrational; it makes it holy. And holy things are not just for ceremony, they are essential, vital, simple, and foundational.

I hope this begins to explain how the binary distinction that caused so much trouble for Hegel and the Enlightenment is resolved by a third position that is itself contained in the discussion. The Trinity is a self-contained, conceptual, linguistic, grammatical entity that cannot be broken down into parts, and indeed, resists any idolatrous attempts to flatten it out into an endless regression of unsupported premises. It is the answer to the endless Why, the answer to the infinite Who, the termination of the deep How. It answers all questions as well as its own. It satisfies Heraclitus and Parmenides, it is both the One and the Many, the simple and the complex, the beginning and the end.

3.3. The Metaphysical, Epistemological, Ethical Triangle

Applying this holy analysis to philosophical categories, we have already identified the self-existent objects that form the foundation of logic as belonging to the God, Man, Word object trinity. One might also identify the ethical imperative with a trinity: whether the ends, the means, or God's commands determine morality, since one can see how all three aspects are significant in the determination of ethical behavior. But more important for this paper, is the epistemological

36 Kevin Vanhoozer, *The Drama of Doctrine* 107,Louisville: John Knox Press, 2005. Also "On the very idea of a theological system" in *Always Reforming* 136, ed. A.T.B. McGowan, Downers Grove: IVP Academic, 2006

37 Ibid. 12.

triangle, the ways of knowing. From Poythress' communicative trinity we can connect intention with revelation, production/act/fact with induction, and reception with deductive reasoning, which for convenience, we represent as a triangle with vertices labelled Θ, Σ, Φ respectively. Each of the vertices rules over conflicts between the other two, such that rationalizing revelation Θ,Φ must be held to the facts of the bible Σ, or arguments between theory and experiment concerning consciousness Σ,Φ are adjudicated by revelatory ethics Θ, or naïve attempts at proof-texting scripture Θ,Σ are restrained by systematic theology Φ.

There is a slight difference between right-handed and left-handed epistemology, whether one labels the vertices Θ,$^{\Sigma}$,Φ or Θ,$^{\Phi}$,Σ. It doesn't matter statically, only dynamically. That is, chemical reactions that produce stereoisomers of two chiralities, produce equal abundances, but when living organisms produce stereoisomers, they are always of a single chirality, because a cell processes, recycles, and needs these chemicals to live. When playing rock-scissors-paper, there is a dynamic progression in which chirality matters. So the history of epistemology demonstrates chirality, for when science was dominated by recipes and facts, did the leading scientists turn to revelation or reasoning as the corrective? Or when science was dominated by dogmatic assertions, did they turn to rational argument or factual evidence for rebuttal? Or when science was dominated by elaborate theories, did they turn to revelation or evidence for help? If we replace "science" with "theology", then the choice of chirality becomes all the more urgent to decide, for each type of theological error demands the proper response. In the next section we will look at some theological decisions using the tools we have introduced.

4. Examples from Systematic Theology

4.1. The Canon

One the trademarks of the Reformation was the insistence on *sola scriptura*, despite the lack of this concept within scripture itself, the canon being decided upon in the 2nd or 3rd century with

Marcion's instigation. But this is only peculiar if we neglect to see scripture as holy, with the implied recursive definition of the word. The Reformers still were medieval at heart, and understood what "holy" meant, it was their Enlightenment followers who lost this understanding and instead elevated the phrase *sola scriptura* to canonical status. This of course led to the common Enlightenment problem of upholding standards which were themselves unable to meet their own standards. This does not mean that the standard was incorrect, only that it was a derived quantity, not another revelation from heaven. But nonetheless, this doctrinaire Enlightenment approach obscured the holy, and made it easier for rationalism to take root by removing the stones of self-reference.

4.2. Augustine and the Trinity

Augustine in his *Confessions*, unlike in the more philosophical *De Trinitate*, developed the concept of the trinity from exegeting Genesis. He showed how the Greek escape to eternal matter and eternal time is defeated by the Trinity in that great Latin phrase, *ex nihilo.*[38] By considering the necessity of recursion explicitly in these creation accounts, he establishes the characteristics of a Trinity that later gets a more philosophical treatment. The two key concepts which Augustine exploits, are that recursion supplies an answer to the endless causal chain of space, matter and time; and, that the Trinity is itself a recursive answer to the Gnostic tendencies present in neo-Platonism that would distort the Genesis account into a hierarchy.

That is, contrary to the accusation that Augustine was struggling to reconcile the polytheism of the Church with the monotheism of Judaism by finding a solution in Greek philosophy,[39] Augustine was actually countering Greek philosophy using Genesis as a guide. Augustine was doing Biblical Theology, not Systematic Theology, which can be noted by simply reading the *Confessions*. It was out of respect for the Biblical text that Augustine refutes Platonism and Epicureanism (Materialism) alike.

38 St Augustine, *Confessions*, and *De Trinitate*, at http://www.ccel.org/ccel/augustine/confessions.html (12.17.25) and http://www.ccel.org/ccel/schaff/npnf103.toc.html accessed 2/10/09.

39 See for example, Franke, 46, and Vanhoozer, 43.

I mention this because Trinitarian theology becomes the Rosetta stone for the PoMo theologian, showing both the holy recursion lost by the Enlightenment, and (supposedly) demonstrating the cultural and contextual invention of the church fathers. If we are to answer PoMo, we must also answer this myth.

4.3. Filioque

The great schism of the church has been attributed to the inclusion of this word into the Nicene Creed (in its Latin translation). Vladimir Lossky takes great pains to explain how fundamental was this Latin transformation of the Trinity.[40] He argues that because the Holy Spirit is now seen as the love between the Father and the Son, it no longer has the same substance as the others, and becomes a 2+1 trinity rather than a 1+1+1 trinity. In our terminology, the 2+1 formulation is unstable because it collapses into knots. Even should Lossky be wrong about this transformation, *filioque* also changes the chirality of the trinity to say that the Holy Spirit proceeds from the Father and the Son, which as discussed next, confused Edwards. My sympathy lies with Lossky, that there is a mathematical imbalance in Anselm's and Aquinas' treatment of the immanent trinity, arising from this Western attraction toward dualities.

4.4. Edwards on the Trinity

In Jonathan Edwards *Discourse on the Trinity*,[41] he takes the Lockean view of the mind as a unitary object, and then applies Anselm's argument for why God's own thinking must produce the Son. And while it is a clever syllogism, the premises appear to hate each other. That is, Anselm's premise separates thought and existence, uniting them only in the perfection of the self-existent, the *sui generis*. Locke's premise, on the other hand, refuses to separate thought and existence, preferring the unitary mind of the imperfect, human subject. Only an eclectic (young and ambitious) Edwards would build an argument that ignores the background and context of the premises focusses on the recursion, which is absent from both Anselm and Locke. That is,

40 Vladimir Lossky *The Image and Likeness of God*, 126-127, Crestwood: St Vladimir's Press, 1985
41 Jonathan Edwards *on Trinity* in http://www.ccel.org/ccel/edwards/trinity/files/trinity.html accessed 2/10/09.

Anselm must surely have wondered that if his cogitations of a perfect being could call it into existence, then how much more effective would the cogitations of the perfect being be! Likewise, Locke's unitary view of the mind is absolutely incapable of thinking about itself, and therefore wouldn't the whole theory of unitary minds be more appropriate for lesser beings than humans? Since Edwards is pushing both Anselm and Locke beyond what their own metaphysics allows, he is therefore not overly concerned with the contradictions between premises.

More significantly, Edwards finds a binary Father/Son generation in this argument, and with great difficulty, manages to include the third person of the Trinity. But his bi-unity is either in danger of collapsing to a unity because of the Father/Son equivalence, or conversely, becoming an poly-unity of infinite regress. This last position is classic Gnosticism, which we recognize again as the Greek escape, this time from the Trinity. So Edwards scrambles to close off this avenue, insisting that the Son's thoughts don't themselves become another god, but only reflect the Father. (Why this same argument couldn't disprove the necessity of the Son in the first place wasn't made clear.) Then he introduces the Spirit by leaving behind rational thought and considering God's affections. Once again, one wonders how Anselm's argument can be applied to affections, but Edwards claims some sort of theological basis in Augustine, which introduces the conclusions as premises and unintentionally makes his argument circular. This wasn't how Edwards wanted the argument to go, so you can see him editing, inserting, but not finding a way out of this jam that began with so much promise.

From our earlier discussion, we can spot the weakness of trying to go from one to two and from thence to three, rather than jumping from one to three directly. The binary position is unstable, and weakens rather than strengthens Edwards argument. Edwards was trying to derive the Spirit from the love between the Two, because *filioque* states that the Spirit is generated by both the Father and the Son. But if only the Father generates, then the necessity of the Spirit must come from somewhere else. I think Edwards has an inkling of it, when he finds the Son is the

rational generation of the Father, while the Spirit is the affectional generation of the Father. But just as Lossky predicted, *filioque* causes more trouble than help. Despite Edwards' confusion that led him to file this discourse away, his intuition of recursion was correct; he had found the key for introducing the holy back into Enlightenment thought, correcting some of the deficiencies of Locke and Anselm.

4.5. Hodge and the Holy Spirit

There is no doubt that Charles Hodge has become the whipping boy for theological scholasticism (rationalism), but as Jeffrey Jue addresses in his recent lectures, this is because Hodge's critique of continental rationalism used a common terminology.[42] As Jue is at pains to demonstrate, few historians or scholars have taken the time to understand the 19th century context of Hodge's work, relying instead on secondary critiques or "sound-bites" from his introduction to *Systematic Theology*. Likewise Helm amply demonstrates that Hodge is far more nuanced even in his "theology as science" argument, being careful to avoid the pitfalls Hodge observed in his sabbatical to Germany. Of interest for this paper, are the last two pages of his introduction in which Hodge addresses the work of the Spirit.[43]

He begins section 6 by acknowledging the interaction of "intuitive truths" both "intellectual and moral" with the "religious experience" of the teaching of the Spirit. Like Edwards, he gives the Spirit no rational role in theology, but an affectional or emotional role. He limits the Spirit to two actions: inward teaching of what is already expressed in the Bible; and in a manner delimited by Biblical accounts. That is, he expressly rejects any claim to an "inward experience" unless both the content and the expression have Biblical precedent. This would appear to make the work of the Spirit redundant, adding nothing to what Scripture already possesses, and indeed, his final concluding paragraph makes no mention of the Spirit. But the crucial paragraph is the penultimate one, where he points out the Reformed doctrine of the fallen intellect prevents us

42 Jeffrey Jue, "Old Princeton Theology" WTS class notes, Feb 2009.
43 Charles Hodge, Systematic Theology, 14-15, Grand Rapids: Eerdmans 1940.

from understanding the doctrines of scripture unless the Holy Spirit intervenes, citing the Romans 7 passage that we are sold under sin. Then he says something remarkable.

> The true method in theology requires that the facts of religious experience should be accepted as facts, and when duly authenticated by Scripture, be allowed to interpret the doctrinal statements of the Word of God. So legitimate and powerful is this inward teaching of the Spirit, that it is no uncommon thing to find men having two theologies, — one of the intellect, and another of the heart. The one may find expression in creeds and systems of divinity, the other in their prayers and hymns. It would be safe for a man to resolve to admit into his theology nothing which is not sustained by the devotional writings of true Christians of every denomination. It would be easy to construct from such writings, received and sanctioned by Romanists, Lutherans, Reformed, and Remonstrants, a system of Pauline or Augustinian theology, such as would satisfy any intelligent and devout Calvinist in the world.[44]

Hodge gives the inward teaching of the Spirit the status of a "fact," which he seemed to have disallowed in the previous section. He even said that the collection of these in the devotional writings down the ages, would be found to satisfy any Calvinist. So the Bible can't produce Calvinists by rationalism alone, but Biblical spirituality of every age, can. Calvinism, he is asserting, is a supra-rational condition created by the Spirit. It is quite a claim, but seems to have quietly vanished in the rest of Hodge's work. Nevertheless this placement in the penultimate paragraph of his prolegomena indicates his recognition of the importance of the Holy, even if he lacks the tools or the inclination to unpack it.

4.6. Post-Modernism and Franke

John Franke self-consciously places himself in the tradition of PoMo, subtitling his book *The Character of Theology* with "A Postconservative Evangelical Approach", and by the second page of the preface, informing us that "I have also come to use the term *postmodern* to identify myself."[45] Thus he inherits all the PoMo critiques of Enlightenment rationalism,[46] defining the term to be "the rejection of the central features of modernity, such as its quest for certain, objective, and universal knowledge, along with its dualism and its assumption of the inherent goodness of knowledge."[47] Without ever saying why the Enlightenment got it all wrong, Franke assumes that he has to go with the culture, reject rationality, and find a way to do theology

44 Hodge, p15.
45 Franke, 8.
46 Franke, 15.
47 Franke, 21.

without it. But note the three aspects of his definition of PoMo: a rejection of trinitarian epistemology (where we identify "certain"=3rd person, "objective"=2nd person, "universal"=1st person of the trinity); a rejection of Enlightenment dualism; and a rejection of epistemology as a path to God (in contrast with Rom. 1:18ff). It would seem that Franke has boxed himself into a Berkeleyan idealism, except that his definitions turn out to be not statements of fact but speech acts of PoMo liberation. This lack of analytic precision, while reducing the usefulness of his work, should not distract us from recognizing Franke's polemic goal, the same goal as PoMo—a deep longing to recover a recursive model of knowledge, a holy epistemology.

The inherently recursive properties of the Trinity make it the pole star, the Rosetta stone of PoMo theology as seen in the resurgence of Trinitarian theologizing, the appearance of the topic early in theology books, and even the number of pages devoted to the topic (Franke dedicates 20/200=10%).[48] The Trinity has gained a reputation for being beyond propositional statements (in part, I believe, to the confusion of *filioque*) while at the same time being active, reinforcing, recursive, and dynamic. Making this the paradigm for all truth, we can see how PoMo is trying to move away from Enlightenment objectivity and static propositions by rejecting its epistemology. Perhaps Enlightenment enthusiasm for the power of linear, objective logic has mislead some theologians to become dualists, or to attempt a Spinoza-like discourse, which PoMo rightly rejects.

Then by identifying the development of the theology with the work of the Spirit in culture, Franke finds a way to remake theology recursive, contextual, and dynamic. Kevin Vanhoozer prefers the terminology of drama and speech acts, but again, wants the Spirit to be controlling the knowledge/wisdom (scientia/sapientia) interface of theology where we become active participants. This is really not that different from Poythress' trinitarian understanding of communicative activity, for it too has a place for the dynamic Spirit. Even Hodge makes the

48 Gerald Bray, "The Trinity: Where do we go from here?" in *Always Reforming*, ed. ATB McGowan, p 19, Downers Grove: IVP Academic, 2006.

point in that penultimate paragraph of his prolegomena that the Spirit is the critical factor. There has to be a holy involvement of God, Man and the Word to be doing theology properly. So in all their different ways, these are similar attempts to reinstate the Holy, though they differ in what aspect of Enlightenment thought they reject.

5. Conclusions

But not all holy things are equally so, some are more holy than others. A Foundationalism based on language (PoMo) will be very different than one based on Man or one based upon God. A recursive trinity incorporating culture will be very different than one including ecstatic experience, or one based on intellectual propositions. How can we move forward, how can we incorporate the Holy into our theologizing without losing what we have already attained?

My humble suggestion, is that we have left out perhaps the major finding of the whole PoMo enterprise. For whatever language we use to theologize, it is ours; whatever actions we perform in our theologizing, they are ours. We are the vessel in which theology is carried, and the vessels of the house of the Lord must be Holy. Moses commanded that a Moabite or Ammonite was not to serve in the temple for ten generations, demonstrating that holiness is a multi-generational affair; it is in the bones, it is in the flesh. If we are to theologize, we must be holy in body, mind and soul. Perhaps we should make a requirement that ten generations of Christian parents must precede acceptance into seminary. We are commanded to raise up holy children, and perhaps our great-grandchildren will have the wisdom to correct our faults. In the meantime, we are to pass along the holy embers of divine faith, never allowing them to cool, letting them cauterize the next generation in its struggle with the world, the flesh, and the Devil.

Theology is not just a drama, it is an existential task over many generations, it is a self-purifying task. St John writes, (1 John 3:2-3)

"Beloved, we are God's children now, and what we will be has not yet appeared; but we know that when he appears we shall be like him, because we shall see him as he is. And everyone who thus hopes in him purifies himself as he is pure."

And what does St John close his letter with? “Little children, keep yourselves from idols.”

This is holy theology, the fire between the future and the fall.

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