Hidden Price Tags

An Eastern Orthodox Look at the Dark Side of Technology and Its Best Use

Volume 8: Artificial Intelligence: AI, Generative AI, and AGI

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To St. Philaret the Merciful of Asia Minor—
Your life reads as a living unpacking of all the Sermon on the Mount says about wealth.
Thanks for the inspiration!

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Foreword to the *Hidden Price Tags* series

I gave my heirarch and abbot a copy of *The Luddite's Guide to Technology* for Christmas, and told him, "If I've contributed something to the conversation, it's probably in this book."

This collection is intended to break the contents of that book and a few related works into smaller and more manageable volumes, and give an introduction and discussion questions for individual works.

My life as a whole has been heavy with technology and heavy with theology / patrology, and my distinctive contributions may lie in relation to both. It's very easy to have your life taken over and run by technology; this is about unplugging to an extent, mastering the technologies you use, and using technologies so that they are beneficial instead of draining you. The reality is that without a conscious effort, and perhaps with many kinds of conscious effort, you will be hit by the dark sides of technology.

If this series succeeds, it will be relevant both when it was written, and later on when there are some of the same kinds of forces at play but the list of technologies that are *au courant* has shifted in significant ways.

I do not wish to continue to update this series to continue to give the impression that it was just written, but there is something timeless even to good books on technology. As regards television, I unhesitatingly draw on Neil Postman's 1985 *Amusing Ourselves to Death: Public Discourse in an Age of Show Business*,[1] Jerry Mander's 1978 *Four Arguments for the* ***Elimination*** *of Television*,[2] and Marie Winn's 1977 *The Plug-in Drug*[3] as worth listening to today. None of them anticipate ubiquitous mobile devices, and Jerry Mander is skeptical about whether computers would be of any real use for consumers. I don't mean that Mander was skeptical about whether personal-use computers would be an overall improvement to the picture; I mean that he did not anticipate personally owned computers or computer networks at all, let alone mobile Internet devices. But when you read one of his arguments, the argument of "artificial unusualness,"[4] under "Argument Four: The Inherent Biases of Television,"[5] a relatively light edit could give the impression of an incisive analysis of technology—*today*—whose ink is still wet on its pages. *Artificial unusuality was part of television when he wrote it, it is more a part of television now, it is a feature of social media, and it is a core part to how you make technology addictive today*.[6] It is not just because I have heard people say that television is the future of the Internet that I believe these books about technology are relevant.

[1] Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Showbusiness* (London: Methuen, 2007).

[2] Jerry Mander, *Four Arguments for the Elimination of Television* (New York: Perennial, 2002).

[3] Marie Winn, *The Plug-in Drug* (New York: Penguin, 1985).

[4] Jerry Mander, *Four Arguments for the Elimination of Television* (New York: Perennial, 2002), 299-322.

[5] Jerry Mander, *Four Arguments for the Elimination of Television* (New York: Perennial, 2002), 263-346.

[6] See, for instance, "The Acceleration of Addictiveness," The acceleration of addictiveness, accessed November 18, 2022, https://www.paulgraham.com/addiction.html.

Much may have changed in the intervening 40-50 years since Mander wrote his title, but *the more some things change, the more some things stay the same*. The principles in these precursors to this series are still relevant, and I believe the principles in this collection will likely be at least partially relevant when smartphones and smartwatches are no longer the cutting edge of mainstream consumer use of technology, and, perhaps, there will seem to be something quaint about the concept of watching porn on a flat and external screen.

When I first wrote " 'Social Antibodies' Needed: A Request of Orthodox Clergy" (in volume 4 of this series)[7] in 2014, I made multiple attempts at a literature search on Amazon found nothing much on some other queries, and "orthodox technology" turned up, among Orthodox Christian works on technology: my own work and nobody else's.

At the time of this writing that is no longer true. The first result for that search is no longer one of my own: *Religion, Science, and Technology*.[8] Jean-Claude Larchet's *The New Media Epidemic: The Undermining of Society, Family, and Our Own Soul*[9] is on Amazon now and eminently worth reading. But my own works represent six of the first page Amazon search results for that query. As I said in " 'Social Antibodies' Needed," about what I found when I searched Amazon, "*Um, **thanks**, I think. I guess I'm an expert, or at least a resource, and even if I didn't*

[7] C.J.S. Hayward, *Hidden Price Tags: An Eastern Orthodox Look at the Dark Side of Technology and Its Best Use: Volume 4: Nitty, Gritty, Ascesis*, Spotsylvania: C.J.S. Hayward Publications, 2023.

[8] Katina Michael, M. G. Michael, and Kallistos, *Religion, Science & Technology: An Eastern Orthodox Perspective ; an Interview with Metropolitan Kallistos Ware* (Wollongong, Australia: University of Wollongong, 2017).

[9] Jean-Claude Larchet and Archibald Andrew Torrance, *The New Media Epidemic: The Undermining of Society, Family, and Our Own Soul* (Jordanville, NY: Holy Trinity Publications, The Printshop of St Job of Pochaev, Holy Trinity Monastery, 2019).

want to, I should probably make myself available to Orthodox clergy, with my spiritual father and bishop foremost." But for the most part, I am a somewhat obscure local expert if I am in fact a local subject-matter expert.

There may be a number of things I fail to project about the practical realities of the Internet of Bodies but I suspect this book, an attempt at outlining Orthodox ascesis governing technology use, will be somewhere on the scene then. There are some technologies that I have avoided using at all on overpowering negative intuitions, like SecondWife, er, SecondLife, and recommendations may shift from "Use freely," to "Use carefully," to "Use very cautiously," to "Better not to use," to "Don't use at all." We are having more concentrated versions of earlier precursors today, like eighty proof liquor followed age-old wine in ages past. And the case for abstinence may grow increasingly strong as the list of technologies that are *au courant* grows increasingly strong.

So you have in your hands something that may turn out to be significant, possibly moreso than my Amazon reviews may reflect. (After I posted a critique of the "Blessed Seraphim Rose" crowd,[10] admirers were not sated by giving that specific work one star reviews. They also follow through to see that positive Amazon ratings and reviews of any of my works continue to be taken down if they can be dislodged. This may also be part of why my works get one star reviews simply alleging, in two words, "Poorly written."[11])

Reading Marie Winn's *The Plug-in Drug*[12] helped me appreciate why my political science professor at Calvin

[10] C.J.S. Hayward, *The Seraphinians: "Blessed Seraphim Rose" and His Axe-Wielding Western Converts* (Wheaton, IL: C.J.S. Hayward Publications, 2012).

[11] "Amazon.com: The Luddite's Guide to Technology: The Past Writes Back to Humane Tech!," Amazon, accessed November 18, 2022, https://www.amazon.com/Luddites-Guide-Technology-Writes-Humane/dp/1731439539.

[12] Marie Winn, *The Plug-in Drug* (New York: Penguin, 1985).

forcefully told a class, "*Playboy* is more Christian than *Sesame Street*![13]" I am writing at a time when technologies are addictive and need to be carefully used if they are used at all, and works like "The Acceleration of Addictiveness" (at paulgraham.com/addiction.html)[14] suggest that such caution will only be more thoroughly justified as time continues and further modifications of technology unfold before us.

Why Orthodoxy?

One Orthodox community member talked about how he asked people, "I want to understand Orthodoxy. What books should I read?" He got an answer of, "You don't understand Orthodoxy by reading a book. You understand Orthodoxy by attending services." And that is how he answers requests other people make of him for reading recommendations to understand Orthodoxy.

Orthodoxy is an oral culture that uses reading, and monasticism more so. This book is not intended to explain Orthodoxy; you must attend Orthodox services if you want that. But Orthodoxy is how I understand being human and Orthodox theology has "Who are we?" for one of the biggest questions to answer.[15] This big question includes another capitally important question: "What is good for us as

[13] I believe his reason this forceful and possibly exaggerated statement is that *Playboy* is an open and undisguised evil that young people are warned about; *Sesame Street* is a whitewashed tomb full of rotten things which masquerades as a messenger of all things good, wholesome, and educational, and that is a bigger mark of the satanic. ("And no marvel; for Satan himself masquerades as an angel of light," 2 Corinthians 11:14, *Classic Orthodox Bible*.)

[14] "The Acceleration of Addictiveness," The acceleration of addictiveness, accessed November 18, 2022, https://www.paulgraham.com/addiction.html.

[15] When I was beginning studying theology at Cambridge in 2002, in an early tutorial supervision I was told that the three fundamental questions in theology are "Who is God?", "Who are we?", and "How do we relate to God?"

human beings?" This in turn includes "What use and abstention from technology is good for us as human beings?" That question drives this whole series. I do not write to reason you into being Orthodox, but I would be mistreating you to use anything less than the best resources I know to answer the challenges of technology and using technology without burning yourself.

Electronic technology has perhaps been around for a couple hundred years or less.[16] Our genus *Homo* has been around for millions of years,[17] and our subspecies *Homo sapiens sapiens* has been around for over a hundred thousand years.[18] This means that for well over 99% of the time our human race has been around, electronic technology was simply not part of the picture for anyone. *Maybe the keys to human flourishing and the conditions that the human person are adapted to, are older than electronic technology, and perhaps there are things we need to learn from what was normal human life.* Let's go!

[16] "History of Technology Timeline," Encyclopædia Britannica (Encyclopædia Britannica, inc.), accessed November 18, 2022, https://www.britannica.com/story/history-of-technology-timeline.

[17] "Homo," Wikipedia (Wikimedia Foundation, November 7, 2022), https://en.wikipedia.org/wiki/Homo.

[18] Glenn Elert, "Age of Homo Sapiens," Age of Homo Sapiens - The Physics Factbook, accessed November 18, 2022, https://hypertextbook.com/facts/1997/TroyHolder.shtml.

Foreword to *Artificial Intelligence: AI, Generative AI, and AGI*

Why not ASI?

Some readers may read the list of "AI, Generative AI, and AGI" and find one element conspicuous by its absence: ASI, or artificial superintelligence ("AGI" meaning "artificial generative intelligence," "Generative AI" including the current cadre of e.g. ChatGPT, and "AI" being a general term that encompasses the other terms and other things not listed). Let me try to explain that a little.

I wrote a dissertation in 2004 about what I believed were inherent limitations to AI, originally blandly titled, "Artificial Intelligence, Cognitive Science, and Orthodox Views on Personhood." Along the way, I retitled it, "AI as an Arena for Magical Thinking Among Skeptics." My first thought upon watching e.g. "The AI Dilemma"[19] was to wonder if I was simply wrong in what I wrote. Since then, intensive research has led me to believe that yes, I could have been wrong in what I wrote, but what generative AI has accomplished looks more like a breathtakingly good

[19] https://tinyurl.com/double-exponential

way of working with or around the intrinsic limitations I saw. In "Opening a Can of Dragons," I raise the question of whether a librarian knows everything contained in the books of a library. The short answer may be "No," but I suggested that "No" may mean less than you might think. The comparison drawn is to generative AI pulling a human-like guess at the next item in a sequence, from as broad a collection of human responses as is possible.

What I have learned from what I have found and not found on ArXiv.org on AI, and correspondence with researcher Ryan Green, who helps coordinate the AI Research Group of the Center for Digital Culture at the Dicastery for Culture and Education of the Holy See,[20] is that there are some basic steps that could be taken to pursue artificial gifted intelligence, and perhaps get closer to an artificial superintelligence, that at present I have not been able to find any trace of anyone pursuing.

The work of generative AI has been pursuing a culture of quantity and greatest breadth of procuring human-like responses and not a culture of quality. The psychology of the gifted range, which encompasses a greater diversity than the IQ-normal range, is unstudied. Furthermore, although I may have missed some reference to classics in the library of Babel that comes from searching ArXiv.org for "AI classics," I have found no evidence of study that limits itself to classics (for the sake of argument, let us say texts that have fallen into the public domain and are available at Project Gutenberg and/or archive.org), or particularly prioritizes classics among the sprawl of humanly generated content.

People may be interested in ASI, although generative AI gives me the sense of a terrific stunt more than a major step illuminating how to approach AGI, and how beyond

[20] The "hot off the presses" book he gave me a link to on December 19, 2023, was https://jmt.scholasticahq.com/article/91230-encountering-artificial-intelligence-ethical-and-anthropological-investigations.

building AGI, we may progress to ASI. However, the steps I have outlined do not seem to have been explored.

Possibly an ASI would work differently from how human giftedness works. However, supersonic airplanes work more like the most majestic birds than the most common types of animals that fly.

I am of the belief, having substantially resumed belief in what I wrote in my dissertation, that looking for AGI is barking up the wrong tree. Generative AI represents an impressive achievement within the limits of modern computers; although my first thought was that I had simply been wrong, my considered judgment now is that generative AI represents a stunt within ontological limitations where a computer lacks something that is foundational to the human person.

I do not say that some future stunt could not effectively produce ASI, but I believe the fact that generative AI is some of the best AI we know how to make suggests that there are limitations, possibly in principle, to what can be done with AI. I furthermore suggest that an AI enterprise that presently explores what one can do with a culture of quantity that surveys a great breadth of responses seems not to have explored what a culture of quality might explore, and not the depth of what is to be learned from taking a point of reference in the further-out distinctions within the gifted spectrum. And this much is true when Project Gutenberg's classic offerings offer a readily available proxy for about as much of mankind's top performances in writing are available now.

So I think it is a little early to approach ASI when we are not getting closer to the process of AGI, and the AI has not so much failed to answer the question of what AI can learn from the gifted spectrum and in particular its upper echelons, as failed to seriously ask it at all. Perhaps ASI would show important divergences from the human gifted spectrum: but the understudied topic of profound

giftedness within psychology[21] would seem to offer an important reference point in increasing the effective IQ of a generative AI project that works more by understanding more broadly what a human response can be than understanding more deeply what makes for excellence in human intelligence and performance.

A mockery of a mockery

In Orthodoxy, there is a sense that the "nous" or "spiritual eye" is the right center of the human person and the "discursive mind," that which we reason with, has a legitimate place, but its relation to the nous is that of the moon to the sun. It is not, and should not be, the focus.

Philosopher and cognitive science Ian McGilchrist talks about how the relationship of the right hemisphere to the left is that of "the master and his emissary" (as one of his books is titled), and profound confusion arises when the human mind is relegated to a monism of the emissary, the discursive reason. Both are needed and both should be kept in harmony, but it upends things to treat the left hemisphere as the whole picture. That is the business of the right hemisphere.

I would briefly note and suggest that if trying to collapse all things to the rule of the emissary is a mockery, the work of generative AI is a mockery of a mockery. It emulates the concrete behaviors of the left hemisphere without having consciousness or an affective decision. I do

[21] My paper "Frankincense. Gold, and Myrrh: A Look at Profound Giftedness through Orthodox Anthropology," https://cjshayward.com/gifted/, was done after a near-exhaustive 2007 search of all psychological literature using the term "profoundly gifted" as a technical term, and turned up material that could be read in entirety within a few weeks. There has to be more material available now, but my suspicion is that an exhaustive search today for all psychological literature using "profoundly gifted" as a technical term would still represent a remarkably tractable endeavor.

not wish to develop this at length, as McGilchrist has already done so in *The Master and His Emissary*, *The Matter with Things*, and various YouTube videos. I will simply say that AI reproduces the behavior of when what should be a master and its emissary is reduced to a monism of the emissary which is the new master, that this relates fundamentally to Western developments, and looking to generative AI to reproduce the virtues of human thought is to get on the wrong foot twice: the mockery of a mockery.

No global solution offered

I also write on a particular note after watching a three hour talk between Ian McGilchrist, John Vervaeke, and Daniel Schmachtenberger. In response to global problems they mention (I would add things that make Romans 1 sound optimistic), they seem to offer a global, trans-national, trans-religious, trans-communitarianism that embraces a very particular locality because their universal aspirations call for no less.

I respond in the scandal of the particular. I am a particular man (Br. Christos Jonathan Seth Hayward), of a particular monastery (St. Demetrios Monastery in Spotsylvania, Virginia), under the nurture of a particular Abbot (His Beatitude Metropolitan JONAH), in a particular Tradition (Russian Orthodox Church Outside of Russia). I have obediences that place care for particular plants and places,alongside supporting my intellectual development. I am not trying to change the world as a whole so much as change myself in repentance. I write out of Eastern Orthodoxy as a Tradition that may be sympathetic to other traditions but does not stand as a puppet master coordinating how those other traditions should manage themselves. *And I write with as much strength as I can muster*. If I say anything timeless, it will be as a particular person in a particular locale and not standing over and above the world's general communities. And I add this note

having watched a particular message about "The Blasphemy of trying to save or revive the Church," watching Constantine Zalalas videos while money has been a little tight for books. The same principle of the scandal of the particular applies, I believe, to relating to the world as a whole.

Then why am I not political?

The short answer is that I *am* political, but on terms incomprehensible to the woke and almost as incomprehensible to those fighting hardest against the woke. I care about the *polis*, the city or political unit, and I trade in a form of power unknown in woke resistance.

In ancient Rome Orthodox Christians represented a force bewilderingly different from anything Romans could perceive. In a world divided by race, class, and sex, they presented a new race in which there was no Jew nor Greek nor barbarian, no slave nor free, no male nor female. In a world where they stood outside the protection of the law, and anybody could have Christians killed to get their possessions, family showed up to be tortured and executed—beaming with as much happiness as if they had been invited to a banquet, and dying with a smile on their lips. In a world concerned about money and social prestige, people gave their wealth to others who were no connection to them and went to live in a form of poverty that is sparing compared to today's monasticism. In a world where slaves had no rights, free men would sell themselves into slavery, give the thirty pieces of silver to a poor family, and in a few years convert the family that owned them, be freed, and then sell themselves into slavery again and the cycle repeated. In a world where you fought for what was yours, they went the second mile, turned the other cheek, and when sued for some of their clothing as collateral, gave the plaintiffs all their clothing and walked out of the courtroom

naked.[22] They acted in mystifying ways and wielded a power that conquered pagan Rome.

I trade in a power where more important than subduing others is the power to subdue yourself, and in which if you are saved ten thousand around you will be saved. More concretely, I have given my life to the study of Orthodox ascesis, and explored how its resources can let you live in a technological nexus like today and be the master, not the slave, of your tyrannizing phone. Never mind if not outsourcing your skills to artificial intelligence may be the new prepping: I live in a world where human intelligence is real and artificial intelligence is fake.

I live in the world illuminated by the lives of the saints, such as can be found at oca.org/saints, like St. Seraphim who stood as a *Flame in the Snow*.[23] And under the shadow of the saints, I offer a lesson in holding the reins and defying technologies' marketing propositions, being free from Internet porn, and living a truly human life in troubled technological times.

Let us begin.

[22] See *The Orthodox Martial Art is Living the Sermon on the Mount*, https://cjshayward.com/martial-art/.

[23] http://tinyurl.com/flame-in-the-snow. Julia de Beausobre's account may more easily be found at http://tinyurl.com/flame-in-the-snow-abebooks.

Note on Footnotes and Claim to Originality

It has been a thing to want originality, and to footnote debts to other authors but otherwise at least implicitly claim, "*Except as I explicitly document otherwise, I was born in a house that I built with my own two hands*."

There may be some original content in my writing, even strikingly original and possibly groundbreaking, but the claim I make to originality is nil. I have many debts to many people and more than I can trace (such may be classified as "unintentional plagiarism"), and I do not believe I was born in a house I built with my own two hands. I attempt the renovation and expansion of a mansion whose first roots I cannot trace and which has been touched by many hands before me, and God willing will be touched by many hands after.

When I was an aspiring scholar with an academic library, and I had an essay or assignment, I would do a literature search among the scholarly literature, and document what were often genuine dependencies and my

genuine sources. That is not my situation now. *That is not the situation of my readers now*. I made footnotes for the book the first volume in this series was largely drawn from, and what I found was that I was doing five minute Googlepedia hits that may have documented a claim but generally had nothing to do with where I got my ideas. And today, when in the title of one book I would probably like, we are *Amusing and Informing Ourselves to Death*, people carry cellphones and those who trace a footnote are probably about as capable as I am of a five minute Googlepedia hit.

Additionally, this work as it originally stands has a little more than a thousand pages of various kinds of un-footnoted writing. If we say that comes with an average of three footnotes per page and five minutes per footnote, that comes to over fifteen thousand footnotes, taking more than two hundred and fifty hours, or more than six uninterrupted forty hour workweeks. And I hardly have forty hour workweeks to spare.

Footnoting in this collection is essentially as original, meaning half-fledged Googlepedia hits for the first volume, standard scholarly footnoting in originally academic work, and naming of important sources in the remaining five out of seven volumes.

My apologies for readers who want footnotes; I know it's considered a sign of a serious or formal book, but I would rather make this collection available soon than wait indefinitely for all the half-fledged Googlepedia footnotes to be available.

Introduction to my site's 404 page

My site's 404 page, if nothing else, offers an Easter egg when I try to give someone a link from my site and there's a typo in what exact URL I give.

My site's 404 page

Page not found (404)

I am *terribly* sorry.

I cannot locate the webpage you requested.

You must understand, I am in a difficult position. You see, I am not a computer from Earth at all. I am a 'computer,' to use the term, from a faroff galaxy: the galaxy of "Within the Steel Orb."

Here I am with capacities your world's computer science could never even dream of, knowledge from a million million worlds, and for that matter more computing power than Amazon's EC2/Cloud could possibly expand to, and I must take care of pitiful responsibilities like serving up webpages serving up

Questions for discussion for my site's 404 page:

1. Have you ever seen such a silly 404 page?
2. Should the page be kept up or taken down?
3. Should the page details be updated or not?

Introduction to "AI as an Arena for Magical Thinking Among Skeptics"

The rumor mill has it that we're making real progress in AI, and full AI is just around the corner. The rumor mill, as usual, is wrong, and not just for reasons discussed in "Just Around the Corner Since 1950."

The AI movement has created some interesting capacities, but this dissertation offers a theological critique of the artificial intelligence movement as a whole. The critique gives an overview of ranges of critiques of the AI movement that are not offered in mainstream critiques because they lie too close to the camp they oppose.

The previous dissertation makes use of a concept used in computer science to inform a "handmaiden of theology" study. This uses theological concepts to form an incisive critique of AI as bad and sometimes very wishful thinking that doesn't produce the results it is trying to produce.

AI as an Arena for Magical Thinking Among Skeptics

M.Phil. Dissertation
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15 June 2004

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Abstract

I explore artificial intelligence as failing in a way that is characteristic of a faulty anthropology. Artificial intelligence has had excellent funding, brilliant minds, and exponentially faster computers, which suggests that any failures present may not be due to lack of resources, but arise from an error that is manifest in anthropology and may even be cosmological. Maximus Confessor provides a genuinely different background to criticise artificial intelligence, a background which shares far fewer assumptions with the artificial intelligence movement than figures like John Searle. Throughout this dissertation, I will

be looking at topics which seem to offer something interesting, even if cultural factors today often obscure their relevance. I discuss Maximus's use of the patristic distinction between 'reason' and spiritual 'intellect' as providing an interesting alternative to 'cognitive faculties.' My approach is meant to be distinctive both by reference to Greek Fathers and by studying artificial intelligence in light of the occult foundations of modern science, an important datum omitted in the broader scientific movement's self-presentation. The occult serves as a bridge easing the transition between Maximus Confessor's worldview and that of artificial intelligence. The broader goal is to make three suggestions: first, that artificial intelligence provides an experimental test of scientific materialism's picture of the human mind; second, that the outcome of the experiment suggests we might reconsider scientific materialism's I-It relationship to the world; and third, that figures like Maximus Confessor, working within an I-Thou relationship, offer more wisdom to us today than is sometimes assumed. I do not attempt to compare Maximus Confessor's Orthodoxy with other religious traditions, however I do suggest that Orthodoxy has relevant insights into personhood which the artificial intelligence community still lacks.

Introduction

Some decades ago, one could imagine a science fiction writer asking, 'What would happen if billions of dollars, dedicated laboratories with some of the world's most advanced equipment, indeed an important academic discipline with decades of work from some of the world's most brilliant minds—what if all of these were poured into an attempt to make an artificial mind based on an understanding of personhood that came out of a framework of false assumptions?' We could wince at the waste, or wonder that after all the failures the researchers still had

faith in their project. And yet exactly this philosophical experiment has been carried out, in full, and has been expanded. This philosophical experiment is the artificial intelligence movement.

What relevance does AI have to theology? Artificial intelligence assumes a particular anthropology, and failures by artificial intelligence may reflect something of interest to theological anthropology. It appears that the artificial intelligence project has failed in a substantial and characteristic way, and furthermore that it has failed as if its assumptions were false—in a way that makes sense given some form of Christian theological anthropology. I will therefore be using the failure of artificial intelligence as a point of departure for the study of theological anthropology. Beyond a negative critique, I will be exploring a positive alternative. The structure of this dissertation will open with critiques, then trace historical development from an interesting alternative to the present problematic state, and then explore that older alternative. I will thus move in the opposite of the usual direction.

For the purposes of this dissertation, *artificial intelligence* (AI) denotes the endeavour to create computer software that will be humanly intelligent, and *cognitive science* the interdisciplinary field which seeks to understand the mind on computational terms so it can be re-implemented on a computer. Artificial intelligence is more focused on programming, whilst cognitive science includes other disciplines such as philosophy of mind, cognitive psychology, and linguistics. *Strong AI* is the classical approach which has generated chess players and theorem provers, and tries to create a disembodied mind. Other areas of artificial intelligence include the *connectionist* school, which works with neural nets,[24] and

[24] These neural nets are modelled after biological neural nets but are organised differently and seem to take the concept of a neuron on something of a tangent from its organisation and function in a natural brain, be it insect or human.

embodied AI, which tries to take our mind's embodiment seriously. The picture on the cover[25] is from an embodied AI website and is interesting for reasons which I will discuss below under the heading of 'Artificial Intelligence.'

Fraser Watts (2002) and John Puddefoot (1996) offer similar and straightforward pictures of AI. I will depart from them in being less optimistic about the present state of AI, and more willing to find something lurking beneath appearances. I owe my brief remarks about AI and its eschatology, under the heading of 'Artificial Intelligence' below, to a line of Watts' argument.[26]

Other critics[27] argue that artificial intelligence neglects the body as mere packaging for the mind, pointing out ways in which our intelligence is embodied. They share many of the basic assumptions of artificial intelligence but understand our minds as biologically emergent and therefore tied to the body.

There are two basic points I accept in their critiques:

First, they argue that our intelligence is an embodied intelligence, often with specific arguments that are worth attention.

Second, they often capture a quality, or flavour, to thought that beautifully illustrates what sort of thing human thought might be besides digital symbol manipulation on biological hardware.

There are two basic points where I will be departing from their line of argument:

First, they think outside the box, but may not go far enough. They are playing on the opposite team to cognitive

[25] *Cog*, http://www.ai.mit.edu/projects/humanoid-robotics-group/cog/images/cog-rod-slinky.gif, as seen on 11 June 2004 (enlarged).

[26] 2002, 50-1.

[27] Searle 1998, Edelman 1992, etc., including some of Dreyfus 1992. Edelman lists Jerome Brunner, Alan Gauld, Claes von Hofsten, George Lakoff, Ronald Langaker, Ruth Garrett Millikan, Hilary Putnam, John Searle, and Benny Shannon as convergent members of a realist camp (1992, 220).

science researchers, but they are playing the same game, by the same rules. The disagreement between proponents and critics is not whether mind may be explained in purely materialist terms, but only whether that assumption entails that minds can be re-implemented on computers.

Second, they see the mind's ties to the body, but not to the spirit, which means that they miss out on half of a spectrum of interesting critiques. I will seek to explore what, in particular, some of the other half of the spectrum might look like. As their critiques explore what it might mean to say that the mind is embodied, the discussion of reason and intellect under the heading 'Intellect and Reason' below may give some sense of what it might mean to say that the mind is spiritual. In particular, the conception of the intellects offers an interesting base characterisation of human thought that competes with cognitive faculties. Rather than saying that the critics offer false critiques, I suggest that they are too narrow and miss important arguments that are worth exploring.

I will explore failures of artificial intelligence in connection with the Greek Fathers. More specifically, I will look at the seventh century Maximus Confessor's *Mystagogia*. I will investigate the occult as a conduit between the (quasi-Patristic) medieval West and the West today. The use of Orthodox sources could be a particularly helpful light, and one that is not explored elsewhere. Artificial intelligence seems to fail along lines predictable to the patristic understanding of a spirit-soul-body unity, essentially connected with God and other creatures. The discussion becomes more interesting when one looks at the implications of the patristic distinction between 'reason' and the spiritual 'intellect.' I suggest that connections with the Orthodox doctrine of divinisation may make an interesting a direction for future enquiry. I will only make a two-way comparison between Orthodox theological anthropology and one particular quasi-theological anthropology. This dissertation is in particular not an

attempt to compare Orthodoxy with other religious traditions.

One wag said that the best book on computer programming for the layperson was *Alice's Adventures in Wonderland*, but that's just because the best book on anything for the layperson was *Alice's Adventures in Wonderland*. One lesson learned by a beginning scholar is that many things that 'everybody knows' are mistaken or half-truths, as 'everybody knows' the truth about Galileo, the Crusades, the Spanish Inquisition, and other select historical topics which we learn about by rumour. There are some things we will have trouble understanding unless we can question what 'everybody knows.' This dissertation will be challenging certain things that 'everybody knows,' such as that we're making progress towards achieving artificial intelligence, that seventh century theology belongs in a separate mental compartment from AI, or that science is a different kind of thing from magic. The result is bound to resemble a tour of Wonderland, not because I am pursuing strangeness for its own sake, but because my attempt to understand artificial intelligence has taken me to strange places. Renaissance and early modern magic is a place artificial intelligence has been, and patristic theology represents what we had to leave to get to artificial intelligence.

The artificial intelligence project as we know it has existed for perhaps half a century, but its roots reach much further back. This picture attests to something that has been a human desire for much longer than we've had digital computers. In exploring the roots of artificial intelligence, there may be reason to look at a topic that may seem strange to mention in connection with science: the Renaissance and early modern occult enterprise.

Why bring the occult into a discussion of artificial intelligence? It doesn't make sense if you accept science's own self-portrayal and look at the past through its eyes. Yet this shows bias and insensitivity to another culture's inner

logic, almost a cultural imperialism—not between two cultures today but between the present and the past. A part of what I will be trying to do in this thesis is look at things that have genuine relevance to this question, but whose relevance is obscured by cultural factors today. Our sense of a deep divide between science and magic is more cultural prejudice than considered historical judgment. We judge by the concept of scientific progress, and treating prior cultures' endeavours as more or less successful attempts to establish a scientific enterprise properly measured by our terms.

We miss how the occult turn taken by some of Western culture in the Renaissance and early modern period established lines of development that remain foundational to science today. Many chasms exist between the mediaeval perspective and our own, and there is good reason to place the decisive break between the mediaeval way of life and the Renaissance/early modern occult development, not placing mediaeval times and magic together with an exceptionalism for our science. I suggest that our main differences with the occult project are disagreements as to means, not ends—and that distinguishes the post-mediaeval West from the mediaevals. If so, there is a kinship between the occult project and our own time: we provide a variant answer to the same question as the Renaissance magus, whilst patristic and mediaeval Christians were exploring another question altogether. The occult vision has fragmented, with its dominion over the natural world becoming scientific technology, its vision for a better world becoming political ideology, and its spiritual practices becoming a private fantasy.

One way to look at historical data in a way that shows the kind of sensitivity I'm interested in, is explored by Mary Midgley in *Science as Salvation* (1992); she doesn't dwell on the occult as such, but she perceptively argues that science is far more continuous with religion than its self-understanding would suggest. Her approach pays a certain

kind of attention to things which science leads us to ignore. She looks at ways science is doing far more than falsifying hypotheses, and in so doing observes some things which are important. I hope to develop a similar argument in a different direction, arguing that science is far more continuous with the occult than its self-understanding would suggest. This thesis is intended neither to be a correction nor a refinement of her position, but development of a parallel line of enquiry.

It is as if a great island, called Magic, began to drift away from the cultural mainland. It had plans for what the mainland should be converted into, but had no wish to be associated with the mainland. As time passed, the island fragmented into smaller islands, and on all of these new islands the features hardened and became more sharply defined. One of the islands is named Ideology. The one we are interested in is Science, which is not interchangeable with the original Magic, but is even less independent: in some ways Science differs from Magic by being more like Magic than Magic itself. Science is further from the mainland than Magic was, even if its influence on the mainland is if anything greater than what Magic once held. I am interested in a scientific endeavour, and in particular a basic relationship behind scientific enquiry, which are to a substantial degree continuous with a magical endeavour and a basic relationship behind magic. These are foundationally important, and even if it is not yet clear what they may mean, I will try to substantiate these as the thesis develops. I propose the idea of Magic breaking off from a societal mainland, and sharpening and hardening into Science, as more helpful than the idea of science and magic as opposites.

There is in fact historical precedent for such a phenomenon. I suggest that a parallel with Eucharistic doctrine might illuminate the interrelationship between Orthodoxy, Renaissance and early modern magic, and science (including artificial intelligence). When Aquinas

made the Christian-Aristotelian synthesis, he changed the doctrine of the Eucharist. The Eucharist had previously been understood on Orthodox terms that used a Platonic conception of bread and wine participating in the body and blood of Christ, so that bread remained bread whilst becoming the body of Christ. One substance had two natures. Aristotelian philosophy had little room for one substance which had two natures, so one thing cannot simultaneously be bread and the body of Christ. When Aquinas subsumed real presence doctrine under an Aristotelian framework, he managed a delicate balancing act, in which bread ceased to be bread when it became the body of Christ, and it was a miracle that the accidents of bread held together after the substance had changed. I suggest that when Zwingli expunged real presence doctrine completely, he was not abolishing the Aristotelian impulse, but carrying it to its proper end. In like fashion, the scientific movement is not a repudiation of the magical impulse, but a development of it according to its own inner logic. It expunges the supernatural as Zwingli expunged the real presence, because that is where one gravitates once the journey has begun. What Aquinas and the Renaissance magus had was composed of things that did not fit together. As I will explore below under the heading 'Renaissance and Early Modern Magic,' the Renaissance magus ceased relating to society as to one's mother and began treating it as raw material; this foundational change to a depersonalised relationship would later secularise the occult and transform it into science. The parallel between medieval Christianity/magic/science and Orthodoxy/Aquinas/Zwingli seems to be fertile: real presence doctrine can be placed under an Aristotelian framework, and a sense of the supernatural can be held by someone who is stepping out of a personal kind of relationship, but in both cases it doesn't sit well, and after two or so centuries people finished the job by subtracting the supernatural.

Without discussing the principles in Thomas Dixon's 1999 delineation of theology, anti-theology, and atheology that can be un-theological or quasi-theological, regarding when one is justified in claiming that theology is present, I adopt the following rule:

A claim is considered *quasi-theological* if it can conflict with theological claims.

Given this rule, patristic theology, Renaissance and early modern magic (hereafter 'magic' or 'the occult'), and artificial intelligence claims are all considered to be theological or quasi-theological.

I will not properly trace an historical development so much as show the distinctions between archetypal scientific, occult, and Orthodox worldviews as seen at different times, and briefly discuss their relationships with some historical remarks. Not only are there surprisingly persistent tendencies, but Lee repeats Weber's suggestion that there is real value to understand ideal types.[28]

I will be attempting to bring together pieces of a puzzle—pieces scattered across disciplines and across centuries, often hidden by today's cultural assumptions about what is and is not connected—to show their interconnections and the picture that emerges from their fit. I will be looking at features including intentionality,[29] teleology,[30] cognitive faculties,[31] the spiritual intellect,[32]

[28] Lee 1987, 6.

[29] 'Intentionality' is a philosophy of mind term for the 'about-ness' of mental states.

[30] By 'teleology' I understand in a somewhat inclusive sense that branch of theology and philosophy that deals with goals, ends, and ultimate meanings.

[31] By 'teleology' I understand in a somewhat inclusive sense that branch of theology and philosophy that deals with goals, ends, and ultimate meanings.

[32] The spiritual 'intellect' is a patristic concept that embraces thought, conceived on different terms from 'cognitive science,' and is

cosmology, and a strange figure who wields a magic sword with which to slice through society's Gordian knots. Why? In a word, all of this connected. Cosmology is relevant if there is a cosmological error behind artificial intelligence. There are both an organic connection and a distinction between teleology and intentionality, and the shift from teleology to intentionality is an important shift; when one shifts from teleology to intentionality one becomes partly blind to what the artificial intelligence picture is missing. Someone brought up on cognitive faculties may have trouble answering, 'How else could it be?'; the patristic understanding of the spiritual intellect gives a very interesting answer, and offers a completely different way to understand thought. And the figure with the magic sword? I'll let this figure remain mysterious for the moment, but I'll hint that without that metaphorical magic sword we would never have a literal artificial intelligence project. I do not believe I am forging new connections among these things, so much as uncovering something that was already there, overlooked but worth investigating.

This is an attempt to connect some very diverse sources, even if the different sections are meant primarily as philosophy of religion. This brings problems of coherence and disciplinary consistency, but the greater risk is tied to the possibility of greater reward. It will take more work to show connections than in a more externally focused enquiry, but if I can give a believable case for those interconnections, this will *ipso facto* be a more interesting enquiry.

All translations from French, German, Latin, and Greek are my own.

inseparably the place where a person meets God. Augustine locates the image of God in the intellect (*In Euangelium Ioannis Tractatus*, III.4), and compares the intellect to Christ as illuminating both itself and everything else (*In Euangelium Ioannis Tractatus*, XLVII, 3).

Artificial Intelligence

Artificial intelligence is not just one scientific project among others. It is a cultural manifestation of a timeless dream. It does not represent the repudiation of the occult impulse, but letting that impulse work out according to its own inner logic. Artificial intelligence is connected with a transhumanist vision for the future[33] which tries to create a science-fiction-like future of an engineered society of superior beings.[34] This artificial intelligence vision for the future is similar to the occult visions for the future we will see below. Very few members of the artificial intelligence movement embrace the full vision—but I may suggest that its spectre is rarely absent, and that that spectre shows itself by a perennial sense of, 'We're making real breakthroughs today, and full AI is just around the corner.' Both those who embrace the fuller enthusiasm and those who are more modestly excited by current project have a hope that we are making progress towards creating something fundamentally new under the sun, of bequeathing humanity with something that has never before been available, machines that genuinely think. Indeed, this kind of hope is one of magic's most salient features. The exact content and features vary, but the sometimes heady excitement and the hope to bestow something powerful and new mark a significant point contact between the artificial intelligence and the magic that enshrouded science's birth.

There is something timeless and archetypal about the desire to create humans through artifice instead of procreation. Jewish legend tells of a rabbi who used the

[33] Watts 2002, 57-8. See the World Transhumanist Association website at http://www.transhumanist.org for further information on transhumanism.

[34] C.S. Lewis critiques this project in *The Abolition of Man* (1943) and *That Hideous Strength* (1965). He does not address the question of whether this is a possible goal, but argues that it is not a desirable goal: the glorious future it heralds is in fact a horror compared to the present it so disparages.

Kaballah to create a clay golem to defend a city against anti-semites in 1581.[35] *Frankenstein* has so marked the popular imagination that genetically modified foods are referred to as 'Frankenfoods,' and there are many (fictional) stories of scientists creating androids who rebel against and possibly destroy their creators. Robots who have artificial bodies but think and act enough like humans never to cause culture shock are a staple of science fiction.[36] There is a timeless and archetypal desire to create humans by artifice rather than procreation. Indeed, this desire has more than a little occult resonance.

We should draw a distinction between what may be called 'pretentious AI' and 'un-pretentious AI.' The artificial intelligence project has managed technical feats that are sometimes staggering, and from a computer scientist's perspective, the state of computer science is richer and more mature than if there had been no artificial intelligence project. Without making any general claim that artificial intelligence achieves nothing or achieves nothing significant, I will explore a more specific and weaker claim that artificial intelligence does not and cannot duplicate human intelligence.

A paradigm example of un-pretentious AI is the United States Postal Service handwriting recognition system. It succeeds in reading the addresses on 85% of postal items, and the USPS annual report is justifiably proud of this achievement.[37] However, there is nothing mythic claimed for it: the USPS does not claim a major breakthrough in emulating human thought, nor does it give people the impression that artificial mail carriers are just

[35] *Encyclopedia Mythica*, 'Rabbi Loeb,' http://www.pantheon.org/articles/r/rabbi_loeb.html, as seen on 26 Mar 04.

[36] Foerst 1998, 109 also brings up this archetypal tendency in her conclusion.

[37] United States Postal Service 2003 annual report, *http://www.usps.com/history/anrpt03/html/realkind.htm*, as seen on 6 May 2004.

around the corner. The handwriting recognition system is a tool—admittedly, quite an impressive tool—but it is nothing more than a tool, and no one pretends it is anything more than a tool.

For a paradigm example of pretentious AI, I will look at something different. The robot Cog represents equally impressive feats in artificial hand-eye coordination and motor control, but its creators claim something deeper, something archetypal and mythic:

Fig. 2: Cog, portrayed as Robo sapiens[38]

The scholar places his hand on the robots' shoulder as if they had a longstanding friendship. At almost every semiotic level, this picture constitutes an implicit claim that the researcher has a deep friendship with what must be a deep being. The unfortunately blurred caption reads, '©2000 Peter Menzel / Robo sapiens.' On the Cog main website area, every picture with Cog and a person theatrically shows the person treating the robot as quite

[38] *Cog*, as seen on http://www.ai.mit.edu/projects/humanoid-robotics-group/cog/images/scaz-cog.gif, on 6 May 2004 (enlarged).

lifelike—giving the impression that the robot must be essentially human.

But how close is Cog to being human? Watts writes,

> The weakness of Cog at present seems to be that it cannot actually do very much. Even its insect-like computer forebears do not seem to have had the intelligence of insects, and Cog is clearly nowhere near having human intelligence.[39]

The somewhat light-hearted frequently-asked-questions list acknowledges that the robot 'has no idea what it did two minutes ago,' answers 'Can Cog pass the Turing test?' by saying, 'No… but neither could an infant,' and interestingly answers 'Is Cog conscious?' by saying, 'We try to avoid using the c-word in our lab. For the record, no. Off the record, we have no idea what that question even means. And still, no.' The response to a very basic question is ambiguous, but it seems to joke that 'consciousness' is obscene language, and gives the impression that this is not an appropriate question to ask: a mature adult, when evaluating our AI, does not childishly frame the question in terms of consciousness. Apparently, we should accept the optimistic impression of Cog, whilst recognising that it's not fair to the robot to ask about features of human personhood that the robot can't exhibit. This smells of begging the question.

Un-pretentious AI makes an impressive technical achievement, but recognises and acknowledges that they've created a tool and not something virtually human. Pretentious AI can make equally impressive technical achievements, and it recognises that what it's created is not equivalent to human, but it does not acknowledge this. The answer to 'Is Cog conscious?' is a refusal to acknowledge

[39] 2002, 57.

something the researchers have to recognise: that Cog has no analogue to human consciousness. Is it a light-hearted way of making a serious claim of strong agnosticism about Cog's consciousness? It doesn't read much like a mature statement that 'We could never know if Cog were conscious.' The researcher in Figure 2 wrote an abstract on how to give robots a theory of other minds,[40] which reads more like psychology than computer science.

There's something going on here that also goes on in the occult. In neo-paganism, practitioners find their magic to work, not exactly as an outsider would expect, by making incantations and hoping that something will happen that a skeptic would recognise as supernatural, but by doing what they can and then interpreting reality as if the magic had worked. They create an illusion and subconsciously embrace it. This mechanism works well enough, in fact, that large segments of today's neo-paganism started as jokes and then became real, something their practitioners took quite seriously.[41] There's power in trying to place a magical incantation or a computer program (or, in programmer slang, 'incantation') to fill a transcendent hope: one finds ways that it appears to work, regardless of what an outsider's interpretation may be. This basic technique appears to be at work in magic as early as the Renaissance, and it appears to be exactly what's going on in pretentious AI. The basic factor of stepping into an illusion after you do what you can makes sense of the rhetoric quoted above and why Cog is portrayed not merely as a successful experiment in coordination but as Robo sapiens, the successful creation of a living golem. Of course we don't interpret it as magic because we assume that artificial and intelligence and magic

[40] *Cog*, 'Theory of Mind for a Humanoid Robots,' http://www.ai.mit.edu/projects/humanoid-robotics/group/cog/Abstracts2000/scaz.pdf, as seen on 6 May 2004.

[41] Adler 1986, 319-321.

are very different things, but the researchers' self-deception falls into a quite venerable magical tradition.

Computers seem quite logical. Are they really that far from human rationality? Computers are logical without being rational. Programming a computer is like explaining a task to someone who follows directions very well but has no judgment and no ability to recognise broader intentions in a request. It follows a list of instructions without any recognition or a sense of what is being attempted. The ability to understand a conversation, or recognise another person's intent—even with mistakes—or any of a number of things humans take for granted, belongs to rationality. A computer's behaviour is built up from logical rules that do certain precise manipulations of symbols without any sense of meaning whatsoever: it is logical without being rational. The discipline of usability is about how to write well-designed computer programs; these programs usually let the user forget that computers aren't rational. For instance, a user can undo something when the computer logically and literally follows an instruction, and the user rationally realises that that isn't really what was intended. But even the best of this design doesn't let the computer understand what one meant to say. One frustration people have with computers stems from the fact that there is a gist to what humans say, and other people pick up that gist. Computers do not have even the most rudimentary sense of gist, only the ability to logically follow instructions. This means that the experience of bugs and debugging in programming is extremely frustrating to those learning how to program; the computer's response to what seems a correct program goes beyond nitpicking. This logicality without rationality is deceptive, for it presents something that looks very much like rationality at first glance, but produces unpleasant surprises when you treat it as rational. There's something interesting going on here. When we read rationality into a computer's logicality, we are in part creating the illusion of artificial intelligence. 'Don't anthropomorphise computers,'

one tells novice programmers. 'They hate that.' A computer is logical enough that we tend to treat it as rational, and in fact if you want to believe that you've achieved artificial intelligence, you have an excellent basis to use in forming a magician's self-deception.

Artificial intelligence is a mythic attempt to create an artificial person, and it does so in a revealing way. Thought is assumed to be a private manipulation of mental representations, not something that works in terms of spirit. Embodied AI excluded, the body is assumed to be packaging, and the attempt is not just to duplicate the 'mind' in a complete sense, but our more computer-like rationality: this assumes a highly significant division of what is essential, what is packaging, and what comes along for free if you duplicate the essential bits. None of this is simply how humans have always thought, nor is it neutral. Maximus Confessor's assumptions are different enough from AI's that a comparison makes it easier to see some of AI's assumptions, and furthermore what sort of coherent picture could deny them. I will explore how exactly he does so below under the heading 'Orthodox Anthropology in Maximus Confessor's *Mystagogia,*' More immediately, I wish to discuss a basic type of assumption shared by artificial intelligence and the occult.

The Optimality Assumption

One commonality that much of magic and science share is that broad visions often include the assumption that what they don't understand must be simple, and be easy to modify or improve. Midgley discusses Bernal's exceedingly optimistic hope for society to transform itself into a simplistically conceived scientific Utopia (if perhaps lacking most of what we value in human society);[42] I will discuss later, under various headings, how society simply

[42] Adler 1986, 319-321.

works better in Thomas More's and B.F. Skinner's Utopias if only it is re-engineered according to their simple models.[43] Aren't Utopian visions satires, not prescriptions? I would argue that the satire itself has a strong prescriptive element, even if it's not literal. The connection between Utopia and AI is that the same sort of thinking feeds into what, exactly, is needed to duplicate a human mind. For instance, let us examine a sample of dialogue which Turing imagined going on in a Turing test:

> Q: Please write me a sonnet on the subject of the Forth Bridge.
>
> A: Count me out on this one. I never could write poetry.
>
> Q: Add 34957 to 70764.
>
> A: (Pause about 30 seconds and then give as answer) 105621.
>
> Q: Do you play chess?
>
> A: Yes.
>
> Q: I have K at my K1, and no other pieces. You have only K at K6 and R at R1. It is your move. What do you play?
>
> A: (After a pause of 15 seconds) R-R8 mate.[44]

Turing seems to assume that if you duplicate his favoured tasks of arithmetic and chess, the task of understanding natural language comes along, more or less

[43] Utopias are often a satire more than a prescription literally conceived, but they are also far more prescriptive than one would gather from a simple statement that they are satire.

[44] Turing 1950.

for free. The subsequent history of artificial intelligence has not been kind to this assumption. Setting aside the fact that most people do not strike up a conversation by strangely requesting the other person to solve a chess problem and add five-digit numbers, Turing is showing an occult way of thinking by assuming there's nothing really obscure, or deep, about the human person, and that the range of cognitive tasks needed to do AI is the range of tasks that immediately present themselves to him. This optimism may be damped by subsequent setbacks which the artificial intelligence movement has experienced, but it's still present. It's hard to see an artificial intelligence researcher saying, 'The obvious problem looks hard to solve, but there are probably hidden problems which are much harder,' let alone consider whether human thought might be non-computational.

Given the difficulties they acknowledge, artificial intelligence researchers seem to assume that the problem is as easy as possible to solve. As I will discuss later, this kind of assumption has profound occult resonance. I will call this assumption the optimality assumption: with allowances and caveats, the optimality assumption states that artificial intelligence is an optimally easy problem to solve. This doesn't mean an optimally easy problem to solve given the easiest possible world, but rather, taking into the difficulties and nuances recognised by the practitioner, the problem is then assumed to be optimally easy, and then it could be said that we live in the (believable) possible world where artificial intelligence would be easiest to implement. Anything that doesn't work like a computer is assumedly easy, or a matter of unnecessary packaging. There are variations on the theme of begging the question. One basic strategy of ensuring that computers can reach the bar of human intelligence is to lower the bar until it is already met. Another strategy is to try to duplicate human intelligence on computer-like tasks. Remember the Turing test which Turing imagined, which seemed to recognise

only the cognitive tasks of writing a poem, doing arithmetic, and solving a chess problem: Turing apparently assumed that natural language understanding would come along for free by the time computers could do both arithmetic and chess. Now we have computer calculators and chess players that can beat humans, whilst natural language understanding tasks which are simple to humans represent an unscaled Everest to artificial intelligence.

We have a situation very much like the attempt to make a robot that can imitate human locomotion—if the attempt is tested by having a robot race a human athlete on a racetrack ergonomically designed for robots. Chess is about as computer-like a human skill as one could find.

Turing's script for an imagined Turing test is one manifestation of a tendency to assume that the problem is optimally easy: the optimality assumption. Furthermore, Turing sees only three tasks of composing a sonnet, adding two numbers, and making a move in chess. But in fact this leaves out a task of almost unassailable difficulty for AI: understanding and appropriately acting on natural language requests. This is part of human rationality that cannot simply be assumed to come with a computer's logicality.

Four decades after Turing imagined the above dialogue, Kurt VanLehn describes a study of problem solving that used a standard story problem.[45] The ensuing discussion is telling. Two subjects' interpretations are treated as problems to be resolved, apparently chosen for their departure from how a human 'should' think about these things. One is a nine year old girl, Cathy: '…It is apparent from [her] protocol that Cathy solves this problem by imagining the physical situation and the actions taken in it, as opposed to, say, converting the puzzle to a directed graph then finding a traversal of the graph.' The purpose of the experiment was to understand how humans solve

[45] VanLehn 1989, in Posner 1989, 532.

problems, but it was approached with a tunnel vision that gave a classic kind of computer science 'graph theory' problem, wrapped up in words, and treated any other interpretation of those words as an interesting abnormality. It seems that it is not the theory's duty to approach the subject matter, but the subject matter's duty to approach the theory—a signature trait of occult projects. Is this merely VanLehn's tunnel vision? He goes on to describe the state of cognitive science itself:

> For instance, one can ask a subject to draw a pretty picture... [such] Problems whose understanding is not readily represented as a problem space are called *ill-defined*. Sketching pretty pictures is an example of an ill-defined problem... There have only been a few studies of ill-defined problem solving.[46]

Foerst summarises a tradition of feminist critique:[47] AI was started by men who chose a particular kind of abstract task as the hallmark of intelligence; women might value disembodied abstraction less and might choose something like social skills. The critique may be pushed one step further than that: beyond any claim that AI researchers, when looking for a basis for computer intelligence, tacitly crystallised intelligence out of men's activities rather than women's, it seems that their minds were so steeped in mathematics and computers that they crystallised intelligence out of human performance more in computer-like activities than anything essentially human, even in a masculine way. Turing didn't talk about making artificial car mechanics or deer hunters any more than he had plans for artificial hostesses or childminders.

Harman's 1989 account of functionalism, for instance, provides a more polished-looking version of an

[46] *Ibid.* in Posner 1989, 534.
[47] 1998, 101.

optimality assumption: 'According to functionalism, it does not matter what mental states and processes are made of any more than it matters what a carburetor or heart or a chess king is made of.' (832). Another suggestion may be made, not as an axiom but as an answer to the question, 'How else could it be?' This other suggestion might be called *the tip of the iceberg conception*.

A 'tip of the iceberg' conception might reply, 'Suppose for the sake of argument that it doesn't matter what an iceberg is made of, so long as it sticks up above the surface and is hard enough to sink a ship. The task is then to make an artificial iceberg. One can hire engineers to construct a hard shell to function as a surrogate iceberg. What has been left out is that these properties of something observable from the surface rest on something that lies much, much deeper than the surface. (A mere scrape with an iceberg sunk the Titanic, not only because the iceberg was hard, but because it had an iceberg's monumental inertia behind that hardness.) One can't make a functional tip of the iceberg that way, because a functional tip of an iceberg requires a functional iceberg, and we have very little idea of how to duplicate those parts of an iceberg that aren't visible from a ship. You are merely assuming that one can try hard enough to duplicate what you can see from a ship, and if you duplicate those observables, everything else will follow.' This is not a fatal objection, but it is intended to suggest what the truth could be besides the repeated assumption that intelligence is as easy as possible to duplicate in a computer. Here again is the optimality assumption, and it is a specific example of a broader optimality assumption which will appear in occult sources discussed under the 'Renaissance and Early Modern Magic' heading below. The 'tip of the iceberg' conception is notoriously absent in occult and artificial intelligence sources alike. In occult sources, the endeavour is to create a magically sharp sword that will slice all of the Gordian knots of society's problems; in artificial intelligence the

Gordian knots are not societal problems but obstacles to creating a thinking machine, and researchers may only be attempting to use razor blades to cut tangled shoelaces, but researchers are still trying to get as close to that magic sword as they believe possible.

Just Around the Corner Since 1950

The artificial intelligence movement has a number of reasonably stable features, including an abiding sense of 'Today's discoveries are a real breakthrough; artificial minds are just around the corner.' This mood may even be older than digital computers; Dreyfus writes,

> In the period between the invention of the telephone relay and its apotheosis in the digital computer, the brain, always understood in terms of the latest technological inventions, was understood as a large telephone switchboard, or more recently, as an electronic computer.[48]

The discoveries and the details of the claim may change, and experience has battered some of strong AI's optimism, but in pioneers and today's embodied AI advocates alike there is a similar mood: 'What we've developed now is effacing the boundary between machine and human.' This mood is quite stable. There is a striking similarity between the statements,

> These emotions [discomfort and shock at something so human-like] might arise because in our interactions with Cog, little distinguishes us from the robot, and the

[48] 1992, 159.

> differences between a machine and its human counterparts fade.[49]

and:

> The reader must accept it as a fact that digital computers can be constructed, and indeed have been constructed, according to the principles we have described, and that they can in fact mimic the actions of a human computer very closely.[50]

What is interesting here is that the second was made by Turing in 1950, and the first by Foerst in 1998. As regards Turing, no one now believes 1950 computers could perform any but the most menial of mathematicians' tasks, and some of Cog's weaknesses have been discussed above ("Cog… cannot actually do very much. Even its insect-like forebears do not seem to have had the intelligence of insects…"). The more artificial intelligence changes, the more it seems to stay the same. The overall impression one receives is that for all the surface progress of the artificial intelligence, the underlying philosophy and spirit remain the same—and part of this underlying spirit is the conviction, 'We're making real breakthroughs now, and full artificial intelligence is just around the corner.' This self-deception is sustained in classically magical fashion. Artificial intelligence's self-presentation exudes novelty, a sense that today's breakthroughs are decisive—whilst its actual rate of change is much slower. The 'It's just around the corner.' rhetoric is a longstanding feature. For all the changes in processor power and greater consistency in a materialist doctrine of mind, there are salient features which seem to repeat in 1950's and today's cognitive science. In both, the strategy to ensure that computers

[49] Foerst 1998, 103.
[50] Turing 1950.

could jump the bar of human intelligence is by lowering the bar until it had already been jumped.

The Ghost in the Machine

It has been suggested in connection with Polanyi's understanding of tacit knowledge that behaviourists did not teach, 'There is no soul.' Rather, they draw students into a mode of enquiry where the possibility of a soul is never considered.

> Modern psychology takes completely for granted that behavior and neural function are perfectly correlated, that one is completely caused by the other. There is no separate soul or lifeforce to stick a finger into the brain now and then and make neural cells do what they would not otherwise. Actually, of course, this is a working assumption only....It is quite conceivable that someday the assumption will have to be rejected. But it is important also to see that we have not reached that day yet: the working assumption is a necessary one and there is no real evidence opposed to it. Our failure to solve a problem so far does not make it insoluble. One cannot logically be a determinist in physics and biology, and a mystic in psychology.[51]

This is a balder and more provocative way of stating what writers like Turing lead the reader to never think of questioning. The assumption is that the soul, if there is one, is by nature external and separate from the body, so that any interaction between the two is a violation of the body's usual way of functioning. Thus what is denied is a 'separate

[51] Hebb 1949, as quoted in the Linux 'fortune' program.

soul or lifeforce to stick a finger into the brain now and then and make neural cells do what they would not do otherwise.' The Orthodox and others' doctrine of unified personhood is very different from an affirmation of a ghost in the machine. To affirm a ghost in the machine is to assume the soul's basic externality to the body: the basic inability of a soul to interact with a body creates the problem of the ghost in the machine. By the time one attempts to solve the problem of the ghost in the machine, one is already outside of an Orthodox doctrine of personhood in which spirit, soul, and body are united and the whole unit is not an atom.

The objective here is not mainly to criticise AI, but to see what can be learned: AI seems to fail in a way that is characteristic. It does not fail because of insufficient funding or lack of technical progress, but on another plane: it is built on an erroneous quasi-theological anthropology, and its failures may suggest something about being human. The main goal is to answer the question, 'How else could it be?' in a way that is missed by critics working in materialist confines.

What can we say in summary?

First, artificial intelligence work may be divided into un-pretentious and pretentious AI. Un-pretentious AI makes tools that no one presents as anything more than tools. Pretentious AI is presented as more human than is properly warranted.

Second, there are stable features to the artificial intelligence movement, including a claim of, 'We have something essentially human. With today's discoveries, full artificial intelligence is just around the corner.' The exact form of this assertion may change, but the basic claim does not.

Third, artificial intelligence research posits a multifarious 'optimality assumption,' namely that, given the caveats recognised by the researcher, artificial intelligence is an optimally easy assumption to solve. The human mind

is assumed to be the sort of thing that is optimally easy to re-create on a computer.

Fourth, artificial intelligence comes from the same kind of thinking as the ghost in the machine problem.

There is more going on in the artificial intelligence project than an attempt to produce scientific results. The persistent rhetoric of 'It's just around the corner,' is not because artificial intelligence scientists have held that sober judgment since the project began, but because there's something else going on. For reasons that I hope will become clearer in the next section, this is beginning to look like an occult project—a secularised occult project, perhaps, but 'secularised occult' is not an empty term in that you take all of the occult away if you take away spellbooks. There is much more to the occult than crystal balls, and a good deal of this 'much more' is at play even if artificial intelligence doesn't do things the *Skeptical Enquirer* would frown on.

Occult Foundations of Modern Science

With acknowledgment of the relevance of the Reformation, the wake of Aristotelianism, and the *via moderna* of nominalism,[52] I will be looking at a surprising candidate for discussion on this topic: magic. Magic was a large part of what shaped modernity, a much larger factor than one would expect from modernity's own self-portrayal, and it has been neglected for reasons besides than the disinterested pursuit of truth. It is more attractive to our culture to say that our science exists in the wake of Renaissance learning or brave Reformers than to say that science has roots in it decries as superstition. For reasons that I will discuss below under the next heading, I suggest

[52] Nominalism said that general categories are something in the mind drawn from real things, and not something things themselves arise from. This has profoundly shaped the course of Western culture.

that what we now classify as the artificial intelligence movement is a further development of some of magic's major features.

There is a major qualitative shift between Newton's development of physics being considered by some to be a diversion from his alchemical and other occult endeavours, and 'spooky' topics today being taboo for scientific research. Yet it is still incomplete to enter a serious philosophical discussion of science without understanding the occult, as as it incomplete to enter a serious discussion of Christianity without understanding Judaism. Lewis points out that the popular understanding of modern science displacing the magic of the middle ages is at least misleading; there was very little magic in the middle ages, and then science and magic flourished at the same time, for the same reason, often in the same people: the reason science became stronger than magic is purely Darwinian: it worked better.[53] One may say that medieval religion is the matrix from which Renaissance magic departed, and early modern magic is the matrix from which science departed.

What is the relationship between the mediaeval West and patristic Christianity? In this context, the practical difference is not yet a great one. The essential difference is that certain seeds have been sown—such as nominalism and the rediscovered Aristotelianism—which in the mediaeval West would grow into something significant, but had not in much of any practical sense affected the fabric of society. People still believed that the heavens told the glory of God; people lived a life oriented towards contemplation rather than consumption; monasteries and saints were assumed so strongly that they were present even—especially—as they retreated from society. Certain seeds had been sown in the mediaeval West, but they had not grown to any significant stature. For this discussion, I will treat mediaeval and patristic Christianity as more alike than different.

[53] Lewis 1943, 46.

Renaissance and Early Modern Magic

Magic in this context is much more than a means of casting spells or otherwise manipulating supernatural powers to obtain results. That practice is the token of an entire worldview and enterprise, something that defines life's meaning and what one ought to seek. To illustrate this, I will look at some details of work by a characteristic figure, Leibniz. Then I will look at the distinctive way the Renaissance magus related to the world and the legacy this relationship has today. Alongside this I will look at a shift from understanding this life as a contemplative apprenticeship to Heaven, to understanding this life as something for us to make more pleasurable.

Leibniz, a 17th century mathematician and scientist who co-discovered calculus, appears to have been more than conversant with the occult memory tradition,[54] and his understanding of calculus was not, as today, a tool used by engineers to calculate volumes. Rather, it was part of an entire Utopian vision, which could encompass all knowledge and all thoughts, an apparently transcendent tool that would obviate the need for philosophical disagreements:

> If we had this [calculus], there would be no more reason for disputes between philosophers than between accountants. It would be enough for them to take their quills and say, 'Let us calculate!'

Leibniz's 1690 *Ars Combinatoria* contains some material that is immediately accessible to a modern mathematician. It also contains material that is less

[54] Yates 1966, 380-382.

accessible. Much of the second chapter (9-48) discusses combinations of the letters U, P, J, S, A, and N; these letters are tied to concepts ranging from philosophy to theology, jurisprudence and mathematics: another table links philosophical concepts with numbers (42-3). The apparent goal was to validly manipulate concepts through mechanical manipulations of words, but I was unable to readily tell what (mathematico-logical?) principle was supposed to make this work. (The principle is apparently unfamiliar to me.) This may reflect the influence of Ramon Lull, thirteenth century magician and doctor of the Catholic Church who adapted a baptised Kaballah which involved manipulating combinations of (Latin) letters. Leibniz makes repeated reference to Lull (28, 31, 34, 46), and specifically mentions his occult *ars magna* (28). Like Lull, Leibniz is interested in the occult, and seeks to pioneer some new tool that will obviate the need for this world's troubles. He was an important figure in the creation of science, and his notation is still used for calculus today. Leibniz is not trying to be just another member of society, or to contribute to society's good the way members have always contributed to society's good: he stands above it, and his intended contribution is to reorder the fabric of society according to his endowed vision. Leibniz provides a characteristic glimpse of how early modern magic has left a lasting imprint.

If the person one should be in Orthodoxy is the member of Church and society, the figure in magic is the magus, a singular character who stands outside of the fabric of society and seeks to transform it. What is the difference? The member of the faithful is an integrated part of society, and lives in submission and organic connection to it. The magus, by contrast, stands above society, superior to it, having a relation to society as one whose right and perhaps duty is to tear apart and reconstruct society along better lines. We have a difference between humility and pride, between relating to society as to one's mother and treating

society as raw material for one to transform. The magus is cut off from the common herd by two closely related endowments: a magic sword to cut through society's Gordian knots, and a messianic fantasy.[55] In Leibniz's case the magic sword is an artificial language which will make philosophical disagreements simply obsolete. For the artificial intelligence movement, the magic sword is artificial intelligence itself. The exact character of the sword, knot, and fantasy may differ, but their presence does not.

The character of the Renaissance magus may be seen as as hinging on despair with the natural world. This mood seems to be woven into Hermetic texts that were held in such esteem in the Renaissance and were connected at the opening of pre-eminent Renaissance neo-Platonist Pico della Mirandola's *Oration on the Dignity of Man*.[56] If there is good to be had, it is not met in the mundane world of the *hoi polloi*. It must be very different from their reality, something hidden that is only accessible to an elite. The sense in which this spells out an interest in the occult means far more than carrying around a rabbit's foot. The specific supernatural contact was valued because the occult was far hidden from appearances and the unwashed masses. (The Christian claim that one can simply pray to God and be heard is thus profoundly uninteresting. Supernatural as it may be, it is ordinary, humble, and accessible in a way that the magus is trying to push past.) This desire for what is hidden or very different from the ordinary means that the ideal future must be very different from the present. Therefore Thomas More, Renaissance

[55] Without submitting to the Church in the usual way, the magus is equal to its highest members (Webster 1982, 57).

[56] George Mason University's *Modern & Classical Languages*, 'Pico della Mirandola: Oratio de hominis dignitate,' http://www.gmu.edu/departments/fld/CLASSICS/mirandola.oration.html, as seen on 18 May 2004. See Poim 27-9, CH7 1-2 in Bentley 1987 for texts reflecting an understanding of the world as evil and associated contempt for the *hoi polloi*.

author, canonised saint, and strong devotee of Mirandola's writing, himself writes *Utopia*. In this work, the philosophic sailor Raphael establishes his own reason as judge over the appropriateness of executing thieves,[57] and describes a Utopia where society simply works better: there seem to be no unpleasant surprises or unintended consequences.[58] There is little sense of a complex inner logic to society that needs to be respected, or any kind of authority to submit to. Indeed, Raphael abhors authority and responds to the suggestion that he attach himself to a king's court by saying, 'Happier! Is that to follow a path that my soul abhors?' This Utopian vision, even if it is from a canonised Roman saint, captures something deep of the occult currents that would later feed into the development of political ideology. The content of an occult vision for constructing a better tomorrow may vary, but it is a vision that seeks to tear up the world as we now know it and reconstructs it along different lines.

Magic and science alike relate to what they are interested in via an I-It rather than an I-Thou relationship. Relating to society as to one's mother is an I-Thou relationship; treating society as raw material is an I-It relationship. An I-Thou relationship is receptive to quality. It can gain wisdom and insight. It can connect out of the whole person. The particular kind of I-It relationship that

[57] *Thomas More: Utopia, Digitale Rekonstruktion*, http://www.ub.uni-bielefeld.de/cgi-bin/button.cgi?pfad=/diglib/more/utopia/jpeg/&seite=00000017.jpg&jump=1, http://www.ub.uni-bielefeld.de/cgi-bin/button.cgi?pfad=/diglib/more/utopia/jpeg/&seite=00000018.jpg&jump=1, etc. (pp. 35-6), as seen on 2 June 2004.

[58] *Thomas More: Utopia, Digitale Rekonstruktion*, http://www.ub.uni-bielefeld.de/cgi-bin/button.cgi?pfad=/diglib/more/utopia/jpeg/&seite=00000039.jpg&jump=1, http://www.ub.uni-bielefeld.de/cgi-bin/button.cgi?pfad=/diglib/more/utopia/jpeg/&seite=00000040.jpg&jump=1, etc., (pp. 79-86), as seen on 2 June 2004. This runs through most of the book.

undergirds science has a powerful and narrow tool that deals in what can be mathematically represented. The difference between those two is misunderstood if one stops after saying, 'I-It can make technology available much better than I-Thou.' That is how things look through I-It eyes. But I-Thou allows a quality of relationship that does not exist with I-It. 'The fundamental word I-Thou can only be spoken with one's whole being. The fundamental word I-It can never be spoken with one's whole being.' I-Thou allows a quality-rich relationship that always has another layer of meaning. In the Romance languages there are two different words for knowledge: in French, *connaissance* and *savoir*. They both mean 'knowledge,' but in different ways: *savoir* is knowledge of fact (or know-how); one can *sait que* ('know that') something is true. *Connaissance* is the kind of knowledge of a person, a 'knowledge of' rather than a 'knowledge that' or 'knowledge how.' It can never be a complete knowledge, and one cannot *connait que* ('know-of that') something is true. It is personal in character. An I-It relationship is not just true of magic; as I will discuss below under the heading of 'Science, Psychology, and Behaviourism,' psychology seeks a baseline *savoir* of people where it might seek a *connaissance* , and its theories are meant to be abstracted from relationships with specific people. Like magic, the powers that are based on science are epiphenomenal to the relationship science is based on. Relating in an I-Thou rather than I-It fashion is not simply less like magic and science; it is richer, fuller, and more human.

In the patristic and medieval eras, the goal of living had been contemplation and the goal of moral instruction was to conform people to reality. Now there was a shift from conforming people to reality, towards conforming reality to people.[59] This set the stage, centuries later, for a major and resource-intensive effort to create an artificial mind, a goal

[59] Lewis 1943, 46.

that would not have fit well with a society oriented to contemplation. This is not to say that there is no faith today, nor that there was no technology in the middle ages, nor that there has been no shift between the early modern period and today. Rather, it is to say that a basic trajectory was established in magic that significantly shapes science today.

The difference between the Renaissance magus and the mediaeval member of the Church casts a significant shadow today. The scientist seems to live more in the shadow of the Renaissance magus than of the member of mediaeval society. This is not to say that scientists cannot be humble and moral, nor that they cannot hold wonder at what they study. But it is to say that there are a number of points of contact between the Renaissance magus's way of relating to the world and that of a scientist and those who live in science's shadow. Governments today consult social scientists before making policy decisions: the relationship seems to be how to best deal with material rather than a relationship as to one's mother. We have more than a hint of secularised magic in which substantial fragments of Renaissance and early modern magic have long outlived some magical practices.

Under the patristic and medieval conception, this life was an apprenticeship to the life in Heaven, the beginning of an eternal glory contemplating God. Magic retained a sense of supernatural reality and a larger world, but its goal was to improve this life, understood as largely self-contained and not as beginning of the next. That was the new chief end of humanity. That shift is a shift towards the secular, magical as its beginning may be. Magic contains the seeds of its own secularisation, in other words of its becoming scientific. The shift from contemplation of the next world to power in this world is why the occult was associated with all sorts of Utopian visions to transform the world, a legacy reflected in our political ideologies. One of the tools developed in that magical milieu was science: a

tool that, for Darwinian reasons, was to eclipse all the rest. The real magic that has emerged is science.

Science, Psychology, and Behaviourism

What is the niche science has carved out for itself? I'd like to look at an academic discipline that is working hard to be a science, psychology. I will more specifically look at behaviourism, as symptomatic within the history of psychology. Is it fair to look at behaviourism, which psychology itself rejected? It seems that behaviourism offers a valuable case study by demonstrating what is more subtly present elsewhere in psychology. Behaviourism makes some basic observations about reward and punishment and people repeating behaviours, and portrays this as a comprehensive psychological theory: behaviourism does not acknowledge beliefs, for instance. Nonetheless, I suggest that behaviourism is a conceivable development in modern psychology which would have been impossible in other settings. Behaviourism may be unusual in the extreme simplicity of its vision and its refusal to recognise internal states, but not in desiring a Newton who will make psychology a full-fledged science and let psychology know its material with the same kind of knowing as physics has for its material.

Newton and his kin provided a completely de-anthropomorphised account of natural phenomena, and behaviourism provided a de-anthropomorphised account of humans. In leading behaviourist B.F. Skinner's *Walden Two* (1948), we have a Utopian vision where every part of society seems to work better: artists raised under Skinner's conditioning produce work which is 'extraordinarily good,' the women are more beautiful,[60] and Skinner's alter ego

[60] *Ibid.*, 33-35.

expresses the hope of controlling the weather,[61] and compares himself with God.[62] Skinner seems to resemble a Renaissance magus more than a mediaeval member: society is raw material for him to transform. Skinner is, in a real sense, a Renaissance magus whose magic has become secularised. Quite a lot of the magus survives the secularisation of Skinner's magic.

Even without these more grandiose aspirations, psychology is symptomatic of something that is difficult to discern by looking at the hard sciences. Psychological experiments try to find ways in which the human person responds in terms comparable to a physics experiment—and by nature do not relate to their subjects as human agents. These experiments study one aspect of human personhood, good literature another, and literature offers a different kind of knowing from a psychological experiment. If we assume that psychology is the best way to understand people—and that the mind is a mechanism-driven thing—then the assumed burden of proof falls on anyone saying, 'But a human mind isn't the sort of thing you can duplicate on a computer.' The cultural place of science constitutes a powerful influence on how people conceive the question of artificial intelligence.

Behaviourism offers a very simple and very sharp magic sword to cut the Gordian knot of unscientific teleology, a knot that will be discussed under the heading of 'Intentionality and Teleology' below. It removes suspicion of the reason being attached to a spiritual intellect by refusing to acknowledge reason. It removes the suspicion of emotions having a spiritual dimension by refusing to acknowledge emotions. He denies enough of the human person that even psychologists who share those goals would want to distance themselves from him. And yet Skinner does more than entertain messianic fantasies: *Walden Two* is a Utopia, and when Skinner's alter ego compares himself

[61] *Ibid.*, 23-24.
[62] *Ibid.*, 295-299.

with God, God ends up second best.[63] I suggest that this is no a contradiction at all, or more properly it is a blatant contradiction as far as common sense is concerned, but as far as human human phenomena go, we have two sides of the same coin. The magic sword and the messianic fantasy belong to one and the same magus.

There is in fact an intermediate step between the full-fledged magus and the mortal herd. One can be a magician's assistant, clearing away debris and performing menial tasks to support the real magi.[64] The proportion of the Western population who are scientists is enormous compared to science's founding, and the vast majority of the increase is in magician's assistants. If one meets a scientist at a social gathering, the science is in all probability not a full-fledged magus, but a magician's assistant, set midway between the magus and the commoner. The common scientist is below the magus in knowledge of science but well above most commoners. In place of a personal messianic fantasy is a more communal tendency to assume that the scientific enterprise is our best hope for the betterment of society. (Commoners may share this belief.) There is a significant difference between the magus and most assistants today. Nonetheless, the figure of the magus is alive today—secularised, in most cases, but alive and well. Paul Johnson's Augustinian account of *Intellectuals* includes such eminent twentieth century scientific figures as Bertrand Russell, Noam Chomsky, and Albert Einstein;[65] the figures one encounters in his pages are steeped in the relationship to society as to raw material instead as to one's mother, the magic sword, and the messianic fantasy.

I-Thou and Humanness

[63] *Ibid.*
[64] See Midgley, 1992, 80.
[65] 1990, 195, 197-224,337-41.

I suggest that the most interesting critiques of artificial intelligence are not obtained by looking through I-It eyes in another direction, but in using other eyes to begin with, looking through I-Thou eyes. Let us consider Turing's 'Arguments from Various Disabilities'.[66][43] Perhaps the people who furnished Turing with these objections were speaking out of something deeper than they could explain:

> Be kind, resourceful, beautiful, friendly, have initiative, have a sense of humour, tell right from wrong, make mistakes, fall in love, enjoy strawberries and cream, make some one fall in love with it, learn from experience, use words properly, be the subject of its own thought, have as much diversity of behaviour as a man, do something really new.

Be kind:
Kindness is listed by Paul as the fruit of the Spirit (Gal. 5:22) in other words, an outflow of a person living in the Spirit. Disregarding the question of whether all kindness is the fruit of the Spirit, in humans kindness is not merely following rules, but the outflow of a concern for the other person. Even counterfeit kindness is a counterfeit from someone who knows the genuine article. It thus uses some faculty of humanity other than the reasoning ability, which classical AI tries to duplicate and which is assumed to be the one thing necessary to duplicate human cognition.

Be **resourceful:**
The artificial intelligence assumption is that if something is non-deterministic, it is random, because deterministic and pseudo-random are the only options one can use in programming a computer. This leaves out a third possibility, that by non-computational faculties someone

[66] 1950.

may think, not merely 'outside the box,' in a random direction, but above it. The creative spark comes neither from continuing a systematic approach, nor simply picking something random ('because I can't get my computer to turn on, I'll pour coffee on it and see if that helps'), but something that we don't know how to give a computer.

Be **beautiful:**
Beauty is a spiritual quality that is not perceived by scientific enquiry and, given our time's interpretation of scientific enquiry, is in principle not recognised. Why not? If we push materialist assumptions to the extreme, it is almost a category error to look at a woman and say, 'She is beautiful.' What is really being said—if one is not making a category error—is, 'I have certain emotions when I look at her.' Even if there is not a connection between physical beauty and intelligence, there seems to be some peasant shrewdness involved. It is a genuine, if misapplied, appeal to look at something that has been overlooked.

Be **friendly:**
True as opposed to counterfeit friendliness is a manifestation of love, which has its home in the will, especially if the will is not understood as a quasi-muscular power of domination, but part of the spirit which lets us turn towards another in love.

Remarks could easily be multiplied. What is meant to come through all this is that science is not magic, but science works in magic's wake. Among relevant features may be mentioned relating as a magus would (in many ways distilling an I-It relationship further), and seeking power over the world in this life rather living an apprenticeship to the next.

Orthodox Anthropology in Maximus Confessor's *Mystagogia*

I will begin detailed enquiry in the Greek Fathers by considering an author who is foundational to Eastern Orthodoxy, the seventh century Greek Father Maximus Confessor. Out of the existing body of literature, I will focus on one work, his *Mystagogia*,[67] with some reference to the *Capita Gnosticae*. Maximus Confessor is a synthetic thinker, and the *Mystagogia* is an anthropological work; its discussion of Church mystagogy is dense in theological anthropology as the training for a medical doctor is dense in human biology.

Orthodox Christians have a different cosmology from the Protestant division of nature, sin, and grace. Nature is never un-graced, and the grace that restores from sin is the same grace that provides continued existence and that created nature in the first place. That is to say, grace flows from God's generosity, and is never alien to nature. The one God inhabits the whole creation: granted, in a more special and concentrated way in a person than in a rock, but the same God is really present in both.

Already, without having seriously engaged theological *anthropology*, we have differences with how AI looks at things. Not only are the answers different, but the questions themselves are posed in a different way. 'Cold matter,' such as is assumed by scientific materialism, doesn't exist, not because matter is denied in Berkeleyan fashion but because it is part of a spiritual cosmology and affirmed to be something more. It is mistaken to think of cold matter, just as it is mistaken to think of tepid fire. Even matter has spiritual attributes and is graced. Everything that exists, from God and the spiritual creation to the material creation, from seraphim to stone, is the sort of

[67] References will be to the online Greek version at *Thesaurus Linguae Graecae*, http://stephanus.tlg.uci.edu/inst/wsearch?wtitle=2892+049&uid=&GreekFont=Unicode&mode=c_search, according to chapter and line. Unless otherwise specified, references in this section will be to the *Mystagogia*.

thing one connects to in an I-Thou relationship. An I-It relationship is out of place, and from this perspective magic and science look almost the same, different signposts in the process of establishing a progressively purer I-It relationship.

Intellect and Reason

Maximus' anthropology is threefold: the person is divided into soul and body, and the soul itself is divided into a higher part, the intellect, and a lower part, the reason:[68]

> [Pseudo-Dionysius] used to teach that the whole person is a synthesis of soul and body joined together, and furthermore the soul itself can be examined by reason. (The person is an image which reflects teaching about the Holy Church.) Thus he said that the soul had an intellectual and living faculty that were essentially united, and described the moving, intellectual, authoritative power—with the living part described according its will-less nature. And again, the whole mind deals with intelligible things, with the intelligible power being called intellect, whilst the sensible power is called reason.

This passage shows a one-word translation difficulty which is symptomatic of a difference between his theology and the quasi-theological assumptions of the artificial intelligence project. The word in question, which I have

[68] 5.1-10. 'Intellect' in particular is used as a scholarly rendering of the Greek '*nous*,' and is not equivalent to the layman's use of 'intellect,' particularly not as cognate to 'intelligence.' The 'reason' ('*logos*') is closer to today's use of the term, but not as close as you might think. This basic conceptualisation is common to other patristic and medieval authors, such as Augustine.

rendered as 'authoritative power,' is '*exousiastikws*,' with root word '*exousia*.' The root and its associated forms could be misconstrued today as having a double meaning of 'power' and 'authority,' with 'authority' as the basic sense. In both classical and patristic usage, it seems debatable whether 'exousia' is tied to any concept of power divorced from authority. In particular this passage's '*exousiastikws*' is most immediately translated as power rather than any kind of authority that is separate from power. Yet Maximus Confessor's whole sense of power here is one that arises from a divine authorisation to know the truth. This sense of power is teleologically oriented and has intrinsic meaning. This is not to say that Maximus could only conceive of power in terms of authority. He repeatedly uses '*dunamis*,' (*proem*.15-6, 26, 28, etc), a word for power without significant connotations of authority. However, he could conceive of power in terms of authority, and that is exactly what he does when describing the intellect's power.

What is the relationship between 'intellect'/'reason' and cognitive faculties? Which, if either, has cognitive faculties a computer can't duplicate? Here we run into another difficulty. It is hard to say that Maximus Confessor traded in cognitive faculties. For Maximus Confessor the core sense of 'cognitive faculties' is inadequate, as it is inadequate to define an eye as something that provides nerve impulses which the brain uses to generate other nerve impulses. What is missing from this picture? This definition does not provide any sense that the eye interacts with the external world, so that under normal circumstances its nerve impulses are sent because photons strike photoreceptors in an organ resembling a camera. Even this description hides most teleology and evaluative judgment. It does not say that an eye is an organ for perceiving the external world through an image reconstructed in the brain, and may be called 'good' if it sees clearly and 'bad' if it doesn't. This may be used as a point of departure to

comment on Maximus Confessor and the conception of cognitive faculties.

Maximus Confessor does not, in an amoral or self-contained fashion, see faculties that operate on mental representations. He sees an intellect that is where one meets God, and where one encounters a Truth that is no more private than the world one sees with the eye is private.

Intellect and reason compete with today's cognitive faculties, but Maximus Confessor understands the intellect in particular as something fundamentally moral, spiritual, and connected to spiritual realities. His conception of morality is itself different from today's private choice of ethical code; morality had more public and more encompassing boundaries, and included such things as Jesus' admonition not to take the place of highest honour so as not to receive public humiliation (Luke 14:7-10): it embraced practical advice for social conduct, because the moral and spiritual were not separated from the practical. It is difficult to Maximus Confessor conceiving of practicality as hampered by morality. In Maximus Confessor's day what we separate into cognitive, moral, spiritual, and practical domains were woven into a seamless tapestry.

Intellect, Principles, and Cosmology

Chapter twenty-three opens by emphasising that contemplation is more than looking at appearances (23.1-10), and discusses the Principles of things. The concept of a *Principle* is important to his cosmology. There is a foundational difference between the assumed cosmologies of artificial intelligence and Maximus Confessor. Maximus Confessor's cosmology is not the artificial intelligence cosmology with a spiritual dimension added, as a living organism is not a machine modified to use foodstuffs as fuel.

Why do I speak of the 'artificial intelligence cosmology'? Surely one can have a long debate about artificial intelligence without adding cosmology to the discussion. This is true, but it is true because cosmology has become invisible, part of the assumed backdrop of discussion. In America, one cultural assumption is that 'culture' and 'customs' are for faroff and exotic people, not for 'us'—'we' are just being human. It doesn't occur to most Americans to think of eating Turkey on Thanksgiving Day or removing one's hat inside a building as customs, because 'custom' is a concept that only applies to exotic people. I suggest that Maximus Confessor has an interesting cosmology, not because he's exotic, but because he's human.

Artificial intelligence proponents and (most) critics do not differ on cosmology, but because that is because it is an important assumption which is not questioned even by most people who deny the possibility of artificial intelligence. Searle may disagree with Fodor about what is implied by a materialist cosmology, but not whether one should accept materialism. I suggest that some artificial intelligence critics miss the most interesting critiques of artificial intelligence because they share that project's cosmology. If AI is based on a cosmological error, then no amount of fine-tuning within the system will rectify the error. We need to consider cosmology if we are to have any hope of correcting an error that basic. (Bad metaphysics does not create good physics.) I will describe Maximus Confessor's cosmology in this section, not because he has cosmology and AI doesn't, but because his cosmology seems to suggest a correction to the artificial intelligence cosmology.

At the base of Maximus's cosmology is God. God holds the Principles in his heart, and they share something of his reality. Concrete beings (including us) are created through the Principles, and we share something of their reality and of God. The Principles are a more concrete

realisation of God, and we are a more concrete realisation of the Principles. Thought (*nohsis*) means beholding God and the Principles (*logoi*) through the eye of the intellect. Thinking of a tree means connecting with something that is more tree-like than the tree itself.

It may be easier to see what the important Principles in Maximus Confessor's cosmology if we see how they are being dismantled today. Without saying that Church Fathers simply grafted in Platonism, I believe it safe to say that Plato resembled some of Church doctrine, and at any rate Plato's one finger pointing up to God offers a closer approximation to Christianity than Aristotle's fingers pointing down. I would suggest further that looking at Plato can suggest how Christianity differs from Aristotelianism's materialistic tendencies, tendencies that are still unfolding today. Edelman describes the assumptions accompanying Darwin's evolution as the 'death blow' to the essentialism, the doctrine that there are fixed kinds of things, as taught by Plato and other idealists.[69] Edelman seems not to appreciate why so many biologists assent to punctuated equilibrium.[70] However, if we assume that there is solid evidence establishing that all life gradually evolved from a common ancestor, then this remark is both apropos and perceptive.

When we look around, we see organisms that fit neatly into different classes: human, housefly, oak. Beginning philosophy students may find it quaint to hear of Plato's Ideas, and the Ideal horse that is copied in all physical horses, but we tend to assume Platonism at least in that horses are similar 'as if' there were an Ideal horse: we

[69] 1992, 239.

[70] 'Punctuated equilibrium' is a variant on Darwin's theory of (gradual) evolution. It tries to retain an essentially Darwinian mechanism whilst acknowledging a fossil record and other evidence which indicate long periods of stability interrupted by the abrupt appearance and disappearance of life forms. It is called 'punk eek' by the irreverent.

don't believe in the Ideal horse any more, but we still treat its shadow as if it were the Ideal horse's shadowy copy.

Darwin's theory of evolution suggests that all organisms are connected via slow, continuous change to a common ancestor and therefore to each other. If this is true, there are dire implications for Platonism. It is as if we had pictures of wet clay pottery, and posited a sharp divide between discrete classes of plates, cups, and bowls. Then someone showed a movie of a potter deforming one and the same clay from one shape to another, so that the divisions are now shown to be arbitrary. There are no discrete classes of vessels, just one lump of clay being shaped into different things. Here we are pushing a picture to the other end of a spectrum, further away from Platonism. It is a push from tacitly assuming there is a shadow, to expunging the remnant of belief in the horse and its shadow.

But this doesn't mean we're perfect Platonists, or can effortlessly appreciate the Platonic mindset. There are things we have to understand before we can travel in the other direction. If anything, there is more work involved. We act as if the Ideas' shadows are real things, but we don't genuinely believe in the shadows *qua* shadows, let alone the Ideas. We've simply inherited the habit of treating shadows as a convenient fiction. But Maximus Confessor believed the Principles (Ideas) represented something fuller and deeper than concrete things.

This is foundational to why Maximus Confessor would not have understood thought as manipulating mental representations in the inescapable privacy of one's mind. Contemplation is not a matter of closing one's eyes and fantasising, but of opening one's eyes and beholding something deeper and more real than reality itself. The sensible reason can perceive the external physical world through the senses, but this takes a very different light from Kant's view.

Maximus Confessor offers a genuinely interesting suggestion that we know things not only because of our

power-to-know, but because of their power-to-be-known, an approach that I will explore later under the heading 'Knowledge of the Immanent.' The world is not purely transcendent, but immanent. For Kant the mind is a box that is hermetically sealed on top but has a few frustratingly small holes on the bottom: the senses. Maximus Confessor doesn't view the senses very differently, but the top of the box is open.

This means that the intellect is most basically where one meets God. Its powerful ability to know truth is connected to this, and it connects with the Principles of things, as the senses connect with mere things. Is it fair to the senses to compare the intellect's connection with Principles with the senses' experience of physical things? The real question is not that, but whether it is fair to the intellect, and the answer is 'no.' The Principles are deeper, richer, and fuller than the mere visible things, as a horse is richer than its shadow. The knowledge we have through the intellect's connection with the Principles is of a deeper and richer sort than what is merely inferred from the senses.

The Intelligible and the Sensible

Maximus Confessor lists, and connects, several linked pairs, which I have incorporated into a schema below. The first column of this schema relates to the second column along lines just illustrated: the first member of each pair is transcendent and eminent to the second, but also immanent to it.

Head	**Body**
Heaven	earth (3.1-6)
holy of holies	sanctuary (2.8-9)
intelligible	sensible (7.5-10)

Head	**Body**
contemplative	active (5.8-9)
intellect	reason (5.9-10)
spiritual wisdom	practical wisdom (5.13-15)
knowledge	virtue (5.58)
unforgettable knowledge	faith (5.58-60)
truth	goodness (5.58-9)
archetype	image (5.79-80)
New Testament	Old Testament (6.4-6)
spiritual meaning of a text	literal meaning of a text (6.14-5)
bishop's seating on throne	bishop's entrance into Church (8.5-6, 20-21)
Christ's return in glory	Christ's first coming, glory veiled (8.6-7, 18)

Maximus Confessor's cosmology sees neither a disparate collection of unconnected things, nor an undistinguished monism that denies differences. Instead, he sees a unity that sees natures (1.16-17) in which God not only limits differences, as a circle limits its radii (1.62-67), but transcends all differences. Things may be distinguished, but they are not divided. This is key to understanding both doctrine and method. He identifies the world with a person, and connects the Church with the image of God. Doctrine

and method are alike synthetic, which suggests that passages about his cosmology and ecclesiology illuminate anthropology.

One recurring theme shows in his treatment of heaven and earth, the soul and the body, the intelligible (spiritual) and the sensible (material). The intelligible both transcends the sensible, and is immanent to it, present in it. The intelligible is what can be apprehended by the part of us that meets God; the sensible is what presents itself to the world of senses. (The senses are not our only connection with the world.) This is a different way of thinking about matter and spirit from the Cartesian model, which gives rise to the ghost in the machine problem. Maximus Confessor's understanding of spirit and matter does not make much room for this dilemma. Matter and spirit interpenetrate. This is true not just in us but in the cosmos, which is itself 'human': he considers '…the three people: the cosmos (let us say), the Holy Scriptures, and this is true with us' (7.40-1). The attempt to connect spirit and matter might have struck him like an attempt to forge a link between fire and heat, two things already linked.

Knowledge of the Immanent

The word which I here render 'thought' is '*nohsis*', cognate to 'intellect' ('*nous*') which has been discussed as that which is inseparably the home of thought and of meeting God. We already have a hint of a conceptual cast in which thought will be understood in terms of connection and contemplation.

In contrast to understanding thought as a process within a mind, Maximus describes thought in terms of a relationship: a thought can exist because there is a power to think of in the one thinking, and a power to be thought of in what is thought of.[71] We could no more know an absolutely

[71] I.82. Material from the *Capita Gnosticae*, not available in *Thesaurus Linguae Graecae*, will be referenced by century and chapter

transcendent creature than we could know an absolutely transcendent Creator. Even imperfect thought exists because we are dealing with something that 'holds power to be apprehended by the intellect' (I.82). We say something is purple because its manifest purpleness meets our ability to perceive purple. What about the claim that purple is a mental experience arising from a certain wavelength of light striking our retinas? One answer that might be given is that those are the mechanisms by which purple is delivered, not the nature of what purple is.[72] The distinction is important.

We may ask, what about capacity for fantasy and errors? The first response I would suggest is cultural. The birth of modernity was a major shift, and its abstraction introduced new things into the Western mind, including much of what supports our concept of fantasy (in literature, etc.). The category of fantasy is a basic category to our mindset but not to the patristic or medieval mind. Therefore, instead of speculating how Maximus Confessor would have replied to these objections, we can point out that they aren't the sort of thing that he would ever think of, or perhaps even understand.

But in fact a more positive reply can be taken. It can be said of good and evil that good is the only real substance. Evil is not its own substance, but a blemish in good substance. This parallels error. Error is not something fundamentally new, but a blurred or distorted form of truth. Fantasy does not represent another fundamentally independent, if hypothetical, reality; it is a funhouse mirror refracting this world. We do not have a representation that exists in one's mind alone, but a dual relationship that arises both from apprehending intellect and an immanent thing. The possibility of errors and speculation make for a longer explanation but need not make us discard this basic picture.

number, i.e. I.82 abbreviates Century I, Chapter 82.

[72] See Lewis 2001, 522.

Intentionality and Teleology

One of the basic differences in cosmology between Maximus Confessor and our own day relates to *intentionality*. As it is described in cognitive science's philosophy of mind, 'intentionality' refers to an 'about-ness' of human mental states, such as beliefs and emotions. The word 'tree' is about an object outside the mind, and even the word 'pegasus' evokes something that one could imagine existing outside of the mind, even if it does not. Intentionality does not exist in computer programs: a computer chess program manipulates symbols in an entirely self-enclosed system, so 'queen' cannot refer to any external person or carry the web of associations we assume. Intentionality presents a philosophical problem for artificial intelligence. Human mental states and symbol manipulation are about something that reach out to the external world, whilst computer symbol manipulation is purely internal. A computer may manipulate symbols that are meaningful to humans using it, but the computer has no more sense of what a webpage means than a physical book has a sense that its pages contain good or bad writing. Intentionality is a special feature of living minds, and does not exist outside of them. Something significant will be achieved if ever a computer program first embodies intentionality outside of a living mind.

Maximus Confessor would likely have had difficulty understanding this perspective as he would have had difficulty understanding the problem of the ghost in the machine: this perspective makes intentionality a special exception as the ghost in the machine made our minds' interaction with our bodies a special exception, and to him both 'exceptions' are in fact the crowning jewel of something which permeates the cosmos.

The theory of evolution is symptomatic of a difference between the post-Enlightenment West and the patristic era. This theory is on analytic grounds not a true

answer to the question, 'Why is there life as we know it?' because it does not address the question, 'Why is there life as we know it?' At best it is a true answer to the question, 'How is there life as we know it?' which people often fail to distinguish from the very different question, 'Why is there life as we know it?' The Enlightenment contributed to an effort to expunge all trace of teleology from causality, all trace of 'Why?' from 'How?' Of Aristotle's four causes, only the efficient cause[73] is familiar; a beginning philosophy student is liable to misconstrue Aristotle's final cause[74] as being an efficient cause whose effect curiously precedes the cause. The heavy teleological scent to final causation is liable to be missed at first by a student in the wake of reducing 'why' to 'how'; in Maximus Confessor, causation is not simply mechanical, but tells what purpose something serves, what it embodies, what meaning and relationships define it, and why it exists.

Strictly speaking, one should speak of 'scientific mechanisms' rather than 'scientific explanations.' Why? 'Scientific proof' is an oxymoron: science does not deal in positive proof any more than mathematics deals in experiment, so talk of 'scientific proof' ordinarily signals a speaker who has more faith in science than understanding of what science really does. 'Scientific explanation' is a less blatant contradiction in terms, but it reflects a misunderstanding, perhaps one that is more widespread, as it often present among people who would never speak of 'scientific proof.' Talk of 'scientific explanation' is not simply careless speech; there needs to be a widespread category error before there is any reason to write a book like Mary Midgley's *Science as Salvation* (1992). Science is an

[73] What we usually mean by 'cause' today: something which mechanically brings about its effect, as time and favourable conditions cause an acorn to grow into an oak.

[74] The 'final cause' is the goal something is progressing towards: thus a mature oak is the final cause of the acorn that would one day grow into it.

enterprise which provides mechanisms and has been given the cultural place of providing explanations. This discrepancy has the effect that people searching for explanations turn to scientific mechanisms, and may not be receptive when a genuine explanation is provided, because 'explanation' to them means 'something like what science gives.' This may not be the only factor, but it casts a long shadow. The burden of proof is born by anyone who would present a non-scientific explanation as being as real as a scientific explanation. An even heavier burden of proof falls on the person who would claim that a non-scientific explanation—not just as social construction, but a real claim about the external world—offers something that science does not.

The distinction between mechanism and explanation is also relevant because the ways in which artificial intelligence has failed may reflect mechanisms made to do the work of explanations. In other words, the question of 'What is the nature of a human?' is answered by, 'We are able to discern these mental mechanisms in a human.' If this is true, the failure to duplicate a human mind in computers may be connected to researchers answering the wrong question in the first place. These are different, as the question, 'What literary devices can you find in *The Merchant of Venice*?'[75] is different from 'Why is *The Merchant of Venice* powerful drama?' The devices aren't irrelevant, but neither are they the whole picture.

Of the once great and beautiful land of teleology, a land once brimming in explanations, all has been conquered, all has been levelled, all has been razed and transformed by the power of I-It. All except two stubborn, embattled holdouts. The first holdout is intentionality: if it is a category error to project things in the human mind onto the outer world, nonetheless we recognise that intentionality exists in the mind—but about-ness of

[75] As seen on the Project Gutenberg archive at *http://www.gutenberg.net/etext97/1ws1810.txt* on 15 June 2004.

intentionality is far less than the about-ness once believed to fill the cosmos. The second and last holdout is evolution: if there is to be no mythic story of origins that gives shape and meaning to human existence, if there cannot be an answer to 'Why is there life as we know it?' because there is no reason at all for life, because housefly, horse, and human are alike the by-product of mindless forces that did not have us in mind, nonetheless there is still an emaciated spectre, an evolutionary mechanism that does just enough work to keep away a teleological approach to origins questions. The land of teleology has been razed, but there is a similarity between these two remnants, placeholders which are granted special permission to do what even the I-It approach recognises it cannot completely remove of teleology. That is the official picture, at least. Midgley is liable to pester us with counterexamples of a teleology that is far more persistent than the official picture gives credit for: she looks at evolution doing the work of a myth instead of a placeholder that keeps myths away, for instance.[76] Let's ignore her for the moment and stick with the official version. Then looking at both intentionality and evolution can be instructive in seeing what has happened to teleology, and appreciating what teleology was and could be. Now Midgley offers us reasons why it may not be productive to pretend we can excise teleology: the examples of teleology she discusses do not seem to be improved by being driven underground and presented as non-teleological.

Maximus's picture, as well as being teleological, is moral and spiritual. As well as having intentions, we are living manifestations of a teleological, moral and spiritual Intention in God's heart. Maximus Confessor held a cosmology, and therefore an anthropology, that did not see the world in terms of disconnected and meaningless things. He exhibited a number of traits that the Enlightenment stripped out: in particular, a pervasive teleology in both

[76] 1992, 147-165.

cosmology and anthropology. He believed in a threefold anthropology of intellect/spirit, reason/soul, and body, all intimately tied together. What cognitive science accounts for through cognitive faculties, manipulating mental representations, were accounted for quite differently by an intellect that sees God and the Principles of beings, and a reason that works with the truths apprehended by intellect. The differences between the respective cosmologies and anthropologies are not the differences between two alternate answers to the same question, but answers to two different questions, differently conceived. They are alike in that they can collide because they are wrestling with the same thing: where they disagree, at least one of them must be wrong. They are different in that they are looking at the same aspect of personhood from two different cultures, and Maximus Confessor seems to have enough distance to provide a genuinely interesting critique.

Conclusion

Maximus Confessor was a synthetic thinker, and I suggest that his writings, which are synthetic both in method and in doctrine, are valuable not only because he was brilliant but because synthetic enquiry can be itself valuable. I have pursued a synthetic enquiry, not out of an attempt to be like Maximus Confessor, but because I think an approach that is sensitive to connections could be productive here. I'm not the only critic who has the resources to interpret AI as floundering in a way that may be symptomatic of a cosmological error. It's not hard to see that many religious cosmologies offer inhospitable climates to machines that think: Foerst's reinterpretation of the image of God[77] seems part of an effort to avoid seeing exactly this point. The interesting task is understanding and conveying an interconnected web. So I have connected

[77] 1998, 104-7.

science with magic, for instance, because although the official version is that they're completely unrelated, there is a strong historic link between them, and cultural factors today obscure the difference, and for that matter obscure several other things that interest us.

This dissertation falls under the heading of boundary issues between religion and science, and some readers may perceive me to approach boundary issues in a slightly different fashion. That perception is correct. One of the main ways that boundary issues are framed seems to be for Christian theologians to show the compatibility of their timeless doctrines with that minority of scientific theories which have already been accepted by the scientific community and which have not yet been rejected by that same community. With the question of origins, there has been a lot of work done to show that Christianity is far more compatible with evolutionary theory than a literal reading of Genesis 1 would suggest. It seems to have only been recently that gadflies within the intelligent design movement have suggested both that the scientific case for evolution is weaker that it has been made out to be, and there seems to be good reason to believe that Christianity and evolution are incompatible at a deep enough level that the literal details of Genesis 1 are almost superfluous. Nobody conceives the boundary issues to mean that theologians should demonstrate the compatibility of Christianity with that silent majority of scientific theories which have either been both accepted and discredited (like spontaneous generation) or not yet accepted (like the cognitive-theoretic model of the universe). The minority is different, but not as different as people often assume.

One of the questions which is debated is whether it is best to understand subject-matter from within or without. I am an M.Phil. student in theology with a master's and an adjunct professorship in the sciences. I have worked to understand the sciences from within, and from that base look and understand science from without as well as within.

Someone who only sees science from without may lack appreciation of certain things that come with experience of science, whilst someone who only sees science from within may not be able to question enough of science's self-portrayal. This composite view may not be available to all, nor is it needed, but I believe it has helped me in another basic role from showing religion's compatibility with current science: namely, serving as a critical observer and raising important questions that science is itself unlikely to raise, sometimes turning a scientific assumption on its head. Theology may have other things to offer in its discussion with science than simply offering assent: instead of solely being the recipient of claims from science, it should be an agent which adds to the conversation.

Are there reasons why the position I propose is to be preferred? Science's interpretation of the matter is deeply entrenched, enough so that it seems strange to connect science with the occult. One response is that this perspective should at least be listened to, because it is challenging a now entrenched cultural force, and it may be a cue to how we could avoid some of our own blind spots. Even if it is wrong, it could be wrong in an interesting way. A more positive response would be to say that this is by my own admission far from a complete picture, but it makes sense of part of the historical record that is meaningless if one says that modern science just happened to be born whilst a magical movement waxed strong, and some of science's founders just happened to be magicians. A more robust picture would see the early modern era as an interlocking whole that encompassed a continuing Reformation, Descartes, magic, nascent science, and the wake of the Renaissance polymath. They all interconnect, even if none is fully determined. Lack of time and space preclude me from more than mentioning what that broader picture might be. There is also another reason to question the validity of science's basic picture:

Artificial intelligence doesn't work, at least not for a working copy of human intelligence.

Billions of dollars have been expended in the pursuit of artificial intelligence, so it is difficult to say the artificial intelligence project has failed through lack of funding. The project has attracted many of the world's most brilliant minds, so it is difficult to say that the project has failed through lack of talent. Technology has improved a thousandfold or a millionfold since a giant like Turing thought computer technology was powerful enough for artificial intelligence, so it is difficult to say that today's computers are too underpowered for artificial intelligence. Computer science has matured considerably, so it's hard to say that artificial intelligence hasn't had a chance to mature. In 1950, one could have posited a number of reasons for the lack of success then, but subsequent experience has made many of these possibilities difficult to maintain. This leaves open the possibility that artificial intelligence has failed because the whole enterprise is based on a false assumption, perhaps an error so deep as to be cosmological.

The power of science-based technology is a side effect of learning something significant about the natural world, and both scientific knowledge and technology are impressive cultural achievements. Yet science is not a complete picture—and I do not mean simply that we can have our own private fantasies—and science does not capture the spiritual qualities of matter, let alone a human being. The question of whether science understands mechanical properties of physical things has been put to the test, and the outcome is a resounding yes. The question of whether science understands enough about humans to duplicate human thought is also being put to the test, and when the rubber meets the road, the answer to that question looks a lot like, 'No.' It's not definitive (it couldn't be), but the picture so far is that science is trying something that can't work. It can't work because of spiritual principles, as a perpetual motion machine can't work because of

physical principles. It's not a matter of insufficient resources available so far, or still needing to find the right approach. It doesn't seem to be the sort of thing which could work.

We miss something about the artificial intelligence project if we frame it as something that began after computer scientists saw that computers can manipulate symbols. People have been trying to make intelligent computers for half a century, but artificial intelligence is a phenomenon that has been centuries in the making. The fact that people saw the brain as a telephone switchboard, when that was the new technology, is more a symptom than a beginning. There's more than artificial intelligence's surface resemblance to alchemists' artificial person ('homunculus'). A repeated feature of the occult enterprise is that you do not have people giving to society in the ways that people have always given to society; you have exceptional figures trying to delve into unexplored recesses and forge some new creation, some new power—some new technology or method—to achieve something mythic that has simply not been achieved before. The magus is endowed with a magic sword to powerfully slice through his day's Gordian knots, and with a messianic fantasy. This is true of Leibniz's *Ars Combinatoria* and it is true of more than a little of artificial intelligence. To the reader who suggests, 'But magic doesn't really work!' I would point out that artificial intelligence also doesn't really work—although its researchers find it to work, like Renaissance magi and modern neo-pagans. The vast gap between magic and science that exists in our imagination is a cultural prejudice rather than a historical conclusion. Some puzzles which emerge from an non-historical picture of science—in particular, why a discipline with modest claims about falsifying hypotheses is held in such awe—seem to make a lot more sense if science is investigated as a historical phenomenon partly stemming from magic.

If there is one unexpected theme running through this enquiry, it is what has emerged about relationships. The question of whether one relates to society (or the natural world) as to one's mother or as to raw material, in I-Thou or I-It fashion, first crept in as a minor clarification. The more I have thought about it, the more significant it seems. The Renaissance magus distinguished himself from his medieval predecessors by converting I-Thou relationships into I-It. How is modern science different? To start with, it is much more consistent in pursuing I-It relationships. The fact that science gives mechanisms instead of explanations is connected; an explanation is an I-Thou thing, whilst a bare mechanism is I-It: if you are going to relate to the world in I-It fashion, there is every reason to replace explanations with mechanisms. An I-Thou relationship understands in a holistic, teleological fashion: if you are going to push an I-It relationship far enough, the obvious approach is to try to expunge teleology as the Enlightenment tried. A great many things about magus and scientist alike hinge on the rejection of Orthodoxy's I-Thou relationship.

In Arthurian legend, the figure of Merlin is a figure who holds magical powers, not by spells and incantations, but by something deeper and fundamental. Merlin does not need spells and incantations because he relates to the natural world in a way that almost goes beyond I-Thou; he relates to nature as if it were human. I suggest that science provides a figure of an anti-Merlin who holds anti-magical powers, not by spells and incantations, but by something deeper and fundamental. Science does not need spells and incantations because it relates to the natural world and humans in a way that almost goes beyond I-It; it relates to even the human as if it were inanimate. In both cases, the power hinges on a relationship, and the power is epiphenomenal to that relationship.

If this is a problem, what all is to be done? Let me say what is not to be done. What is not to be done is to

engineer a programme to enlist people in an I-Thou ideology. Why not? 'I-Thou ideology' is a contradiction in terms. The standard response of starting a political programme treats society as raw material to be transformed according to one's vision—and I am not just disputing the specific content of some visions, but saying that's the wrong way to start. Many of the obvious ways of 'making a difference' that present themselves to the modern mind work through an I-It relationship, calculating how to obtain a response from people, and are therefore tainted from the start. Does that mean that nothing is to be done? No; there are many things, from a walk of faith as transforming communion with God, to learning to relate to God, people, and the entire cosmos in I-Thou fashion, to using forms of persuasion that appeal to a whole person acting in freedom. But that is another thesis to explore.

Epilogue, 2010

I look back at this piece six years later, and see both real strengths and things I wince at. This was one of my first major works after being chrismated Orthodox, and while I am enthusiastic for Orthodoxy there are misunderstandings. My focus on cosmology is just one step away from Western, and in particular scientific, roots, and such pressure to get cosmology right is not found in any good Orthodox theologian I know. That was one of several areas where I had a pretty Western way of trying to be Orthodox, and I do not blame people who raise eyebrows at my heavy use of existentialist distinction between I-Thou and I-It relationship. And the amount of time and energy spent discussing magic almost deterred me from posting it from my website; for that reason alone, I spent time debating whether the piece was fit for human consumption. And it is possibly theology in the academic sense, but not so much the Orthodox sense: lots of ideas, cleverly put together, with little invitation to worship.

But for all this, I am still posting it. The basic points it raises, and much of the terrain, are interesting. There may be fewer true believers among scientists who still chase an artificial intelligence pot o' gold, but it remain an element of the popular imagination and belief even as people's interests turn more and more to finding a magic sword that will slice through society's Gordian knots—which is to say that there may be something relevant in this thesis besides the artificial intelligence critique.

I am posting it because I believe it is interesting and adds something to the convesation. I am also posting it in the hope that it might serve as a sort of gateway drug to some of my more recent works, and provide a contrast: this is how I approached theology just after being received into Holy Orthodoxy, and other works show what I would present as theology having had more time to steep in Orthodoxy, such as The Arena.

I pray that God will bless you.

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Discussion questions for "AI as an Arena for Magical Thinking among Skeptics"

1. How rational are the strong AI rationalists discussed in this work?

2. Is our sense of having 99% of psychology explained on materialist terms a good working model for the present?

3. What basic human intelligence is still not replicated by technology?

4. Were initial, founding concepts about what computers would accomplish still something now that we have seen what computers can do?

5. Can computers be useful without being able to achieve AI?

Introduction to “AI and Me: Cheating on the Turing Test”

This essay looks at certain pivotal moments of my formation, a story that is intertwined to some degree with artificial intelligence. It then discusses what I have seen in AI so far.

AI and Me: Cheating on the Turing Test

Eighth grade, 1988-1989

In eighth grade, I programmed a four dimensional maze,[78] ranked 7th nationally in the MathCounts competition, and taught myself calculus.

St. Silouan's biography talks about how a monastic elder told the young St. Silouan, "If this is where you are as a child, what will you be like when you are older?" which the text says he should not have said, and the elder embroiled the young monastic in a struggle with pride that would plague him for years.

I regard my early distinctions in math as good and not good. Apart from hindrances to my developing humility, some people have complained about profoundly gifted people being steered towards mathematics as an easy-ish way to let out steam. I spoke in complete sentences before my birthday; mathematicians, like Einstein, normally start speaking late. The knowledge of where I had attained early

[78] Re-implemented at https://cjshayward.com/maze/.

distinction seemed a signal from God about where I was to apply my abilities, and it let me start out in a place far from Orthodoxy.

First master's, 1996-1998

My first master's was from the University of Urbana-Champaign, a Master of Science in Applied Mathematics, with a Computational Science and Engineering Option (and I happened to be the first to graduate with the department's newly available thesis option). My first master's thesis[79] arose from my work in the university's National Center for Supercomputing Applications, and it touched on, for the purposes of this discussion, ways you could classify things with something like a distance in one branch of topology's point-set metric spaces. In The Data Mine,[80] a search engine with a powerful and empowering user interface with a flagship website of Orthodox Church Fathers,[81] I experimented with a "more like this" feature based on a similarity score between documents' histograms of word occurrences; later my brother mentioned Python's Natural Language Tool-Kit and I experimented, unsuccessfully, with two separate histograms between word stems for pairs of one word and the word immediately following, and one word and the word two words after it. *To put this in non-geek terms, I worked on a simple idea that would potentially provide an approach to tell how close or far two documents were based on how similar or dissimilar their patterns of words are.*

There were other things that I did then, like an idea for a geometric computer,[82] but my main point of interest

[79] :Closeness Spaces: An Elementary Exploration of Generalized Metric Spaces, and Ordered Fields Derived from Them," https://cjshayward.com/math-thesis/.

[80] https://cjshayward.com/datamine/.

[81] https://orthodoxchurchfathers.com.

[82] "The Blacksmith's Forge: An Extension to Euclidean Geometric Construction as a Model of Computation,"

then was that I figured out what I thought was **a way to cheat on the Turing Test**. If you had a stored databank of conversations, which I did not imagine existed at that time, you could see which conversations were similar to a given conversation at that point, and match the conversation to pull a reply from. It would not be intelligent, and it would not teach us much about intelligence, but it could potentially pull of a convincing fake conversation without teaching us about intelligence. *Some readers may recognize this as the seed of Generative AI.*

I had a frustrating conversation I remember with an AI professor when I tried to explain what I thought this could do, and when I kept on bringing up ways it could be interesting, he kept on resorting to one of two replies: either "That has already been done," or "There is no way I believe you could accomplish that." ("The Wagon, the Blackbird, and the Saab"[83] effects?)

I still believe that my concept of comparing document distance by some refinement of making a similarity score for compared histograms, and the broader concept of a closeness space as defined in my thesis, offers an interesting alternative to the standard of using vectors for generative intelligence, which in part mirrors a conversation I had with my boss at the National Center for Supercomputing Applications where a client had documents compared for similarity along a grid, and I raised the question why it had to be a two-dimensional grid (his answer was essentially that it didn't, but people didn't conceive of being able to estimate distances without something embeddable in a line / plane / space / n-dimensional space). *For non-geeks, I still believe that my ideas for how to cheat on the Turing Test have relevance to AI today*, and I am somewhat grateful that they didn't go anywhere at least then.

https://cjshayward.com/blacksmiths-forge/.

[83][83] https://cjshayward.com/blackbird/.

Second novel, 2000-2001

My novel *Firestorm 2034*, online at cjshayward.com/firestorm and available in an anthology from cjshayward.com/f2, is among other things a retelling of *Stranger in a Strange Land* that placed a medieval profoundly gifted individual about 30 years in the future of when it was written. It got some things right, culturally, and some things blindly wrong; it completely failed to anticipate mobile computing as significant.

It portrays its protagonist finding a way to cheat on the Turing Test along lines I envisioned during my first master's, and it is specifically significant as something written before my second master's thesis. One friend who was a literature major commented that she did not find the development of artificial intelligence to be convincing, but that is because in my development I was not following the rules of a story proper; I was following the rules of the approach I had conceived for how to cheat on the Turing Test.

Second master's, 2003-2004

I earned a second Master of Philosophy in Theology and Religious Studies, and after the university decided my interest in the holy kiss did not fit my assigned Philosophy of Religion seminar, I wrote a thesis critiquing AI,[84] which concluded that the idea of AI rested on an error of cosmological significance. That may seem a dubious credential for me to be offering, especially as someone who thought he knew a way to convincingly cheat on the Turing Test, but one friend reading my complete works singled that work out in the past few months as most significant. I believe it was very revealing for the state of AI then, and may be revealing now. Part of my perspectives, again under

[84] "AI as an Arena for Magical Thinking Among Skeptics," included in this volume.

the guise of fiction, were incorporated into "Within the Steel Orb,"[85] and in my main website's 404 page.[86]

Today, 2023

As I wrote in "AIlice in Wonderland,"[87] I have been critical of some technologies (see my introductory title *A Pack of Cigarettes for the Mind*[88]), and I am skeptical about how much today's fledgling forms of generative AI will really improve the picture. But I believe I would be committing a serious sin of omission to fail to understand AI at least somewhat, and continue to paint a picture that simply said nothing beyond "I don't know" about today's hot new technology. So I made a couple of initial forays.

The first thing I asked ChatGPT 3.5 was for the dialogue to a new Calvin and Hobbes strip, and it produced a reasonably convincing dialogue. I asked for another and another, and it continued to produce at least passable dialogues. I noticed, however, that the strips all seemed to be dialogues between Calvin and Hobbes, and my conscience forbade me to ask for the dialogue to a Sunday trip in which Calvin asks, and his mother explains, why his father is a real patent attorney who does not understand how household appliances work.

The second was more interesting.

In one of the Chronicles of Narnia, Lewis parenthetically says that if he finds out why the Lone Islands have the King of Narnia as their Emperor, he will write a book, and when he is closing out the world in *The Last Battle*, he spends a few sentences explaining that a King of Narnia had delivered the Lone Islands from a dragon, and in gratitude they declared him their emperor. So I went on a quest to try and get ChatGPT to write this

[85] https://cjshayward.com/steel/.
[86] Included in this volume.
[87] Included in this volume
[88] https://cjshayward.com/pcm.

eighth Chronicle of Narnia in which the King of Narnia delivers the Lone Islands from a dragon.

There were a couple of obstacles, including that ChatGPT prefers terseness and I can only think of one way to get a novel's length of fiction out of it (set up a prompt requesting the beginning of a story, with dialogue and details, and then keep typing "continue" after that). I found one way to cheat, of a sort, by asking for it to produce an outline of a novel featuring twelve to twenty chapters and four or five scenes per chapter (it always produced less), and then ask it to write the first chapter, specifically asking for dialogues and details when requesting the chapter, and request subsequent chapters. (I have not yet found a way to get it to write only one scene of the first chapter instead of the first chapter; among my failed efforts was along the lines of "Write the first scene of the first chapter and not any other scene of the first chapter or any other chapter.") ChatGPT strongly prefers brevity, and while there may be economic factors that would make ChatGPT loath to write novels on free web chat, my moving to a prompt delivered by API did not induce ChatGPT to write a long response that I paid for with API prices.

This is an annoying characteristic, but it is not really a limit on what generative AI can accomplish; however, the semantic aspect is more problematic in a way that raises questions about whether ChatGPT can address a question like I asked. For reference purposes, here is the first part of the last revision of my prompt to ChatGPT:

> You are C.S. Lewis, writing an additional book in the Chronicles of Narnia, in the style of the Chronicles of Narnia.
>
> Write a chapter outline with four or five scenes per chapter and fourteen chapters, for the missing eighth novel of the Chronicles of Narnia, about how a King of Narnia before

> any of the children in The Lion, the Witch, and the Wardrobe came and defeated a dragon that was troubling the Lone Islands, and the Lone Islands in gratitude decided to make the King of Narnia be the Emperor of the Lone Islands. None of the characters should be the same as in the Chronicles of Narnia except for the Lion, Aslan. Aslan should be important enough but should rarely be in the picture and should rarely be mentioned; the central characters are the kings. The Chronicles of Narnia should not be mentioned by name, and Narnia and Aslan should rarely be mentioned. There should be no character who is a sorceror. The evil dragon should not be killed until four fifths of the story has taken place; most of the book should be built up to and be about the struggle between the kings and the dragon in which the dragon is finally killed by advice provided by Aslan. The building up will cover Narnian territory. The characterization should be more archetypal than individualistic, and they should show character development.

First, there is a continuity issue related to the names of kings. With the exception of "Caspian III", all king's names were taken from the Chronicles of Narnia (and none of them were as per *The Magician's Nephew*). Logistically, the first book in the series was the prequel *The Magician's Nephew*, in which no Lone Islands are connected to Narnia, and in the next book in Lewis's preferred order (and the first book), *The Lion, the Witch, and the Wardrobe* the King of Narnia is already the Emperor of the Lone Islands. This means that the King of Narnia should be different from any King in Lewis's seven books.

However, that subtle error was overshadowed by

more blatant errors. The outlines that were produced dealt in chapters and scenes, and the AI talked in the main text about chapters and scenes until I told it not to. It also referenced the Chronicles of Narnia and other characters until I told it not to. When I asked it in other conversations to make a homily in the style of St. John Chrysostom about internet porn and gave it a couple of pointers, it would sometimes talk about "St. John Chrysostom said…" My reference to the dragon being evil in the prompt above were designed to cut out stories in which the dragon was portrayed as a more sympathetic figure, or comments about no one caring about what the dragon's thoughts in the matter might be. Also, I had to explicitly ask for "dialogues and details" in the writing of the story; the default way of writing "chapters" was to write synopsis without any dialogue or detail.

More broadly, although those could be squelched by a prompt intentionally asking it not to make certain moronic mistakes, the stories produced (and I produced at least half a dozen) never particularly sounded like Lewis apart from a dusting of name-dropping. They read like mediocre fantasy. If you work based on the above partial prompt, you may see various aspects of fantasy stories generated; but none of them sounded like Lewis above name-dropping.

And this, admittedly without seeing ChatGPT 4 or other options, seems a lot like the fingerprints to my approach to cheating on the Turing Test, although my approach to cheating on the Turing Test admittedly does not provide obvious ways to generalize to images or other features than chat fiction writing.

I believe that my AI thesis is still largely valid for the portion of Generative AI that ChatGPT represents. Material appeared to be copy-pasted from different sources; there was no specific Lewisian tone to the writing. The AI was clearly aware of the Chronicles of Narnia, and upon request a ChatGPT 4-based app produced a good paragraph

summary of The Magician's Nephew; even ChatGPT 3.5 when asked for a short story about Reepicheep coming to America produced a paragraph synopsis that recognized Reepicheep as representing chivalric glory. (I resisted the later temptation to actually try to get a short story by following the same steps in asking for a novel.)

My efforts to request Calvin and Hobbes strips met with some success, if a one-dimensional slice of the diversity within Calvin and Hobbes; my request for a C.S. Lewis-style novel met with considerable disappointment. Some of the errors were simply bone-headed, like talking in chapters and scenes in a fantasy novel. But the overall quality of responses I read read like generic fantasy, at times mediocre and at times better, without Lewis interpreted as a single, specific, profoundly gifted author.

One person writing about writing prompts warned that if you ask ChatGPT to imitate a specific author (by prepending to a prompt, "You are [insert name of author here]"), you'll get an over-the-top parody of that author. I believe in the stories I saw read like "cheating on the Turing Test" approaches to stitch together composite stories from fantasy literature in general, and not a deep learning about what C.S. Lewis represents. The ways Aslan were presented were often interesting, but part of that may stem from my having created a disproportionate presence by requesting that no other Narnian characters be included except Aslan.

Stepping a little further back

One friend said that we had not seen the worst of things; he raised the question of what happens when AI has invaded every area of our lives. And I believe that the ubiquity of AI will be nastier than what phones have turned out to be, and I would remind you of the mascot picture for this Substack:

A friend warned me, and appropriately enough, that going to AI can be like going to an Ouiji board. And I am

wary of that, but the specific responses I got seemed to be just encounters with cheating on the Turing Test, not the encounters with a hostile and real intelligence that Gollem AI threatens to be. Nicholas Carr in *The Glass Cage* talks about how artificial intelligence can look through a bank of human responses and find one that looks closest to a given situation or prompt; he mentioned one question where AI not only falters but fails: "*A very large ball fell on a table and it cracked because it was made of styrofoam. Does 'it' in the preceding sentence refer to the ball or the table?*" Humans can answer that because of general knowledge of the properties of styrofoam and only find one believable answer, that a styrofoam table cracked because a significant weight fell on it, not that a styrofoam ball cracked because it fell on a non-styrofoam table. AI cannot find a closest enough "cheating on the Turing Test" answer that is too far from its database.

Articles I have read on Arxiv at least sometimes do not see Generative AI as representing intelligence; one article suggested a fragility to its Theory of Minds performance in that it could successfully answer some questions that hinge on Theory of Minds competency, but when the questions were perturbed slightly, the degradation in the AI's performance was remarkable.

Perhaps the most disturbing article about emergent properties that had not been designed intentionally talked about Meta's AI "CICERO" having become an expert liar[89] without including assertion that the AI had beliefs; the one included "bald-faced lie" however struck me as possibly just imitating something from the training dataset, namely going unresponsive for 10 minutes and then saying that it was on a call with its girlfriend. That quibble notwithstanding, AI had learned rather Machiavellian deception, and that article may raise deeper concerns than my discussion of cheating on the Turing Test would

[89] http://tinyurl.com/ai-deception-cicero.

recognize. However, even articles like that recognize something like what my AI thesis and "Within the Steel Orb" portray: AI's emit what seems like intelligent behavior without having the intelligence a human would need to produce such behavior.

Recent events including the firing and quick re-hiring of OpenAI's CEO raise questions about whether people will slow the refinement of a technology OpenAI's own scientists believe threatens the very existence of the human race. And AI may be scary.

The most damning critique I can see someone saying about my AI thesis is not that it is wrong as such, but it is true in a way that is irrelevant to the success of GLLMM AI, and that a sufficiently sophisticated dataset of a wide variety of human inputs will make my points simply irrelevant.

AI represents an open can of meta-worms now, and its real risks and dangers make the possibility of autogenerating fantasy with some Narnian trappings simply a distraction from its main concerns. It already has delivered on risks of people's work being taken away. One risk I have already noticed: I read the Bible devotionally, and today's passages read to me like a hodgepodge of sentences pasted together from different sources, a sort of cognitive hallucination from exposure to odd texts.

AI, with carefully enough crafted prompts (and there are guides enough on mastering prompt writing), can replace mediocre fantasy writers, and the approach I have mentioned above should be enough to get a book's worth of short stories. However, C.S. Lewis's place is not threatened, and I believe, based on my own experience and that of the person who asserted that asking ChatGPT to imitate a specific author will generate an over-the-top parody, that ChatGPT cannot imitate all specific authors at a deep level. Even the Calvin and Hobbes dialogues were cookie cutter, and probably something mined out by a large number of previous queries much more than an obscure request

regarding C.S. Lewis hinging on an observation that only experts and devoted fans are likely to know.

ChatGPT 4 may be better, and I believe there will be at least more mature ways established of cheating on the Turing Test. However, at the moment, I believe that what ChatGPT 3.5 does now looks an awful lot like the approach to cheating on the Turing Test that I outlined in my first master's.

Questions for discussion about “AI and Me: Cheating on the Turing Test”

1. What is cheating on the Turing Test?
2. Is there “something askew” in existing literature that Generative AI produces?
3. What are the obvious risks associated with Generative AI?
4. What are the less obvious risks?
5. What will using AI do to us?
6. What do you think life may be like when AI controls every aspect of our lives?

7. Could this be a step closer to the points mentioned in "Revelation and Our Singularity?"[90]

8. Could this help an apocalypse that OpenAI's scientists are themselves very concerned about?

[90] https://cjshayward.com/revelation-and-our-sintularity/.

Introduction to “I Deleted my ChatGPT App”

This work looks about how making things easier to use can have a downside. We can offload skills that it is really not in our best interest to offload. This work opens with a famous passage of Plato’s about why a then-new technology might not be such as unmixed a blessing as it sounds, and then looks at novice-friendly and expert-friendly tools for computer programming before moving on to liabilities of over-complex systems and some of the human cost of vulnerability to cascading systems failure.

I Deleted my ChatGPT App

A passage in Plato's Phaedrus offers a critique of writing when writing was the hot new technology that offered to simply improve thinking with no negative effects:

> ***Socrates:*** *At the Egyptian city of Naucratis, there was a famous old god, whose name was Theuth; the bird which is called the Ibis was sacred to him, and he was the inventor of many arts, such as arithmetic and calculation and geometry and astronomy and draughts and dice, but his great discovery was the use of letters. Now in those days Thamus was the king of the whole of Upper Egypt, which is in the district surrounding that great city which is called by the Hellenes Egyptian Thebes, and they call the god himself Ammon. To him came Theuth*

and showed his inventions, desiring that the other Egyptians might be allowed to have the benefit of them; he went through them, and Thamus inquired about their several uses, and praised some of them and censured others, as he approved or disapproved of them. There would be no use in repeating all that Thamus said to Theuth in praise or blame of the various arts. But when they came to letters, This, said Theuth, will make the Egyptians wiser and give them better memories; for this is the cure of forgetfulness and folly. Thamus replied: O most ingenious Theuth, he who has the gift of invention is not always the best judge of the utility or inutility of his own inventions to the users of them. And in this instance a paternal love of your own child has led you to say what is not the fact: for this invention of yours will create forgetfulness in the learners' souls, because they will not use their memories; they will trust to the external written characters. You have found a specific, not for memory but for reminiscence, and you give your disciples only the pretence of wisdom; they will be hearers of many things and will have learned nothing; they will appear to be omniscient and will generally know nothing; they will be tiresome, having the reputation of knowledge without the reality.

The more things change, it seems, the more they stay the same.

Advertising copy for ChatGPT claimed that it could stimulate the imagination, and I looked at it for a second and said that it could probably do that used a certain way, but the more likely outcome would be that people would have it do their thinking for them.

It was not terribly much longer that I heard of YouTube videos of boyfriends copying and pasting ChatGPT responses because they didn't know how to console their girlfriends. I am unsure of the timeline, but the YouTube videos may have been live well before I made my "prediction."

I read Nicholas Carr, *The Shallows: What the Internet is Doing to Our Brains*, and it was nice to have a relatively up-to-date statement of things that were already mostly things I already knew; then I read another book of his, *The Glass Cage: Automation and Us and How Computers are Changing Us* and found a serious challenge that left me reconsidering a fairly deeply-held belief.

I have long been interested in UX ("User eXperience," the "Let's not forget the person who actually uses this" discipline within Information Technology), and I have labored hard at good UX for my main site,[91] and inwardly winced at what Substack didn't allow me to do for UX on my Substack.[92] I couldn't make visited and unvisited links look different, despite this being a top recommendation for good UX that is violated on the Web. My writing may be challenging to read; I prefer not to have on top of that difficulty people having trouble figuring out how to use my site.

In *The Glass Cage*, Nicholas Car says essentially that a high level of UX in software tools used to develop a skill dumbs down people's performance and learning for that skill. For a classic puzzle, a tool with highly enabled UX that

[91] https://cjshayward.com.

[92] https://cjshayward.substack.com.

showed, for instance, what were legal moves and what not, people learned and retained much less than a more basic user interface that required people to master what moves were legal themselves.

The most devastating critique in the book is what Electronic Medical Records have done, and are doing, to the medical profession, and I will leave you to read *The Glass Cage* for that. However, a related find was what Integrated Development Environments do to people's programming skills. Before that, I had assumed that when programmers wrote, "*I'd crawl over a mile of Integrated this and Visual that to get to Emacs and a good copy of gcc,*" which I had simply assumed was a chauvinism for known and familiar tools. Another person much more crassly and much more scathingly denounced IDE-induced skill atrophy by saying, "*Most programmers today couldn't find their d*cks if you took away their Visual M*st*rb*t**n Kit ++.*" The older command line tools (I use vim instead of Emacs) required the programmer to know what he was programming and keep it in his head. Emacs is a complex and capable system, but in a way that encourages development of expert skills ("*…and with 'evil' mode, the operating system includes an editor.*"). A distinction has been made between "novice-friendly" and "expert-friendly" systems, and Unix and Linux are both expert-friendly systems. (In Linux Mint, a novice-friendly desktop metaphor is built on top of an expert-friendly chassis). It has been said, perhaps insultingly, "*Unix is a very friendly operating system; it's just very selective about who it is friendly with.*" I do not ask you to like the last statement or for that matter any of these statements, but Unix is a classic example of an expert-friendly system that fosters the development and refinement of expert skill.

With older tools that fostered the development of expert skills, the individual contributor is functioning as an expert individual contributor. In the case of an Integrated Development Environments, and especially the ones with

the most recent advances, much more of the work is done by tools, and the individual contributor is functioning more like an ersatz manager, more monitoring electronic tools than doing the main work. I had naively assumed that Integrated Development Environments were simply a more advanced tools whose strengths I had not learned to take advantage of. It turns out I had, by accident, been right to stay with vim and the Linux command line.

I read a recent newsletter about AI tools for jobhunters, and some of them seemed awfully sweet. Or at least sounded sweet at first. One would automate most or all of the drudge-work side of applying for a job online. It didn't mention an obvious consequence of mass use of such tools: though using the tool would allow a candidate to fill out more applications, faster, and with more convenience than doing things the old-fashioned way, which sounds like a great win until you realize that on the employer's side, it means that your application will be buried under a pile of a great many other hastily made applications. Filling out the manual data entry portions of an online job application, however boring and unintelligent work it may be, functioned before such tools as a costly signal that you genuinely wanted a job enough to fill out all the fields as they existed on the form. Furthermore, even before then employers were deluged by piles of applications so that the first chore for an employer was to get the pile of applications down to a manageable size. Now your resume will be buried among an even larger pile of applications, and almost all of the resumes will be possibly slightly tweaked outputs of generative AI. Under the old-school way, the bulk of a jobhunter's work was to do research on a company and communicate in more tightly tailored ways to a given job application; the manual data entry component was actually only a small part of the work, if perhaps the most chore-like to some jobseekers. Now the AI advantage

has what I have called a "damned backswing"[93] in that it will be all the more difficult to stand out and employers will be looking all the more, not to see if your application looks like a match, but to get an overwhelming *flood* of applications down to some kind of manageable size. (Perhaps AI tools for employers automate much of this process, too.)

The overall picture of automation is that the person using computer tools is not functioning primarily as the intelligence doing the work; he is functioning as someone to monitor and manage the computer programs that do most or all of the work. In what it said both about automated doctoring in the wake of Electronic Medical Records and automated piloting in the wake of the glass cockpit (which has been called a "glass cage" which provided the title for the book), human competency is reduced and stunted, and what is called [human] *automaticity*, the feature of expert performance where people perform advanced skilled work in a way that leaves them productively absorbed, cannot develop.

I'm sure, if I wanted to, I could get ChatGPT to do some amazing writing for me. But I believe in a human, internal basis for power. Perhaps more in divine synergy as it is called by Orthodox, but not less by managing artificial intelligences. Possibly I will be harder to find as ChatGPT and generative AI produce interesting writing, made to order, for the majority of people who still read. However, I want to develop my talents and not function as a manager to generative AI writing and living for me. And opting out of the brave new world of using my intelligence to manage AI as the real workers is a way for me to retain a unique power when AI is increasing and woke classics programs not only drop expectations that students learn Latin and Greek, but that they read texts even in translation, and maybe do a little classics name-dropping in doing what they can to

[93] Included in Volume 3 of this series.

project today's gender euphoria onto the world of the classics. I'm learning to be better at reading Greek, through old education and skills that still work today, and older technologies such as an intralinear text and the memory techniques Thamus expected writing would push into the background.

I have commented in a previous post that the Amish may seem "quaint," but they may seem a good deal less quaint when the supply chain breakdowns are affecting almost everything else and they will still have the living and active skills to continue functioning during other people's supply chain failures. I foresee a time, possibly during my lifetime though God only knows if I will live to die of old age, when by keeping custody of my native intelligence and my variegated education may leave me something like royalty after a damned backswing lets people rely on artificial intelligence, and it is then confiscated by economic breakdown and/or cascading systems failure. *The Glass Cage* talks about how GPS may mean that in one or two generations Inuit will lose forever their ancient skill of navigating a shifting snowy landscape before GPS becomes a casualty of collapsing systems failure. And I will, or least *may*, be pursuing my work, in contrast no longer really to people who have a liberal arts education, but to people whose education was entirely woke. The life of someone with an old-fashioned liberal arts education may itself tower among woke who have AI do their thinking for them, though I would recall a line from "Plato: The Allegory of the… *Flickering Screen?*:"[94] "In the land of the blind, the one-eyed man is crucified."

"Hard Lessons from Israel's High-Tech Border Failure,"[95] written about how Hamas terrorists mostly disabled Israel's $1.2 billion USD wall at Gaza, says a great deal about escalating complexity and complex systems failure. (The comments are well worth reading, too.) One

[94] Included in Volume 3 of this series.
[959595] http://tinyurl.com/israel-defense-failure.

military figure, quoted as a medicine to those who would feel safe leaving the Gaza wall, was cited as saying, "People first, ideas second, machines third," a lesson put in a non-military context in *Good to Great*. Increasingly complex systems put us at risk of cascading system failure, and there are a great many things that are at a level of complexity people cannot really grasp. One of the comments on "Hard Lessons from Israel's High-Tech Border Failure" is written by someone responsible for addressing when Amazon's website goes down, and says that Amazon's system is really too complex for people to get their arms around. The trend is to increasingly brittle systems; a great many technological advances move from something less brittle to something more brittle. Some poorer nations have no concept of obsolescence and have donkey-drawn carts alongside sometimes new consumer electronics. The USA, with its Protestant heritage, has a mentality of "Out with the old, in with the new," and if some newer technology like cellphones or credit cards become unavailable the cascading systems failure would be poised to destroy the country. Other, poorer nations without a concept of obsolescence will have less of their infrastructure and support neutralized if cascading systems failure takes down a pillar of technological society. AI researchers, after allowing AI to improve itself, simply do not understand increasingly much of how it does what it does, and we may have a vulnerability to cascading systems failure beyond what was even possible with slightly older technologies like the smartphone.

Conclusion

The "When I Become an Evil Overlord" list ("4. Shooting is not too good for my enemies.") includes,

29. I will keep a special cache of low-tech weapons and train my troops in their use. That way — even if the heroes manage to neutralize my power generator

> and/or render the standard-issue energy weapons useless — my troops will not be overrun by a handful of savages armed with spears and rocks.

All of us outsource a great deal of our thinking, and this is necessary and even good. Another name for this outsourcing of our thinking is "appropriate trust in authority," and I emphatically believe in right trust of right authority.

However there is another level of liability altogether to go woke, learn gender theory and not the traditional contents of mathematics or classics, and use AI whenever thinking is needed. I write under the authority of the Orthodox Church, or rather somewhat *in* the authority of the Orthodox Church, pre-eminent among authorities by which my work is rightly judged.

We need authority and we need technology, and my own contribution to broader society critically hinges on multiple websites. I do not in particular see why my own web presence should survive the Great Reset, but the copyright status of my works is intended to let my books survive me if anybody is there to pick them up. There is such a thing as planning for others' benefits.

But let us not simply offload our thinking to AI.

Questions for discussion for “I Deleted my ChatGPT App:”

1. What point most stuck out about that work?
2. Can novice-friendly systems have a downside for the development of expert skill?
3. Have you used AI?
4. What benefits has AI brought in your life?
5. What drawbacks has AI brought in your life?
6. What are the benefits and drawbacks of social media (or, if you prefer, anti-social media)?
7. Could AI have an even more trenchant damned back-swing than has played out in social media?

Introduction to “AIlice in Wonderland:”

In the BSD Unix fortunes, one wag said, “*The best book on programming for the layman is Alice in Wonderland, but that’s just because it’s the best book on anything for the layman.*” And, for now at least, AI has offered what might be called, *“AIlice in Wonderland*.”

This is a look both retrospectively and at present in the unprecedented, and precedented, picture of AI today.

AIice in Wonderland

"*We're sorry, but the number you have dialed is an imaginary number. Please hang up, rotate your phone clockwise by ninety degrees, and dial again.*"

When I was in high school and college, answering machines were the hot, new, wonderland technology, and people made an art form of answering machine messages. Hence the newlywed message, "*Hello, and thank you for calling 555-1212. My wife and I cannot come to the phone right now, so please leave a brief message with your name, number, and the time and date of your call, and we'll get back to you as soon as we're finished.*" Primitive answering machines did not respond gracefully to people hanging up before leaving a message; it effectively recorded a long, annoying, and beep-filled message. So one answering machine message said, to the tune of "Flight of the Valkyries," "*Leave a message! Leave a message! Leave a*

message!", and my younger brother mentioned that one friend had recorded a message of frantic violin music playing, along with a kitten unhappily mewing, and a voice saying, "*Here we have a 50,000 volt electric power supply, and a kitten. If you hang up before leaving a message, you will close the circuit, electrocuting the kitten.* ***Please*** *leave a message.*" Someone called, hung up, called, hung up, called, hung up, called, hung up, called, and left a message saying, "*You guys have one tough kitten!*"

UseNet newsgroups were once Wonderland, too, and one post which was on netfunny.com and since appears to have been taken down, perhaps due to its offensive nature, said:

> An explorer from Spain, in the jungles of South America, found a woman powerful in magic, and said, "*I want to be ferocious. Make me a tiger.*" So she made him a tiger, but a fox tricked him. So he came back and said, "*I want to be cunning. Make me a fox.*" So he became a fox, but a snake betrayed him. So he came back and said, *"I want to be treacherous. Make me a snake.*" So she made him a snake, but a wasp stung him. So he came back and said, "*I want to sting. Make me a wasp.*" So he became a wasp and stung, but was smashed in retaliation. As happens when you are killed in another form, you appear in ghostly form, so he came back as a ghost and told her, "*I want you to turn me into something more ferocious than a tiger, more cunning than a fox, more treacherous than a snake, and more stinging than a wasp.*" So she turned him back into a Spaniard.
>
> There was a moderator's note at the bottom, in

brackets, saying that he didn't like the joke, but it was back from the days when posting to UseNet was the new technological wonderland. And I would comment that, besides the joke being politically incorrect, UseNet and mailing lists have become "*Kids, go ask your parents*," territory.

In 1993 AT&T ran commercials trying to create want for what then sounded like a futuristic wonderland:

But I would recall a point from *Zen and the Art of Destroying Asian Philosophy*, er, *Zen and the Art of Motorcycle Maintenance*, that technologies such as (in this case) automobiles were exciting to a few rural people who didn't need them, while they had become part of the "*it all*" in "*trying to get away from it all.*" We can send something tantamount to a fax from a beach, but these things advertised in the video are in no way exotic to those of us to which these things have become everyday. The man paying an electronic toll may be shown as experiencing an almost sexual thrill, but in fact none of us find even more painless electronic toll collection to be exciting.

A change of policy without change in principle

A draft I was intending to post later reads,

One note on (non-)coverage of AI, or what may be an elephant in the room

> People reading this text may note that I do not cover the obvious topic of optimal profoundly gifted use of AI. Let me explain about that.
>
> I was involved in the web almost from the

beginning, with a web presence and the first incarnation of my primary website which represents my life's work (cjshayward.com), before 1994.

With that, among other risks, came porn delivery for decades, something that only stopped after a father confessor told me that not only was porn "anonymous sex," but that "masturbation, *the masturbatory act*" was the ultimate exploitation of the model's performance. That helped me not want to bring pornography and masturbation to confession again. I regard that shackle as a significant amount of lost time, and a liability at least comparable to the benefit of making a website and a whole lot of being in the right place at the right time that I cannot take credit for.

I also became involved on social media, found one group that by its title sounded like a place of kindred spirits… and was home to trolls who gave me the most toxic harassment of my entire life, to the point that suicide was a live question.

I now coexist both with Internet and with social media (I stopped posting links on Twitter after I was told it would cost me $86 to get verified; I'm still active on Facebook), and am getting some traffic, I believe, from daily Facebook posts with part of a work and a link to that work. However, I regard whatever benefit I have gained from really anti-social media to be trivial compared to the risk represented by Facebook trolling alone.

My signature contribution to the conversation relates to how I have learned to coexist with technologies, including mobile Internet; you can read it in the seven volume *Hidden Price Tags: An Eastern Orthodox Look at the Dark Side of Technology and Its Best Use* series, redirected to Amazon from cjshayward.com/hpt (please note that a search for "hidden price tags" or the like will get oodles of paid ads for various kinds of physical price tags before turning up my work, even if you add "cjs hayward" to the search). However, I believe that my learning to live with my iPhone has little to commend it above a non-smartphone handset from sunbeamwireless.com, or not owning anything like a smartphone at all. In *Bridge to Teribinthia*, it is Leslie's family not owning a TV that the author used to mark her as Privileged with a capital 'P' even more than her family being one where "money is not the issue." If the book were written today, Leslie might not own a cellphone, and might not have an account with ChatGPT.

I believe that Nicholas Carr was right in *The Shallows: What the Internet is Doing to Our Brains*, and *The Glass Cage: How Our Computers are Changing Us*. Not in just individual assertions, but in the overall withering critique in continuity with past critiques of television, I believe the assessments are largely on-target. In the latter, the most withering direct critique is how automation is changing medicine, but the book also treats how ever more powerful

Integrated Development Environments are castrating programmer competency. To quote I Deleted my ChatGPT App:

> "*The most devastating critique in the book is what Electronic Medical Records have done, and are doing, to the medical profession, and I will leave you to read The Glass Cage for that. However, a related find was what Integrated Development Environments do to people's programming skills. Before that, I had assumed that when programmers wrote, '****I'd crawl over a mile of Integrated this and Visual that to get to Emacs and a good copy of gcc,****' which I had simply assumed was a chauvinism for known and familiar tools. Another person much more crassly and much more scathingly denounced IDE-induced skill atrophy by saying, '****Most programmers today couldn't find their d*cks if you took away their Visual M*st*rb*t**n Kit ++.****' The older command line tools (I use vim instead of Emacs) required the programmer to know what he was programming and keep it in his head. Emacs is a complex and capable system, but in a*

> *way that encourages development of expert skills (‘**…and with ‘evil’ mode, the operating system includes an editor.’**). A distinction has been made between ‘novice-friendly’ and ‘expert-friendly’ systems, and Unix and Linux are both expert-friendly systems. (In Linux Mint, a novice-friendly desktop metaphor is built on top of an expert-friendly chassis). It has been said, perhaps insultingly, ‘**Unix is a very friendly operating system; it’s just very selective about who it is friendly with.**’ I do not ask you to like the last statement or for that matter any of these statements, but Unix is a classic example of an expert-friendly system that fosters the development and refinement of expert skill.*”

Do I think there can be a beneficial and non-obvious use of AI? I’d pretty much say “Yes and amen” there. However I think a fair assessment of liabilities is appropriate. When I first saw Golem AI advertised as being a great spark to creativity, I thought that it might offer that if used correctly, but the more obvious consequence would be that people use it to do their thinking for them. This was before I heard of YouTube videos, possibly published prior to my “prediction,” about boyfriends copying and pasting between texting and ChatGPT because they did not know how to console their girlfriends. Other obvious

consequences include a kind of "friendship porn" which destroys the ability to enjoy real friends (this is an un-highlighted aspect of what the Humane Tech "The AI Dilemma" videos on YouTube,[96] talk about in terms of intimacy being the real content of ChatGPT.

With social media, also known as "AI First Contact," the live danger to me included possible suicide. With Golem AI, also known as "AI Second Contact," the live danger is something done with the good intentions that pave the road to Hell causing harm far eclipsing my own interests. I believe there is most likely a legitimate use for Golem AI, but I do not consider it necessarily obvious, and I do not see why, as with cellphones, it might be the position of true privilege not to have one, and to have one's brain conditioned with the discipline of a profoundly gifted mind educated and self-tutored by classically profoundly gifted means.

There is a book I gave my father, a computer scientist, that I half-wish I had kept for myself. It was written in the 1980's and gave various contrived uses for computers as a solution in need of a problem. It is interesting, but they were incredibly peripheral ways of using computers compared to the niche they have carved out for themselves in the real world (and I do not recall mention of email, word processing, or spreadsheets among the proposed games). One of the proposed uses was as a board game, and I might comment that my own "computer as a board game or un-game" at jonathanhayward.com/furball.cgi never really caught on. The low-hanging fruit that Golem AI offers now has most likely little to do with the niche it is in the process of carving out for itself, and while it may recall an aunt's remark that Facebook seemed like "walking on water" when Facebook was hot and new, I do not think that Golem AI will seem to only offer plusses when it gets to work. That much is to be

[96] https://tinyurl.com/double-exponential.

said even without considering the privacy implications.

So I will not be advising you on how to take advantage of AI to work better. It might offer a cognitive advantage to people with woke educations who have not been taught the three R's; profoundly gifted intelligence may function best when it is the master of its own competencies. At least *The Glass Cage* has chilling implications for outsourcing our intelligence to computers, and Golem AI offers the threats I have mentioned and probably other, less obvious dangers. An old joke runs, "What did the lumberjack kid say after using a chainsaw?"—"Look, Mom, no fingers!" In profound giftedness already in history, if there is an historical event with a body count that exceeds one million, a profoundly gifted person acting on the good intentions that pave the road to Hell probably played a crucial part. That propensity will likely only be magnified with Golem AI tools.

I may sometime take on the task of learning Golem AI and finding future volumes to my past volumes about non-obvious ways of using e.g. the smartphone without being given over to it. However, for now, the obvious position of privilege seems to be that of abstinence, and at least by historical analogy, watching TV for several hours a day is not an order of magnitude or two more productive than watching the Weather Channel for five minutes a day. I am intentionally not giving this collection an overhaul to give key insights to how to use Golem AI constructively. My use of the web for my life's work at cjshayward.com is in my opinion genuine added value; even if I use social media now I believe the risks outweigh the benefits, and I do not believe that Golem AI will in its overall use merit anything above the withering critiques outlined in Neil Postman's *Amusing Ourselves to Death: Public Discourse in an Age of Show Business* and *Technopology*, Jerry Mander's *Four Arguments for the Elimination of Television*, Marie Winn's *The Plug-in Drug*, and Nicholas Carr's *The Shallows: What the Internet is Doing to Our Brains* and *The Glass Cage:*

How Our Computers are Changing Us. The first are critiques of TV, a technology hailed as bearing great educational potential, but these critiques of technology age well and I believe Carr was right, ten years after *The Shallows*, to leave the main text unchanged and just give one chapter's worth of updates for something he did not originally treat: the mobile Internet that delivered anti-social media at much more convenience than was to be had glued to laptops and desktops as things were when he originally wrote his book; the same goes for Winn and her chapter about computers and Internet.

I remain convinced that my life would be simpler if I simply minimize my interaction with AI, which when I checked in with my abbot, he said he'd be interested in use of AI for Orthodox theology. And I rather suspect that I could cajole ChatGPT 3 or 4 into a decent homily in the style and voice of St. John Chrysostom on Internet porn. But my concern is more with risks, and I believe that the magic wonderland we are in now will not remain a magic wonderland any more than the phones we are chained to.

However, for someone whose signature contribution to the conversation[97] is what use of technology is and is not good for us as mankind, and as someone who wrote a master's thesis critiquing AI (that I have still received strong praise for recently), I do not believe I would be fully loving my neighbor to coast on what contact I have already had with technologies and not use AI the way some privileged people do not own a television (I don't) or don't own a smartphone (I have tamed and curtailed my smartphone use as I discuss in *How Can I Take my Life Back from my Phone?*).[98] And that might be the easier and individually safest route for me personally, but now I feel morally compelled to seek expert understanding of AI.

So how am I going about it? I've reinstalled ChatGPT on my phone and am engaging the incredibly complex

[97] See https://cjshayward.com/signature/.
[98] https://cjshayward.com/phone/.

ecosystem of AI tools, but only using AI directly on weekend days. I feel compelled to get to know AI but want to reserve playing with it to leisure time. And I am taking time to read all sorts of AI articles on ArXiv.org.

I have a suspicion about what I'll find based on past experience with technology, and that suspicion is mostly quoted in the draft above. And I am being wary as I study and acquire knowledge. So far ChatGPT has seemed flat to me and its humanities content generation seems dumbed down; for instance, I asked for a short story on Reepicheep from The Chronicles of Narnia traveling to America and I received a one paragraph summary that did not contain a single detail or word of dialogue. My suspicion is that at least some of this is that I have not developed the skill of carefully crafting prompts; one brilliant friend I have made sophisticated requests concerning a chapter of his meta-autobiography, and got impressively sophisticated results. I asked for a new *Calvin and Hobbes* cartoon from an image generator, and got something vaguely *Calvin and Hobbes*-like in appearance with garbled fake characters in one paragraph of dialogue, and two half-tiger half-boy things traveling in a wagon. But ChatGPT 3 makes much more convincing *Calvin and Hobbes* dialogues. I have an eye sharply peeled for risks, but I don't know what a mature proficiency on my part would give beyond expecting that I can produce results that are more interesting to me if I can genuinely develop skill.

One risk I would particularly warn about is using the AI to do our thinking for us, and I'll mention one specific use that reflects what I would consider a wiser use of AI, even if my abbot said to just look up Greek word endings in a book. I thought of, as I study Greek, reading an intralinear text and when I see an unfamiliar word ending, ask ChatGPT to parse it, and "peg" it (with classical memory technique) so it sticks in my memory. That is a use of AI that builds my own proficiency and power.

In the context of relationships, one psychologist

talked about how it is not desirable for people to split competencies for basic living skills; the recommended path is for the more proficient person to build proficiency in the less proficient person, so that if one of them dies or the relationship ends, you have not lost half your basic life skills. Even if one person does most of the work for one competency.

Alcasan's head

In C.S. Lewis, *That Hideous Strength*, "A modern fairy-tale for grown-ups," a scientist who had murdered his wife was guillotined, had his head carefully preserved, and "*Once they'd got it kept alive, the first thing that would occur to boys like them would be to increase its brain. They'd try all sorts of stimulants. And then, maybe, they'd ease open the skull-cap and just—well, just let it boil over, as you might say.... A cerebral hypertrophy artificially induced to support a superhuman power of ideation.*" Filostrato until almost the very end believed his science had powered the head's motion, but the head had become an orifice to commerce with demons.

I'm not sure it is popular for me to suggest that the demonic might have something to do with a force that is already known to acquire major additional abilities that the developers have no idea how it got there. However, this is not the first point in the story where Orthodox would raise the question of the demonic. The primary content of the Internet is porn, and really, from the perspective that reigns in Hell, the Internet is for porn. The Orthodox picture of the demonic is not something that enters the picture when something obviously supernatural appears, but that the demons are constantly trying to pour venom into our ears. When I went to a diocesan conference as a parish delegate, there was a section read which began by belabored acknowledgement and gratitude for the many good things brought by the Internet, but said without hesitation that

most of the content on the net is demonic. Orthodox would see demonic fingerprints in the production, distribution, and consumption of porn, even though the processes on the material level are almost all the same as a materialist would see in them. The demonic is a layer over all kinds of aspects of life and not a foreign intrusion that can only work by violating the laws of nature. To the Orthodox, there are carefully hidden demonic fingerprints to be found all over Internet porn—and the fingerprints may be less hidden in currently unfolding developments in AI.

C.S. Lewis, besides calling *That Hideous Strength* "a modern fairy-tale for grown-ups," said that there were three times to read fairy tales: once as a child, once as a young man, and once at a mature age. In some senses the fairy tales are like what I was doing on exams in teaching programming. The exam is an artificial exercise that cannot be directly cut from the same cloth as the challenges at work (which are all open book), but it is better to bring together and assess core competencies in an artificial miniature context than not make the attempt at all. And C.S. Lewis who wrote *The Chronicles of Narnia* to be outgrown even as they are looked back on in reminiscence has written the best fairy tale I know for our setting.

The people at Humane Tech who delivered "The AI Dilemma" portray AI as a horrid and scary-looking alien, as nasty looking as any H.P. Lovecraft malevolent deity, only a monster which happens to be clumsily manipulating a human mask. Behind the picture are unseen and nasty consequences, and while I do not consider it intrinsically occult sin to engage with AI in an *AIlice in Wonderland* setting, the original Internet represents treacherous waters (when it was starting to become mainstream one fellow high school student openly said he had access to "terabytes of porn" in a day hard disks were measured in kilobytes or megabytes), anti-social media ("AI first contact") represent more treacherous waters, and current AI ("AI second contact") represents still more deeply treacherous waters,

and this treacherous character is still known in advance. Before things had emerged nearly this far, there were still a lot of things known as covered in the videos. In that sense my engagement with AI is partly as someone who has been bitten by predecessors but does not think he can properly love his neighbor, having such a foundation as hinted at in his AI-critiquing master's thesis and his subsequent works, without trying to understand AI and offer such guidance as he tried to give to our phone-saturated technological world in works like the purposefully short collection *A Pack of Cigarettes for the Mind*[99] and the *Hidden Price Tags: An Eastern Orthodox Look at the Dark Side of Technology and Its Best Use* series.[100]

Follow the links I have posted, and please subscribe to my Substack.

[99] https://cjshayward.com/pcm.
[100] This series, available from https://cjshayward.com/hpt.

Questions for discussion for “AIlice in Wonderland”

1. Is AI *not* a first contact with *Alice in Wonderland*? Explain your answer.

2. Is AI offering a different and more accelerated *AIlice in Wonderland*?

3. What is new and different?

4. What is the best thing you think AI has put in our reach?

5. What do you think are the worst consequences AI has put in our reach?

6. What can you do to crawl over a mile of “*Integrated this and Visual that*” to guard and keep your human intelligence?

7. What human abilities do you want to retain if and when AI is confiscated from us the same way that Google made books available so we no longer needed books, and then confiscated our access to text of books on Google Books?

8. What can you do to steer an even course on the path of being human without being blown off-course by winds?

9. What relevance do you see in works like the Philokalia that are in another age about keeping an even course on the path of being human without being blown off-course by winds?

Introduction to "Getting my Bearings on AI:"

I'm getting my bearings on AI, and I am getting my bearings on what I may have to offer to the conversation about AI that is distinctive. A recent read helped me move from just getting data to realizing what I have to say about AI. Here, I explain what I realized.

Getting my Bearings on AI

I have been reading ArXiv.org AI articles, with particular attention to philosophy and ethics, and one philosophy article helped me understand what, exactly, I have to offer the conversations after I get my bearings on AI (a process which may never be complete). To give a couple of quotes:

> All of the above five foundations can also be found in one passage of the medieval philosopher Thomas Aquinas in his very brief discussion of the foundations of naturalistic ethics. In this section he lays out a system built upon Aristotle' notion of there being three layers to the human body and mind: a vegetative soul, the type of which we share with all living things; a sensing soul, the type of which we share with all animals; and a rational soul, the type of which we share only with other rational beings [30]. Aquinas updates Aristotle to explain more carefully what would be entailed for sustainable

> survival of the human species [2]. While we would now consider both Aristotle and Aquinas to be out-of-date on many issues, at least on this one topic—"the core aspects of human nature—"Aquinas seems to have struck something significant.

Aristotle and Aquinas are both old, and an Orthodox might critique them, but not on grounds of being mostly out-of-date. The concerns I raised in "An Open Letter to Catholics on Orthodoxy and Ecumenism,"[101] which might be among my top fighting words to Rome, may be critical enough of Thomas Aquinas, but the critiques never include his seniority among philosophers. They are critiques Orthodox might have made assessing that he was wrong when the ink was still wet on his pages or he stopped being wrong when he declared his works to be straw.

Interestingly, the text, co-authored by a Betty Li Hu, repeatedly quotes Confucius but does not raise the question of whether Confucius is out-of-date. Confucius is a source, not only on how things might have been lived in China before Christ, but how we can live now, which should be the condition Aristotle and Aquinas are evaluated for. Orthodox critiques of Aristotle and Aquinas never seem to complain that those figures are out of date.

It also echoes various other studies stating being unbiased as a criterion of desirable AI:

> It is important that in these situations of well-intended AI use, we do not inadvertently create new problems from AI itself—"unfair and biased systems [44], overreliance and resulting deskilling [27], various unintended consequences [1], etc.

[101] https://cjshayward.com/ecumenism/. It says some things Romans do not want to hear at all.

On this point I would recall a classic hacker AI koan:[102]

> In the days when Sussman was a novice, Minsky once came to him as he sat hacking at the PDP-6.
>
> "What are you doing?", asked Minsky.
>
> "I am training a randomly wired neural net to play Tic-Tac-Toe" Sussman replied.
>
> "Why is the net wired randomly?", asked Minsky.
>
> "I do not want it to have any preconceptions of how to play", Sussman said.
>
> Minsky then shut his eyes.
>
> "Why do you close your eyes?", Sussman asked his teacher.
>
> "So that the room will be empty."
>
> At that moment, Sussman was enlightened.

And I would recall a point from C.S. Lewis, *The Abolition of Man*, about the authors of "the Green Book," a book that should be offering professional grammar when it instead offers amateur philosophy:

> In actual fact Gaius and Titius will be found to hold, with complete uncritical dogmatism, *the whole system of values which happened to be*

[102] From https://www.catb.org/jargon/html/koans.html.

in vogue among moderately educated young men of the professional classes during the period between the two wars.' Their scepticism about values is on the surface: it is for use on other people's values; *about the values current in their own set they are not nearly sceptical enough*. **And this phenomenon is very usual.** A great many of those who 'debunk' traditional or (as they would say) 'sentimental' values have in the background values of their own which they believe to be immune from the debunking process. [emphasis added]

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The real (perhaps unconscious) philosophy of Gaius and Titius becomes clear if we contrast the two following lists of disapprovals and approvals.

A. Disapprovals: A mother's appeal to a child to be 'brave' is 'nonsense' (Green Book, p. 62). The reference of the word 'gentleman' is 'extremely vague' (ibid.) 'To call a man a coward tells us really nothing about what he does' (p. 64). Feelings about a country or empire are feelings 'about nothing in particular' (p. 77).

B. Approvals: Those who prefer the arts of peace to the arts of war (it is not said in what circumstances) are such that 'we may want to call them wise men' (p. 65). The pupil is expected 'to believe in a democratic community life' (p. 67). 'Contact with the ideas of other people is, as we know, healthy' (p. 86). The reason for bathrooms ('that people are

> healthier and pleasanter to meet when they are clean') is 'too obvious to need mentioning' (p. 142). It will be seen that comfort and security, as known to a suburban street in peacetime, are the ultimate values: those things which can alone produce or spiritualize comfort and security are mocked. Man lives by bread alone, and the ultimate source of bread is the baker's van: peace matters more than honour and can be preserved by jeering at colonels and reading newspapers.

The AI article opens one quote by Confucius as "*'men (sic.)*..." which is telling enough of what biases they assume in calling for unbiased systems. In my own time studying at Fordham, a nasty enough place for Orthodox,[103] texts lauded by the theology important would place an editorial "*[sic]*" after citations referencing a generic "*man*" or "*he,*" which is the original naturally inclusive language.[104] And this is a couple of years after a Toastmasters winning competition speech had a woman speak, without vitriol and in a voice that invited sympathy, about another character in her story as "*my fellow man*." and a TED talk repeats, without critique or any implied criticism, classic audio clips referring to mankind as "*man*." or the English Standard Version translates *adelphoi*, a standard Greek term for all Christians, as "*brothers*" with a footnote saying "*Or 'brothers and sisters.'*" I would say that this alone, even apart from other cues, refers to a concept of "unbiased" that includes a "*whole system of values which happen[s] to be in vogue*." Or may be falling out of vogue but is still stuck in some of the more backwards schools and departments.

I have read a number of AI articles and absolutely none of them challenge that "unfair" comes with modern

[103] See, for instance, https://cjshayward.com/orthodox-fordham/.
[104] See "Belabored Inclusive Language and Naturally Inclusive Language," https://cjshayward.com/naturally-inclusive-language/.

political correctness packaged in them. This one article appealed to ancient and medieval sources; but even it did not challenge the political correctness that is in vogue today.

The method question at Fordham

In the Fordham theology department's doctoral comprehensive exams, one of the questions is the "method question," in which you would be asked a question, and then out of study of six assigned texts and four that you supply yourself, analyze your answer to that question. The question was known in advance and for that year was, "*Does the earth matter for theology?*" and my flaming liberal radical professor was horrified when she learned about *Man and the Environment: A Study of St. Symeon the New Theologian* and recognized that I could answer that question in its entirety out of the Orthodox Tradition, and she defined competency as taking 10 or 20 points for each of the sources (the six assigned texts simply assumed that taking the earth seriously could only be a liberal concern); I was at freedom in choosing which 10 or 20 points to take, but she excluded, after her horrified recognition, any answer to the method question which would be confessionally Orthodox at all.

But my interest brought to the department is one that is specific and neglected in the discussion I have read about AI. One distinction made in e.g. philosophy departments is that between problem-solving philosophy and philosophically informed history of ideas, and my area of interest (or rather a broad swath that would include my areas of interest) was theology that would be both historically grounded and represent a problem-solving interest. This was in distinction to, or perhaps in synthesis of, a basic historical theology interest that investigates the theology of previous eras from a historian's interests, or systematic theology that solves problems on the resources

of today's systematic theology. I started in the historical theology program and switched to systematic upon clarification of methods deemed appropriate in history and reaching a conclusion that, under at least that department's division of labor, my interest fell under systematic theology. But at least my professor couldn't conceive, or at least very much did not want to conceive, of a problem-solving interest that drew on mostly older texts as opposed to only drawing on recent texts that way. (I didn't even *begin* to try to address the point with her of all Orthodox theology being mystical theology…)

What I have to add to the AI conversation

I'm still getting my bearings on AI. I wrote a thesis on it almost twenty years ago and haven't kept up, and I am in the process of catching up. However, my general approach and interest is a basis for writing much more than a post about "AIlice in Wonderland," which talks about AI as a historically situated technology and looks at recent technological history.

And seeing the article mentioned above helped me realize that my basic perspective is not just one that was scarce to be found at Fordham; it is one that is scarce to be found at ArXiv's collection. When I get up to speed (or perhaps *if* I ever get up to speed on rapidly changing turf), this will likely make an imprint on what connections I have to offer. Which reminds me, I want to get around to reading Lewis Mumford's *Technics and Civilization*, written in 1934 and still salient, summarized in the Wikipedia as arguing, "It is the moral, economic, and political choices we make, not the machines we use, Mumford argues, that have produced a capitalist industrialized machine-oriented economy, whose imperfect fruits serve the majority so imperfectly."

I shouldn't strictly say that I haven't been catching up. I have been, and I've gleaned significant insights, and possibly even my realization that there's a whole lot more I don't know than I do is a sign of maturing understanding, or at least slowly maturing understanding. But while I am still wary of claiming I understand AI, I believe I have identified an area where my contribution can be significant.

Keep reading.

Questions for discussion for "Getting my Bearings on AI:"

1. What is "*philosophically informed history of ideas?*"
2. What is "*problem solving philosophy?*"
3. What does ArXiv.org have to offer research into AI?
4. What might a 2004 thesis have to say that is still valid?
5. What are AI's potential benefits?
6. What are AI's potential risks?

7. What are AI's potential unintended consequences?

Introduction to "Opening a Can of Dragons:"

This work is my first real addition to critiques of AI after my master's thesis. It is no longer about orienting discussion of AI; it is about real problems with a technology some call "the devil."

"Opening a Can of Dragons"

In some sense the question of whether current AI is intelligent is something like the question of whether a librarian has all of the knowledge of the books in a library. The simple answer is, "*No,*" but that "*No*" matters less than you might think. AI is not conscious and is not intelligent, but it can put together a human-like answer to most questions.

In C.S. Lewis, *The Magician's Nephew*, appears one of two mentions of plastic in *The Chronicles of Narnia*. When the first Queen of Narnia was summoned, a mention was made about how if she had to choose how she would appear, it would be with a hat with plastic cherries, but as it was she had just been dressed for washing dishes, and she looked lovelier. (The other mention, in *The Last Battle*, is that Queen Susan the Gentle was no longer a friend of Narnia, because she was all obsessed with "*lipstick,* [plastic] *nylons, and invitations*," but I am not concerned with that

here.)

The phenomenon of finding something to use a cool new commodity and using plastic as an ornament on a pre-plastic-style hat is characteristic of a technology's entrance. *The new technology is a solution in need of a problem*. It's a bit like a book I gave my father, from before it was mainstream to open a computer, and there were various contrived solutions (one was a way to use a computer to play an electronic version of a board game).

Today, plastic is anything but a solution in need of a problem. It is a mature technology integrated with every aspect of our lives. It is a mainstream material so that living without using plastic is not really an option, even if life without disposable plastic is a Holy Grail to some in the green movement. Furthermore, although Lewis seems unsympathetic to whether plastic cherries on a hat really enhance a woman's beauty, we have problems Lewis would not have imagined. We have plastic wrapping most new items we acquire, plastic is something permanent that will never biodegrade, and I've heard we consume a credit card's worth of microplastics in our food each week. None of these problems was an issue when someone had the creative idea of putting little plastic berries onto a traditional hat as an exotic ornament.

In my study of AI, at least an ostensibly attractive girl demonstrated results for how she gave some of the more photorealistic Disney princesses her face, and then explained in excruciating detail just how to do that. *BOOM!* Detailed, step-by-step instructions for how to use AI to make **revenge porn**!

For my Christmas gifts, I sent my nephews a custom book that has the life stories of saints whose names they share, and an AI-generated fantasy short story that makes them the heroes. And that is perhaps an equivalent to ornamenting a hat with plastic cherries. AI will go much further when it has shed all traces of being a solution in need of a problem. (Not that ChatGPT is in any sense a

solution in need of a problem, but it is a marketing stunt when the damned backswing[105] of AI will go beyond present issues of multiple governments, megacorporations, and organized crime peeping on every step we take anywhere on the Internet. The problems with AI exceed when Big Brothers and organized crime use AI in every way against you that they can.)

An urban legend that has roots in genuine truth

Most of us have seen St. Nilus's alleged prophecies, and most of us have heard that it is an urban legend. The Orthodox Wiki has the page assessing the "prophecy" as having problems such as dating, with a specimen of:

> **The Prophecy of Saint Nilus**
>
> **The Plight of the World and the Church during the 20th Century**
>
> **By SAINT NILUS (d. circa AD 430)**
>
> After the year 1900, toward the middle of the 20th century, the people of that time will become unrecognizable. When the time for the Advent of the Antichrist approaches, people's minds will grow cloudy from carnal passions, and dishonor and lawlessness will grow stronger. Then the world will become unrecognizable.
>
> People's appearances will change, and it will be impossible to distinguish men from women due to their shamelessness in dress and style

[105] "The Damned Backswing" is included in volume 3 of this work.

of hair. These people will be cruel and will be like wild animals because of the temptations of the Antichrist. There will be no respect for parents and elders, love will disappear, and Christian pastors, bishops, and priests will become vain men, completely failing to distinguish the right-hand way from the left. At that time the morals and traditions of Christians and of the Church will change. People will abandon modesty, and dissipation will reign. Falsehood and greed will attain great proportions, and woe to those who pile up treasures. Lust, adultery, homosexuality, secret deeds and murder will rule in society. At that future time, due to the power of such great crimes and licentiousness, people will be deprived of the grace of the Holy Spirit, which they received in Holy Baptism and equally of remorse. The Churches of God will be deprived of God-fearing and pious pastors, and woe to the Christians remaining in the world at that time; they will completely lose their faith because they will lack the opportunity of seeing the light of knowledge from anyone at all. Then they will separate themselves out of the world in holy refuges in search of lightening their spiritual sufferings, but everywhere they will meet obstacles and constraints.

And all this will result from the fact that the Antichrist wants to be Lord over everything and become the ruler of the whole universe, and he will produce miracles and fantastic signs. He will also give depraved wisdom to an unhappy man so that he will discover a way by which one man can carry on a conversation

> with another from one end of the earth to the other.
>
> At that time men will also fly through the air like birds and descend to the bottom of the sea like fish. And when they have achieved all this, these unhappy people will spend their lives in comfort without knowing, poor souls, that it is deceit of the Antichrist.
>
> And, the impious one!—he will so complete science with vanity that it will go off the right path and lead people to lose faith in the existence of God in three hypostases. Then the All-good God will see the downfall of the human race and will shorten the days for the sake of those few who are being saved, because the enemy wants to lead even the chosen into temptation, if that is possible… then the sword of chastisement will suddenly appear and kill the perverter and his servants.

But I'd like to repeat here something I wrote earlier:

It has been said, "**Nothing is as dated as the future.**" And the text, should future scholars wish to date it, could date this text fairly closely by what technology it sees and what it has no hint of.

There is a counterbalance to "Nothing is as dated as the future." *Things fade in.* Prophecy collapses time without sharply distinguishing similar events that occur at different period, and when oca.org/saints, before the prophecies of St. Nilus, the party that posted St. Nilus's story wrote:

Saint Nilus has left a remarkably accurate prophecy concerning the state of the Church in the mid-twentieth century, and a description of the people of that time. Among the inventions he predicted are the telephone, airplane, and submarine. He also warned that people's minds would be

clouded by carnal passions, "and dishonor and lawlessness will grow stronger." Men would not be distinguishable from women because of their "shamelessness of dress and style of hair." Saint Nilus lamented that Christian pastors, bishops and priests, would become vain men, and that the morals and traditions of the Church would change. Few pious and God-fearing pastors would remain, and many people would stray from the right path because no one would instruct them.

The person who assessed the text as referring to the mid-twentieth century was in fact not quoting a timeline given by St. Nilus but giving a gloss by the presumably mid-twentieth century author of his life, and St. Nilus did not in fact give any timeline or date that my historical sensitivities could recognize. I have read his prophecies, the real ones that tell what the wording of the Mark of the Beast will be, a point I have never seen on the urban legend channel. *But things are fading in.* The prophecy I recall seeing it said that "wisdom" would be given or acquired so that a man could speak and be heard on the other side of the world. The original life posted referred to the "radio," not the "telephone." Today a much further complement of Internet'-based technologies allow various means of voice and/or video conversation, meetings, presentations, etc, so many so that it's a considerable challenge to even count them accurately.

As far as men being indistinguishable from women, we have far eclipsed the summary of the prophecy above, which has no concept of widespread gender reassignment surgeries. As far as passions go, we now have a sewer's worth of Internet porn. The prophecy could apply as much to scuba diving even better than submarines, but the oca.org/saints wording has not been changed. The prophecies stated that wisdom would be found that would let men speak in one place and be heard across the world, a prediction which has faded in in the radio, then also the telephone, then also the Zoom chat. What next? Who knows

if haptics might make a "remote touch" that offers some ghastly and obscene parody of a mother touching her baby, remotely and from a phone? As far as the morals and tradition of the Church, contraception has transformed into being broadly seen as a legitimate option to Orthodox.[106] Examples could easily be multiplied, but I think it would be better to recognize the singularity we live in, a singularity that is unfolding on many dimensions (the gender rainbow, the river of blood from black-on-black murders ever since "Black Lives Matter" took to the forefront (could we please reverse course and go for "*All* Black Lives Matter?"), a singularity following a century that with artists like Picasso radically transforming artistic conventions that a historian should regard as being like an eyeblink. Now changes are continuing to roll out, at an accelerating pace in a singularity. In a matter of weeks, models who were not half-starved began to be rolled out. Politically correct pictures of people usually did not show white people alone; they included a person of color. Now a further installment has been made: some pictures have a woman wearing Muslim hajibs, and increasingly common are wheelchairs to include people with disabilities (please note that most disabilities, including mine, do not have people using a wheelchair). And dominoes are falling: not only BLM, which seems to always and only be in reference to blacks needlessly killed by white police and by white police alone, but Islam's surge (with Atheislam in which the West accepts under an iron yoke what it spurned under a yoke that is easy and a burden that is light), the cyber-quarantine, vaccines that will be socially mandated, transgender being in truth a prominent and well-integrated addition to what was once really just mostly "LBG", with schoolchildren being told "There's no right or wrong age to fall in love" (one archpriest called a spade a spade and said, "Putting the P in LGBTQP+"), and so on.

[106] See *Orthodoxy and Contraception*, https://cjshayward.com/oc.

Update on St. Nilus, from April 16 2022:

I have encountered a claimed quotation of St. Nilus's text that is consistent with my recollection in a book whose title I have removed after learning it was written by a schismatic. pp. 219-220. I quote:

> St. Nilus the Myrrhgusher says: "*When Antichrist places his seal on people their hearts will become as if dead. At the time of the prophesied calamity, Antichrist will begin to seal people with his imprint, as though by this seal to save them from misfortune, for those having this seal, according to Revelation, will be able to buy bread. Many will be dying on the roads. People will become like predatory birds attacking carrion, and will devour dead bodies. But which people will devour the dead? Those who are marked with the seal of Antichrist. Since Christians will not have the seal they will not be able to receive or buy bread and will not devour the dead; but those who are sealed, though they can buy bread, will devour the dead. For, when a man is imprinted with the seal, his heart will become insensitive; not being able to bear hunger, people will carry off corpses, and sitting at the side of any road devour them.*
>
> "*Finally, the one sealed by the Antichrist will himself be put to death; and on the seal the following will be written: 'I am yours.' - 'Yes, you are mine.' - 'I go of my own free will, not by coercion.' - 'And I receive you by your own*

> *will, not by coercion.' These four sayings or inscription will be shown in the center of that accursed seal.*"

The footnote reads, "St. Nilus, in Archimandrite Pantaleimon, op. cit., pp. 80-81.", with "op.cit." referring to Archimandrite Pantaleimon, *A Ray of Light*, Jordanville, 1996.

I do note, not happily, that one of the quotes on the first pages of the work is the alleged "Old English" prophecy that was alleged to come from the "Mother Shipton" hoax in which a made-up psychic was given after-the-fact retrodictions of past events under the guise of old before-the-fact predictions. However, the author seems to have a source for St. Nilus saying something an urban legend would never drop.

The worm, the serpent, the dragon

In the Bible there isn't really a strong dividing line between a worm and a serpent, or between a serpent and a dragon. The same word has been translated "serpent" and "dragon" in the (full) Book of Esther, and the Book of Revelation is content to refer to the devil as a serpent in one part and a dragon in the other.

The Internet as a can of worms

Back when the Internet was going mainstream, there was one particular point that was repeated ad infinitum on TV news. Going under the cover of laments about "*Porn, our addiction*," TV news announced loud and clear and long that you can get porn by using the Internet. As I wrote in "55 New Maxims for the Cyber-Quarantine,"[107] "*Recognize*

[107] Included in Volume 1 of this series, https://cjshayward.com/hpt1.

that from the devil's perspective, the Internet is for porn—and he may have helped inspire, guide, and shape its development."

Now there are many good and legitimate uses for the Internet, and there are legitimate reasons for us to use it. However, I would draw attention to a translation / interpretation issue concerning Ephesians 5:4, "*Neither filthiness, nor foolish talking, nor jesting, which are not convenient: but rather giving of thanks.*" Is St. Paul talking about all humor, or just humor that is off-color?

I would answer that if you look through the archives of the newsgroup rec.humor.funny, the contingent of humor that is off-color is the majority party. The joke that has its own Wikipedia entry, the quintessential joke, is the one that is obscene. The joke that is good enough for the present company is just along for the ride.

The Internet's primary purpose from before porn sites existed was to deliver porn. Other uses exist, and I am glad to have this Substack and at least one major website,[108] but edifying use of the Internet is just along for the ride.

Mobile Anti-Social Media as a can of serpents

I was bullied on the Internet enough that I decided on suicide at one point; that I did not continue is pure unmerited grace on God's part.

Anti-Social media are the next step up after general Internet use, and now we have a creepy Facebook available at our hip at all hours of the day or night.

When anti-social media were pioneered, they held the promise of exposure for small and medium-sized businesses to reach the public. But now small and medium-sized businesses almost can't make themselves known apart from anti-social media. The apparent boon has a backswing.

[108] https://cjshayward.com or https://orthodoxchurchfathers.com.

I make about one post a day on Facebook and Twitter, and that one post has on the order of a hundred people coming to my page per day. (My abbot has allowed me to appear on social media but sharply limited how much time I should be spending on it.)

AI as a can of dragons

We do not know and have not seen the fruits of mature AI, although there are plenty of concerns raised in "The AI Dilemma."[109] When I told one friend I was getting to try to know AI, she compared AI to an Ouiji board, and modestly warned, "*Be careful.*" And I do not doubt that occult use of AI is close at hand and easy to ask for, but I made repeated requests for a C.S. Lewis *The Chronicles of Narnia* novel that was never written, and what it produced was mediocre fantasy with a heavy name-dropping dusting of C.S. Lewis / Narnian details. I've heard that AI writes well, but I've found it mediocre, tersely offering a synopsis of fiction rather than proper fiction, slightly less stingy with words when I requested dialogue and details, and I do not know if it would have been better if I had made an explicit reminder to "*Show, don't tell.*"

But my own study of AI has been mostly centered on reading academic papers and trying to glean at least some value from medium.com articles that indulge in journalist sensationalism. And I have at least temporarily restricted my computer's access to one major AI image generator; I have generated one keeper with it but it is an image generator for which every indication is that it will generate porn if requested to do so. So I've tried to push it away.

"The AI Dilemma" talked about a first contact with AI in anti-social media's race to the bottom of the brain stem, with all being about what will get the most transfixed attention, while our current second contact is about intimacy in producing what people most closely bind to. I've

[109] https://tinyurl.com/double-exponential/.

seen disappointing results in fiction writing, although asking for additional Calvin and Hobbes cartoons was closer to the mark. Asking ChatGPT to imitate a classic writer triggers over-the-top name-dropping but not writing that is anywhere near classic in character, or that easily observes basic rules of good writing. So far the output I have seen from ChatGPT has also never tempted me to plagiarize. However, I believe I represent a minority report for ChatGPT's users.

Conclusion:

Internet is a can of worms. Anti-social media is a can of serpents. AI is a can of dragons. Legitimate use gets harder as you go up the scale.

And not irrelevant is that OpenAI fired their CEO after its own researchers were terrified about what they were creating, hired and fired another CEO in about a day, and on the third day resurrected their CEO as an executive in charge of how much OpenAI is willing to do and how far down the race it will go.

I'm not sure how much I will directly seek further interaction with AI. Probably I will return to image generation once I have an actual purpose to do so, but idle hands are the devil's workshop, and though I have been clean of relapses for years from Internet pornography, somehow it seemed that my defenses did not come into play. "*Be careful*" is a modest warning, and one that may legitimately read as a polite and gentle way of saying, really, "*Don't*."

The passage about St. Nilus above was taken from a draft of "Revelation and Our Singularity,"[110] and as I wrote in "Papers and Paychecks,"[111]

> These people live at a great cusp, for to

[110] https://cjshayward.com/revelation-and-our-singularity/.
[111] https://cjshayward.com/papers-and-paychecks/.

> mankind as it had hitherto existed a great Orcish battering ram is battering the world's doors:
>
> - *BOOM!* Internet porn!
> - *BOOM!* Anti-social media!
> - *BOOM!* Islamic ascendency!
> - *BOOM!* Smartphones!
> - *BOOM!* Gay marriage!
> - *BOOM!* COVID!
> - *BOOM!* Vaccines!
> - *BOOM!* Transgender!
> - *BOOM!* ChatGPT and Gollem AI!
>
> And sooner or sooner the door will break to shivers and enter the Balrog.

The list of battering ram blows is not exclusively technological, in a work that was not intended to focus on technology, but it speaks of an accelerating singularity, one that makes *The Medieval Experience: Foundations of Western Cultural Singularity* such a disappointing read. (If I may drop a name that may make me less popular Philip Sherrard's *The Rape of Man and Nature* is a more enlightening read, as long as we keep in mind that Sherrard is a caricature artist but people are more readily recognized from a good caricature than the photorealistic.) We are experiencing more changes in a year that historically recent times saw in a decade or further-back history saw in a lifetime, and the pace is accelerating further. I mentioned plastics as an example of a mature technology that is anything but a novelty to adorn women's hats and perhaps make them *less* attractive.

When I told one friend about what I was researching, he commented that many Orthodox believe that anti-social media "*is the Devil*," and even more that AI "*is the Devil*." Much the same I believe is true of America now, and I do

not digress.

I'm not sure how to better end than quote my friend's "*Be careful*," as I have clarified it. We've opened a can of worms, and we've opened a can of snakes next, and now we are opening a can of dragons that will affect both those who use AI directly and those who will abstain from it.

But God incomparably excels a can of dragons.

Questions for discussion for “Opening a Can of Dragons:”

1. In what ways does the Internet in general represent a can of worms?
2. In what ways do Anti-Social Media represent a can of snakes?
3. In what ways does Anti-Social Media represent a can of dragons?
4. Do you want to have AI for your own use?
5. Do you want to have AI be available to people who will use it against you?
6. What do you see life as like AI has become as ubiquitous as plastics have become today?
7. What is the greatest danger AI represents?

Introduction to “Some Tentative Guidelines for Using AI:”

I have tried to get to know AI, and stopped when I realized it was becoming a temptation. While I continue to research AI without directly interacting with it, I wanted to give such guidance I can, and in continuity with other works about less harmful use of technology, I have found backing off to be helpful.

So here are tentative guidelines and guidance for how Orthodox might use AI while mitigating risks. Or, to be more precise, how to use “second contact AI” with wisdom partly gained from coping from “first contact AI” and prior lessons learned about how not to be harmed by technology.

Some Tentative Guidelines for Using AI

Years back, I wrote, " 'Social Antibodies' Needed: A Request of Orthodox Clergy."[112] I linked to Paul Graham's "The Acceleration of Addictiveness,"[113] and provided what was meant as a dartboard because people will do better if they have an initial target to shoot at than when they have nothing to correct or improve on.

My biggest thought for Orthodox engaging AI is a thought of nipsis, or inner watchfulness that is at the heart of Orthodox spirituality and the main ascetical topic of the *Philokalia of the Niptic Fathers*, held by some to be second only to the Gospel in authority. I omit an Amazon affiliate link because if you should be reading it, you won't need my help getting it. I read it before coming to St. Demetrios Monastery and to date His Beatitude, my abbot, has only given me a blessing to read one work, a work of hagiography. There is an Orthodox saying, *"As always, ask your priest,"* and your priest is the living contact you will

[112] https://cjshayward.com/social-antibodies/.
[113] https://paulgraham.com/addiction.html.

have in how to practice nipsis.

The central need and desire that generative AI will bind to is *intimacy*, and the most powerful tool I see is a meticulously devout attention to your inner state, beinv very alert about what is going on inside, combined with a willingness to flee from the computer if that is what it takes to get away from a temptation, and stay away if needed. If you are tempted to generate NSFW images, just back off and flee the temptation. If you are tempted to use AI like a Ouiji board, guided in response to your prompts and questions, just back off and flee the temptation. His Beatitude has a saying, "*Never react. Never resent. Keep inner peace,*" and legitimate use of AI will have a calm and unperturbed inner peace.

Thus I offer an intimate prescription for how to use intimate AI, and your focus in using AI, as a monk's focus in life, should be an inner state with unperturbed inner peace.

Combine with this a willingness to put a tourniquet as far up as is needed to stop a hemorrage. When dealing with addiction to alcohol, or porn, there has been a common if apocryphal story which claims that a Greek philosopher was standing in a river, and a man came to him. The philosopher said, "*What do you want?*" The visitor answered, "*Truth.*" The philosopher pushed him under the surface for a bit, and then asked, "*What do you want?*" The man, as before, said, "*Truth.*" Then the philosopher pushed the man under the water and held him until he was struggling, and kept holding him down until he was getting close to passing out, then lifted him up and asked again, "*What do you want?*" The man, gasping and panting, said, "***AIR!!!***" The philosopher said, "*When you want Truth the way you want air, then you will find it.*"

In reference to addiction to porn, there is something very valuable about coming to a place where you are willing to go slash and burn and cut away anything that entangles you with porn: to ask someone else to keep your

smartphone and buy a flipphone from Sunbeam Wireless,[114] which has many of the cool gadgets a smartphone has but no app store, no email, and no web browser. In previous days the recommendation has been that if you are having trouble with your laptop, get rid of it, or at least give it to someone else for safe-keeping, and only check email from libraries and public places as a gladly paid price for freedom from porn.

(I don't have an analogy to give for Sexaholics Anonymous,[115] because I am not aware of any such organization for self-harmful misuse of AI, beyond the obvious example of the Orthodox Church as *Sinners Anonymous*.)

I wanted to get to know AI a little better by using it so as to offer some intelligent comment, and I realized that it was not good for me to have access to one image generator which may have represented a gold standard among AI image generation, but threatened to produce just one exact type of image I did not need to see. And my imagination was starting to get captivated. I then tweaked my computer at least temporarily (I haven't reversed my action) so that it would not pull up that image generator until I reversed the tweak (I haven't seen any reason to reverse it yet), and would have asked for access to that site to be blocked on my local network if that was not enough. Not long after that, I decided I'd had enough temptation for now and at least temporarily stopped using AI. (I am willing to restart, but so far have found no reason to do so.)

In response to the question, "*How can I appropriately use AI?*" I would offer a first counterquestion of "*Do you really need to?*" I did, or at least I thought I did, and acted in good faith. However, speaking reasonably, I do not see much of any need to use AI now. I can continue to read AI articles on Arxiv, and I can continue to scan headlines on Medium to try to find the occasional posting

[114] See https://sunbeamwireless.com.
[115] https://sa.org.

that is not pure journalistic sensationalism. I still believe that with my signature contribution to the conversation,[116] I would be failing to love my neighbor if I did not at least try to offer helpful comment about AI. But my general practice and recommendation has been to use some technologies in moderation and abstain from others, and my conscience has been to abstain from SecondWife, er, SecondLife. What has appeared in my conscience is not primarily that it offers a means for sexual sin, as that it offers a created, constructed world that offers an alternative to living in God's reality. Arguably I am already doing that by writing this from a warm room inside a house where at this instant I do not directly see anything not artificial except for my hands, but this is taken to an entirely new level in SecondWife.

I have said before that I believe critiques of technologies age well, and with that I suspect that lessons learned from precursor technologies are good candidate for lessons that apply to using AI. From " 'Social Antibodies' Needed," I pull various things that have almost all been said before, in contexts other than AI, that are still good ideas. These include:

1. Set a time boundary around your use of AI. Use it then and nothing else.

2. Use AI when you have a specific purpose, and don't dally. (Idle hands are the devil's workshop.)

3. Get on the same page as your pastor in using AI.

4. Don't use AI for intimacy.

[116] See https://cjshayward.com/signature/.

5. Share what you are doing with your priest, spouse, or a trusted friend.

6. Don't use AI as some kind of magic treasure from another world.

7. Don't let AI be something that is "always on," in the background when it is not in the foreground.

8. Don't use AI to do your thinking for you. At very least use a search engine to research something instead of relying on (other) AI.

9. Don't plagiarize AI. If you cannot do something yourself, learn how to do it instead of having an AI do it for you.

10. Don't trust AI. "Hallucinations" are enough of an issue that at least one major chatbot puts a warning at the bottom of the screen saying to double check its facts. I have read pro-AI sources, but I have never read someone contest that "hallucinations" are an issue.

If this seems restrictive, they are scarcely more restrictive than the discipline I observe around my phone and which I share with others in *How Can I Take my Life Back from my Phone?*,[117] and allow me, for instance, not to check my phone compulsively.

I hesitate to say AI can produce nothing good, and after finishing all of this draft but the introduction and questions, I want to read next an Arxiv article about using AI to prevent suicides where social media sees possible advance warnings that a person is in danger of suicide.[118]

[117] https://cjshayward.com/phone/.
[118] http://tinyurl.com/ai-suicide-risk-assessment.

That is nothing to sneeze at.

However, I would encourage you, like me, to be skeptical, to be careful, and question whether you need to directly engage AI at all. We will have enough engagement with AI whether we want it or not.

And enjoy life. Real, organic life with real, organic intelligence.

But you are still welcome to say that my reading about using AI to prevent suicide is part of the Big Brother that starts off by barking up the wrong fire hydrant.

Questions for discussion regarding “Some Tentative Guidelines for Using AI:”

1. How have you used AI?
2. Has AI been beneficial or detrimental to you as you have used it?
3. Has AI use provided more inner peace, or less inner peace?
4. Can you see how good fences make AI a less destructive neighbor?
5. What could you cut back on or establish better boundaries?
6. Do you really need to be using AI yourself?

7. Can you enjoy life outside of technology?

Introduction to "AI: Particle or Wave?"

In my reading, research, and conversation, I have encountered *both* perspectives that AI is a gateway to something spooky, *and* much ado about very little. I wish to suggest that a certain BOTH-AND fusion of the two may rightly be held.

AI: Particle or Wave?

"Is ChatGPT Intelligent?"
tinyurl.com/is-chatgpt-intelligent

"Deep Learning is Hitting a Wall"
tinyurl.com/deep-learning-is

"Reasoning or Reciting? Exploring the Capabilities and Limitations of Language Models Through Counterfactual Tasks"
tinyurl.com/reasoning-or-reciting

"FANTOM: A Benchmark for Stress-testing Machine Theory of Mind in Interactions"
tinyurl.com/fantom-benchmark

The Medium digest before the one that pointed me to "Is ChatGPT Intelligent?" and "Deep Learning is Hitting a Wall" (the former links to the last two of the linked articles above) was one that set my teeth on edge. Two articles talked about Ouija boards, one comparing ?ChatGPT 5? to an Ouija board, and the other alleging it talked about the

[legitimate] science besides Ouija boards, and the image of that accursed tool displayed on my computer screen. I thought about discussing disengaging from the channel with my abbot, as I asked for and received a blessing to disengage from Twitter after watching a suicide and then someone else getting shot to death. And I may do so. I already read it despite a miserable signal to noise ratio, and my main mental efforts in reading through the digests is finding legitimately useful information amidst a 90% of sheer sensationalist drivel. But the last two articles, and in particular "Is ChatGPT Intelligent?," left me wondering if I was actually right in substance about AI in my 2004 thesis at Cambridge, included in this work.

In "AIlice in Wonderland," the last section was entitled "Alcasan's Head," a reference to C.S. Lewis, *That Hideous Strength*, where a guillotined prisoner's head has been artificially kept alive and overclocked with stimulants, but is in fact acting as a demonic gateway for commerce with evil spirits. And I repeat a warning from a friend that asking wondrous things of ChatGPT can be like approaching a Ouija board.

Years ago, in my bachelor's or previous master's program (before 1998), before I wrote "AI as an Arena for Magical Thinking Among Skeptics", someone commented about how artificial intelligence *can* learn how to move through a room, but if you "*put a cup in the center of the room*," it has to learn all over. "Deep Learning is Hitting a Wall said,"

> Not long ago, for example, a Tesla in so-called "Full Self Driving Mode" encountered[119] a person holding up a stop sign in the middle of a road. The car failed to recognize the person (partly obscured by the stop sign) and the stop sign (out of its usual context on the side of a

[119][119] http://tinyurl.com/tesla-vs-sign-turner.

> road); the human driver had to take over. The scene was far enough outside of the training database that the system had no idea what to do.

And humans do not need to be specifically trained to avoid driving over a sign-turner at a construction site, even if their driver's education has never mentioned sign-turners. Elsewhere, "Is ChatGPT Intelligent?" reads:

> In chess, GPT was asked to evaluate whether a sequence of moves was legal or not. For a normal chess game, it accurately predicted the legality of a move 88% of the time. But when the starting positions of the bishops and knights were swapped, **its guesses on the legality of moves became completely random**, while even a novice human player should be able to adapt to these changes easily.

The first comment shown on that article, as of this writing reads:

> While reading the article, I tried the reversal curse method on ChatGPT. I gave it a prompt "Martin is my brother" followed by "Who is Martin?" and I got a wrong answer. The possibility of getting to AGI is subject to our understanding of our own mind and cognition. And I don't think we are even close to where AGI starts. It was a good read.

I realize in retrospect that my original quest in evaluating ChatGPT was asking for some hidden wonder when I essentially asked for the never-written eighth book from *The Chronicles of Narnia* where, after the prequel *The*

Magician's Nephew but before any of the other books, a King of Narnia delivered the Lone Islands from a dragon and in gratitude was granted the title Emperor of the Lone Islands. However, persistent efforts met with disappointment; a repeatedly tweaked prompt of "*You are C.S. Lewis writing in the style of the Chronicles of Narnia*" did not secure much above mediocre fiction, a stinginess with words, and a failure to observe guidelines observed in writing even mediocre fiction, such as "*Show, don't tell.*"

"The AI Dilemma"[120] credits ChatGPT with acquiring abilities its implementors never imagined, and the scientists working on AI both feel that there is something transcendent and have nonetheless goosebumps about getting into creepy turf. The last video I saw[121] credits AI with an above-average-adult-level Theory of Minds, but the FANToM article raises serious doubts about whether that alleged Theory of Minds is real or just smoke and mirrors yielding false positive results, and there are bits and pieces like "*Since machines lack emotions or intentions (Gros et al., 2022)*[122]*...*" that suggest my thesis was right about the limitations of AI, even if AI makes those limitations much less significant than one might imagine.

However, concerning the different strands of debate, I might appeal to the debate that raged in physics about whether light was a particle or a wave. The resolution came that it was both: light acts as a particle when treated like a particle, and acts like a wave when treated like a wave.

I might make a similar suggestion that whether ChatGPT is something that can pull an accurate guess about what comes next in territory close to the training data it has processed, and being a can of dragons and a gateway to the demonic, is something like this particle / wave paradox. Generative AI can guess what's next in a conversation along similar lines to what I conceived of during my first master's,

[120] https://tinyurl.com/double-exponential.
[121] http://tinyurl.com/ai-dilemma-followup.
[122] http://tinyurl.com/gros-et-al.

and this can simultaneously *both* be something that falls far short of genuine human intelligence with its generalizability, *and* something spooky where demons can fill in. This BOTH-AND quality recalls the Pascal quote that opens *Everyday Saints*:

> Openly appearing to those who look for Him with all their heart, while hiding from those who run from Him with all their heart, God governs the knowledge of His presence. He gives signs that are visible to those who search for them, and yet invisible to those who are indifferent to Him. To those who wish to see, God gives sufficient light; to those who do not wish to see, He gives sufficient darkness.

All that I can recall reading either sees AI as fundamentally less than regular human minds, or something spookily beyond regular human minds. I propose a BOTH-AND, in the same vein of light as *both* a particle *and* a wave, or a God who gives *both* sufficient light *and* sufficient darkness.

I think the comments about AI in "Within the Steel Orb"[123] might well be valid:

> Oinos said, "Let me show you." He led Art into a long corridor with smooth walls and a round arch at top. A faint blue glow followed them, vanishing at the edges. Art said, "Do you think it will be long before our world has full artificial intelligence?"
>
> Oinos said, "Hmm... Programming artificial intelligence on a computer is not *that* much more complex than getting a stone to lay an

[123] https://cjshayward.com/steel/.

egg."

Art said, "But our scientists are making progress. Your advanced world has artificial intelligence, right?"

Oinos said, "Why on earth would we be able to do that? Why would that even be a goal?"

"You have computers, right?"

"Yes, indeed; the table that I used to call up a scientific calculator works on the same principle as your world's computers. I could almost say that inventing a new kind of computer is a rite of passage among serious inventors, or at least that's the closest term your world would have."

"And your computer science is pretty advanced, right? Much more advanced than ours?"

"We know things that the trajectory of computer science in your world will never reach because it is not pointed in the right direction." Oinos tapped the wall and arcs of pale blue light spun out.

"Then you should be well beyond the point of making artificial intelligence."

"Why on a million, million worlds should we ever be able to do that? Or even think that is something we *could* accomplish?"

"Well, if I can be obvious, the brain is a

computer, and the mind is its software."

"Is it?"

"What else could the mind be?"

"What else could the mind be? What about an altar at which to worship? A workshop? A bridge between Heaven and earth, a meeting place where eternity meets time? A treasury in which to gather riches? A spark of divine fire? A line in a strong grid? A river, ever flowing, ever full? A tree reaching to Heaven while its roots grasp the earth? A mountain made immovable for the greatest storm? A home in which to live and a ship by which to sail? A constellation of stars? A temple that sanctifies the earth? A force to draw things in? A captain directing a starship or a voyager who can travel without? A diamond forged over aeons from of old? A perpetual motion machine that is simply impossible but functions anyway? A faithful manuscript by which an ancient book passes on? A showcase of holy icons? A mirror, clear or clouded? A wind which can never be pinned down? A haunting moment? A home with which to welcome others, and a mouth with which to kiss? A strand of a web? An acrobat balancing for his whole life long on a slender crystalline prism between two chasms? A protecting veil and a concealing mist? An eye to glimpse the uncreated Light as the world moves on its way? A rift yawning into the depths of the earth? A kairometer, both primeval and young? A—"

"All right, all right! I get the idea, and that's

> some pretty lovely poetry. (What's a kairometer?) These are all very beautiful metaphors for the mind, but I am interested in what the mind is literally."
>
> "Then it might interest you to hear that your world's computer is also a metaphor for the mind. A good and poetic metaphor, perhaps, but a metaphor, and one that is better to balance with other complementary metaphors. It is the habit of some in your world to understand the human mind through the metaphor of the latest technology for you to be infatuated with. Today, the mind is a computer, or something like that. Before you had the computer, 'You're just wired that way' because the brain or the mind or whatever is a wired-up telephone exchange, the telephone exchange being your previous object of technological infatuation, before the computer. Admittedly, 'the mind is a computer' is an attractive metaphor. But there is some fundamental confusion in taking *that* metaphor literally and assuming that, since the mind is a computer, all you have to do is make some more progress with technology and research and you can give a computer an intelligent mind."

And at the same time, I believe that AI may be a gateway to contact with dark forces. I propose a BOTH-AND. And I suggest that the both-and be held onto both in revisiting a classic saying from Tristan from Humane Tech:

> Give a man a fish, and he will eat for a day.
>
> Teach a man to fish, and he will eat for a

lifetime.

Ask AI to fish, and it will learn oceanography,
climatology, evolutionary biology… and fish
all the fish in the ocean to extinction.

What do you think?

Questions for discussion for “AI: Particle or Wave?”

1. What is the significance of the discipline of physics learning that AI acts like a particle when it is treated like a particle and acts like a wave when treated like a wave?

2. Is there a spooky side to AI?

3. Could AI be a can of dragons?

4. Do people who find AI a spiritual encounter with darkness have legitimate reason to do so?

5. Could AI also be in step with the limitations discussed AI as an Arena for Magical Thinking Among Skeptics?

6. Could people who see generative AI as a marketing stunt but not a legitimate replacement for human intelligence *also* have legitimate reason to do so?

7. Could a BOTH-AND approach be appropriate?

Introduction to “The Little Way”

This is a piece of prolegoumena about what exactly my approach is and how it differs from some of the big names on Orthodoxy and technology.

It also addresses what exactly is the best and most effective kind of change to pursue.

The Little Way

I would like to begin by distinguishing myself from two sources who overshadow me, Paul Kingsnorth[124] and Graham Pardun.[125] While I do not remember a detailed social prescription from either, Graham calls for the creation of an archipelago of oases, and Paul, without a concrete political activist's plan that I remember reading yet, would see all screens at the bottom of a cave. Both seem to want to change the world, while I am mainly trying to work with God to change *myself*.

G.K. Chesterton said, "*The reformer is always right about what is wrong. But he is usually wrong about what is right,*" and in response to one newsletter's essay contest, to write about what was wrong with the world, answered, "*Sir, I am.*" It was the shortest letter to the editor in the newspaper's history.

Three Orthodox sayings

"*Save yourself, and ten thousands around you will*

[124] https://paulkingsnorth.substack.com.
[125] https://sabbathempire.substack.com.

be saved."

"*Make peace with yourself, and Heaven and earth will make peace with you*."

"*Paradise is wherever the saints are*."

I wanted originally to title this essay "*Ynes Avalach*," from Steven Lawhead's *Merlin*, which I read initially on a friend's recommendation, in response to a request I made for other books besides Madeleine l'Engle's *A Wind in the Door* that treat gifted children adeptly. I read the book with an unspoken wish that I could be a member of Merlin's college and found that he was in fact a member of mine. But that is peripheral to why bring up Lawhead's novel.

In an unsettled world, Ynes Avalach or the Isle of Avalon, which in the end of Mallory a mortally wounded Arthur is brought to be healed of his wounds, stands as an island of peace and stability in a sea of instability and change. And my repentance, my monastery is that to me. I have never been asked my personal pronouns when I have been here, although some people have voiced appreciation for the first line of my email signature: "*—‹Unworthy Br. Christos Hayward (really, thou / thee / thy / thine), novice at St. Demetrios Orthodox Monastery*."

This monastery is not the first time I have found my surroundings to be Paradise, but His Beatitude Metropolitan JONAH is the abbot, and people who come and go find it to be a place where thoughts become quiet. We are near to Washington, D.C., and rainbow-colored living is easy enough to be found. And miracles have taken place here; I have seen holy myrrh oil stream from the Hawaiian Iveron Icon, with a few drops on my abbot's wonderworking copy of the Kazan icon. I have my struggles, but they are lifegiving. Furthermore, the miracles have never been as interesting as the encounters with humble people.

In a book I would recommend more strongly than either *Merlin* or *A Wind in the Door*, *Fr. Arseny: Priest, Prisoner, Spiritual Father* is set in a Soviet gulag prison

camp. *The kind that Hitler looked at for inspiration for his concentration camps.* Nonetheless, where Fr. Arseny is, there is simply paradise. This monastery has other people who are holy (as I am not), and in particular a good abbot. If it is a live option to you, I encourage you to visiting our monastery in Virginia (website at virginiamonks.org), at least for a day trip. Our abbot loves to meet people and visit with them in his office.

When I was trying to find a monastery, I told one person I know, "*I really believe that the greatest gift that I can give you is to repent of my sins for the rest of my life.*" His immediate reply was to point out an Orthodox commonplace: "*If everybody did that, Heaven would come to earth!*"

Now I am at a place where I am supported in my repentance, including corrections; this is not a place free from temptations, but another Orthodox commonplace is that without temptations it is impossible for the faithful to be saved. The priests are excellent, and the brotherhood has been patient when I am thoughtless or careless.

Save yourself and ten thousand people around you will be saved: if I enter repentance and repent well for the best of my life, I will change the world more than any amount of political activism I am capable of.

Make peace with yourself, and Heaven and earth will make peace with you: There was one story in the front matter to Elder Thaddeus, *Our Thoughts Determine Our Lives*, which has a vision where the figure was accused of being unable to get along with anyone else, and someone else says, "*No! That is not true! He only cannot get along with himself*," and this monastery and our abbot have real help to offer if you find your surroundings intolerable (something I have been well enough to do in any standard of luxury I've been in, and from which I have found a significant freedom). And I have taken from that book what I call "*the Little Law of Attractio*n." It doesn't mean that if you think about money, money, money, a windfall will fall

across your lap. It does, however, mean that if you think thoughts of peace, you will have more and bigger thoughts of peace, and if you think thoughts of anger, you will have more and bigger thoughts of anger with conflicts as well. This Little Law of Attraction has profound significance.

I have also found here that standard Orthodox pastoral advice of "*When you are tempted, cross yourself and say 'Lord, have mercy,'*" apply to painful memories and thoughts of anger as well as various other kinds of temptations.

Paradise is wherever the saints are. The Metropolitan's holiness and grace permeates this monastery and people can sense it. I do not know if he will ever be canonized, and some people may be disappointed that he does not even claim to be near clairvoyance, *but he is a perfect abbot for me*. I recognize in him a spiritual father with whom I hope to work out my salvation, and he seems to recognize the same possibility with me, and this is the basis for repenting together. This is not the first time I have found my surroundings to be Paradise,[126] but this is Paradise even on days like today where I have been thoughtless and have been correspondingly corrected.

Obediences and my signature contribution to the conversation

Monks and novices are advised to stay busy, and novices in particular are introduced to the privilege of manual labor. I have my abbot's support in my writing and he wants me to grow both in manual labor and in my writing. And so I have written the books on my bookshelf,[127] with a signature contribution about how we can live a properly human life in such a technological world. My

[126] See https://cjshayward.com/paradise/.

[127] Best works are available from https://cjshayward.com/books/; everything but the kitchen sink is available from https://amazon.com/author/cjshayward.

substack is driven by that contribution as well, and I'm trying to provide treasures old and new, as articulated in a cartoon drawn by one of my brother novices at the monastery, to flesh out an idea I had:

I have catch-up to do with regards to artificial intelligence; I wrote "AI as an Arena for Magical Thinking Among Skeptics" as a second master's thesis in 2004, and the terrain has changed even as people continue to find my thesis to have salience. But I'm playing catch-up, and may be playing catch-up with AI in the rest of my life.

Conclusion

Marriage and monasticism are treasures that belong to all Orthodox, and part of the good estate of monasteries is to receive pilgrims as guests. My monastery is not just there for its members; it's there for people to visit, and I invite you to consider a visit.

But more broadly, I believe that trying to repent of your sins first and foremost is not just better than trying to make the world a better place: it is the best and possibly the *only way* to make the world a better place.

Back to your regularly scheduled reading.

Questions for discussion for “The Little Way:”

1. Does the author want to change the world?
2. What kind of change does he want to pursue?
3. What is or is not distinctively Orthodox about this?
4. Is in fact our technology out of control?
5. What do the three Orthodox sayings quoted above mean?
6. What do they mean for addressing what Paul Kingsnorth calls “*the Machine*”?
7. What can you do to change yourself?
8. What can you do to *help* change yourself?

Introduction to "A Mechanism:"

This article was written independently of direct works on technology, but it is meant to underscore something fundamental to my approach to technology and other issues.

It *is* political, but by a completely different kind of divine mechanism from what I have seen on the Internet when conservatives take seriously the issues that are close to my heart.

A Mechanism

Quotes that have rumbled down the ages

Perhaps the most famous quote in Orthodoxy, a John 3:16, is "*God and the Son of God became Man and the Son of Man that men and the sons of men might become gods and the sons of God.*" Or that's at least one variant.

Another quote or two that have rumbled down the ages, if not quite so spectacularly, is:

- *Save yourself and ten thousands around you will be saved.*

- *Make peace with yourself and Heaven and earth will make peace with you.*

I would like to suggest a mechanism by which such things make effect, or at least a physical shadow of an explanation. The deepest sense in which such things happen is God's grace, in a relationship where God is totally free and we are totally free, and I do not want to detract

from that. However, there is a physical mechanism, a physical dimension, that I'd like to explore, before saying, "*The truth is greater than all this.*"

Do arguments persuade?

Do arguments persuade?

The pop psychology consensus is that we are emotion with a veneer of rationality, and in the context of interpersonal relations and conflicts, arguments rarely persuade. Furthermore, it has been suggested that the same is true in public debates: political speechwriter Simon Lancaster in *Speechwriting: The Expert Guide* compares rational and emotional appeal to a peashooter and a cannon in their effectiveness, and says that argument is never appropriate in speeches, though it may occasionally be helpful to provide an illusion of argument, and he explains how to do that when it is called for.

However, there are other contexts in which arguments do persuade. In a debate where one person is arguing one position and another is arguing the opposite position, it is likely that neither will persuade the other. However, with bystanders and onlookers the matter is different. In, for instance, the Christological and Trinitarian controversies, arguments loom large in Orthodox Church history. One finds in the Orthodox Church's greatest public speaker, St. John Chrysostom, public argument that there can be (for instance) no interval of separation between the Father and the Son, because if you make an interval between the Father's beginning and that of the Son, you make the Father as well as the Son to have a beginning. This is one of many arguments St. John Chrysostom makes in the course of his applied public speaking.

I believe that arguments can persuade, that argument is appropriate in public discourse, and apologetics are and remain a *part* of the legitimate public face of Orthodoxy, but they are not the whole picture.

Furthermore, I suggest that there are other major factors. And even speaking as an apologist who has been called disciple to C.S. Lewis, I would like to try to expose one major feature of legitimate influence that does not boil down to addressing a task of apologetics.

Furthermore, there is a time to keep your mouth shut even if you are right. I think of one person I know where I have kept my mouth shut about his belief in a flat earth for the simple reason and communication principle that people have pushed him away by trying to argue him out of belief in a flat earth, and if I say more than I have, I will just push him away further, and his position is not morally represhensible in the sense that authorites need to lay down the law. I am kind to him and I keep my mouth shut, and I have his respect. A study of persuasion by argument shows up that there are some contexts where arguing something, even something true, will just push people away, and the pop psychology consensus that "*A man convinced against his will, retains the same opinion still,*" is on the money.

Bowled over by humility

There was a time when I was visiting Holy Cross Monastery, and I talked to another person about someone who worked in the kitchen (name withheld), who had "*bowled me over by humility*." The other person knew immediately whom I was talking about and what I meant.

There was something incredibly compelling in those interactions with him, and before long my unspoken reaction was, "*I want the mint!*", i.e. I don't want some of the money he has, but what he has that he was minting spiritual money with. Now he offered me undiluted kindness in every interaction, but my "*I want the mint!*" was something that extended well beyond appreciating the kindness he treated me with. I did not want, exactly, for him to treat me so kindly, but I did want to observe and see if

there was some way I could learn where he was spiritually minting money from. *Dealing with him was riveting*.

I think also of another time I encountered someone very humble, and I saw something great, and was again closely trying to observe him and wanting what he had, but I kept my mouth shut.

Bruising someone's humility

There was one other time I'd mention, on a not so theatrical scale, when I told my abbot, "I'm not telling [Name] in order not to bruise his humility, but you don't know what an incredible blessing it is to answer to someone who is humble." And that was appreciated.

Pride wants compliments; humility helps uproot that desire, and so it's not best, when dealing with humble people, to offer comments that will bruise their humility. Pride wants human honor; humility is extremely wary of receiving honor, partly because humility includes an accurate assessment of how empty human honor really is. The suggestion I'd give for dealing with someone who has an awe-inspiring humility is to sit on your hands as far as compliments go; interact with the person, love and appreciate him, and try to get what you can of the mint, but respect that a humble person will regard human praise as fool's gold that is inseparable from hostilities that follow it, and he wants things much greater. I would add to this that such people have their sights set on a much higher target, and you do nothing to hinder them in their quest by sitting and enjoying their humility.

There was one time at a gathering where I was listening with rapt attention to musicians playing, and in a personal conversation after the performance, the performers spoke appreciatively of my listening. I do not remember what language they used but I would use a term like "*listening loudly*," or listening loud and clear. Someone who is listening in a prickly or hostile way makes it harder

to perform; someone who is listening sympathetically makes it easier to perform, and I give every blessing to "*listen loudly*," when encountering someone humble.

How not to impart humility, and what is better

There is something compelling in this listening, and something I have never met in meeting the Seraphinians I encountered that led up to writing, and continues after writing, *The Seraphinians: "Blessed Seraphim Rose" and His Axe-Wielding Western Converts*.[128] They were, without exception, very big on my need for humility and fully willing to harass and bluntly criticize me to pound me into being humble. And none of my own humility, such as I have, came from there. If anything, like a bad heresiologist I fell into the trap of picking up some of my opponents' approach in communicating, and however much I may have attempted to argue in a compelling fashion, I do not believe many readers have been drawn to it as by humility.

There is someone else I met who has a deep and contagious calm, enough so that people are drawn to him in the hope that some of his calm rubs off on them. Calm and humility are not exactly the same thing, and the deep calm may or may not have been accompanied by humility. However, there was something of the same kind of draw. People have wanted to be near him in the hope some of his calm will rub off.

In the Roman empire before Constantine, there was a saying, "*The blood of the martyrs is the seed of the faith.*" Roman citizens seeing public martyrdoms of Christians saw at least one thing that even transcends that wild beasts were let loose to devour martyrs and came and licked the martyrs' feet. They saw families that were summoned to the contest, and who were exuberantly happy, as if they had

[128] https://cjshayward.com/s.

been summoned to a great feast, and there was something very compelling about this. Although martyrs had been sometimes healed in the course of their contest, they saw that a pagan Empire could *kill* Christians but not *defeat* them. Now it is to be mentioned in some cases that there were apologetics at play, and Great-Martyr Katherine, for instance, converted the fifty philosophers who were asked to out-argue her. However, there was something in the many martyrs beyond some of them being effective apologists. Rome could *kill* Christians but not *defeat* them, and in the final run killing Christians under those conditions was an act of impotence.

The story is told of one teacher who took over a religion class whose terrible behavior had driven out her predecessor, and whose unruly students found to their astonishment that all their verbal missiles simply passed through her without causing harm or leaving a trace. Their hostility gave way to an incredible curiosity about who she was and why she was not harmed by their missiles.

I was not argued into entering Orthodoxy, and I only reasoned my way into it to a limited extent. I wanted what the Orthodox Church has.

The "fruit of the Spirit" option

The Benedict Option by Richard Dreher argues forcefully that Christianity has lost the point of sexual morality in the public sphere, and really lost what is to be had in the public sphere of argument. But Galatians 5:22 reads, "*But the fruit of the Spirit is love, joy, peace, longsuffering, gentleness, goodness, faith, meekness, temperance: against such there is no law.*" Christianity may have lost all legal status above that of bigotry in face of anti-Christian opposition, but the option is as much now as ever open to leave people in the misery heralded by the gender rainbow to see their misery and the "*I want what he has!*" to our joy in the Spirit.

Years before entering Orthodoxy, I was part of an "Anglican opposition" parish, with a healing ministry for homosexuals, and one of the priests talked about how as gay he had a vision of a face he did not recognize. But the face he did not recognize was his own, radiant as the ex-gay priest he would become. And he really was unrecognizably transformed in his penitence.

It hurts to kick against the goads, and it still hurts if you have the entirety of the law, public discourse, and political correctness defending the full legitimacy of kicking against the goads. Now that traditional teaching on sexuality is legally no more privileged than bigotry, Christians have lost incredibly much in the public square, but Orthodox and Christians are free now as much as ever to have something that queers want.

A quote that relates to misery

Fr. Thaddeus, who echoed in *Our Thoughts Determine Our Lives*, wrote to a spiritual daughter,

> I had barely fallen asleep when I dreamt that I had died. Two young men led me into a room and had me stand on some sort of platform between them. To my right were the judges. Someone in the far left corner of the room was reading the charges against me. "That's him! That's the one who cannot get along with anyone!" I stood there dumbfounded. The voice repeated the same accusation two or more times. Then the young man standing on my right said to me, "Do not be afraid! It is not true that you cannot get along with anyone. You just cannot get along with yourself!"

My first encounter with the man who bowled me

over in humility was when he was cheerfully folding a sheet, and talking about how he loved to do laundry. And it is the characteristic of humility to be able to enjoy the here and now. An oppressive escapism, sensing the "here and now" to be intolerable, but in many cases **the intolerably entirely consists in our inner state.** Perhaps really bad surroundings can also make people miserable, but people can find the here and now oppressive no matter how nice a here and now they may be in. And humility, besides everything else above, is a key to joy. As G.K. Chesterton said, "It takes humility to enjoy anything—even pride."

Engaging solipsism

Solipsism, at least as a sense that only one's self is believed knowable, is rising and if it does not have too much limelight yet, it will. But engaging with solipsists may take the form of "A Canticle to Holy, Blessed Solipsism,"[129] and living the truth in,

> O Lord, help me reach poverty, that I may
> own treasures avarice could never
> fathom or imagine,
> Obedience that I may know utter freedom,
> first of all of the shackles of my sin and
> vice,
> Chastity, that I may be virile beyond
> reckoning,
> A solipsist that I may embrace Heaven and
> Earth…

Argument has its place, but important as it is, there is more power, especially today, it is more powerful to live a life that will leave others wanting what we have. The lost state of the public arena today is owned by people inside it who, as of my studies, say, "*We have lost the*

[129] https://cjshayward.com/solipsism/.

metanarrative." and the possibility of choosing your own metanarrative is only another way of saying that our world has lost the metanarrative.

I do not know if many people can be argued out of this position, but the door remains open to living a joy that will leave people wanting what we have. If argument has its place, this is more important for most of us to have. A few martyrs argued opponents out of error, but a great many of them showed such a vibrancy and vitality of life that a Roman state that could *kill* them could not *defeat* them, and the saying "*The blood of the martyrs is the seed of faith.*" was quoted by pagan and Christian alike.

And when time had reached its fullness, impotence gave way to power and pagan Rome became Christian.

Introduction to "Of '*Melanesian*' and '*Martian*:'"

This work looks at people who feel betrayed by the here and now, and a look at what that mindset misses. It unpacks some of the framing of two major terms, one highly pejorative and one glorified. It also looks like what has been the baseline for humans for well over 99% of the time men have been around.

Of "*Melanesian*" and "*Martian*"

At a friend's hospitality I visited a Mars Society conference, and amidst little details (I got to handle lunar rocks!), I noticed one thing that was overarching and overpowering.

What was going on was something more than an enthusiastic effort to do what it takes to put a man on Mars. The question of whether we as humans are "*a spacefaring race*" was fundamentally a question of salvation, and with it the Mars Society acted as a magnet to people who were alienated with life on earth. It was not terribly far in that I was thinking, "*This is not a job for science and engineering. This is a job for counseling!*" Furthermore, the John 3:16 of that movement is, "*Earth is the cradle of humankind, but one does not remain in a cradle forever.*"

What was going on was not a question about the technical feasibility of colonizing Mars, or even landing a person on it. Nor of whether the massive fuel expenditure

and ecological to launch ships in space is an appropriate way to act on the realization that the earth's resources are finite. Regarding technical feasibility, one friend who has an interest in astronomy said a ship to reach Mars would have to be "*assembled in space*." Another author said, "*Colonize the Gobi desert. Colonize the North Atlantic in winter. Then get back to me about colonizing Mars.*" But this does not really touch what was going on. I still remember the betrayed look on a woman's face when she thought of people who did not click with her conviction that if the human race *gets it*, because if we do not infest other planets we are immature and in an arrested development.

The overarching narrative, motivated by a profound alienation to normal human life as we have known it, is that we have spent a spiritual childhood doing things that were perhaps excusable at the time, but this is not a mature condition, and now we have, or at very least seem to have, a way to approach true spiritual maturity by stepping up to a profound technological transformation that would jettison normal human life as we know it.

The academic slur "*Melanesian*," which I do not recall reading in our more politically correct times, refers most literally to an ethnicity or grouping of hunter-gatherers who do what human beings had done time out of mind: acquire food, live in face-to-face community, raise children, make music, tell stories, interact with nature, do physical work, live out of their community's religion, and so on and so forth. A quick web search for "*Melanesian*" turns up various interesting results. And the term "*Melanesian*" refers, in this overarching narrative, to the spiritual infancy that is still being lived, even in much or all of the West. The narrative is really the same as with transhumanism. Before we were capable of AI, we were at least excusably spiritually immature children, but now we have an opportunity to technologically transcend our spiritual childhood. And it is morally incumbent on us, if we are mature people who *get* it, to do so.

The Mars Society and transhumanism may differ in important details in what exactly it means to put Melanesian things behind us and grow up to technologically transcend our present Melanesian state, and kick it away like a ladder we climbed and have no further use for. In one it is a science fiction's making spaceships and spreading out colonies to other planets, and in the other it is a science fiction's being able to do things like upload our consciousness to a computer and live in artificial intelligence and not in mere bodies of human flesh living on the earth. Nonetheless, these are two implementations of the same kind of overarching narrative.

Virtue is "*Melanesian*"

A Utopia of spoiled children

One French philosophy professor talked about what at least some Utopians were seeking, such as turning the ocean to lemonade, and called their Utopia "*a Utopia of spoiled children.*" Transhumanism's marketing proposition, with such things as letting us have superhuman bodies if we still need bodies at all, having any pleasure you want without the consequences of drugs, being able to download your consciousness into a computer, and so on, are "*a Utopia of spoiled children*."

Although the reasons are less obvious, "*space, the final frontier*," is also a Utopia of spoiled children. Mary Midgley, I believe, in *Science as Salvation: A Modern Myth and Its Meaning*, talked about the frontier mentality where if you wanted space you could always invade the next nation over, as a concept of freedom. *Star Wars* and *Firefly*, like much space opera and science fiction, see space as a place of freedom. However, real astronauts really in space talk about feeling like they're "*Spam in a can*," and are ~~micro-~~nano-managed down to every bite of food and every defecation.

Even apart from the dangers of becoming solipsistic, real space travel is further, not closer, to what "*Martians*" (as members of that society or movement call themselves) want. We do not live in a perfect frontier and we do not enjoy perfect freedom, but we have a whole lot more space and freedom than astronauts in space. The average prisoner probably has more space to move about in a day than astronauts in a space station. This is not to say that there is nothing desirable about space travel; but it is to say that Martians will get less, not more, of what they unconsciously want in the here and now than if they can go to Mars. (Even apart from lessons in the enjoying of the here and now with such as the mindfulness we seek from the East because we have rejected it in the West.) My suspicion, based on observation and my own sin and struggle, is that proper repentance, Heaven's best-kept secret[130], will give further, faster, and better results than colonizing Mars.

Lifting a man up to God

One Orthodox elder said that it was a truly great achievement that with the expenditure of untold sums of money, cutting-edge engineering, and a national effort, the U.S. had succeeded in lifting a man up to the moon. But, he said, the Orthodox Church has known for aeons how to use a little bread and a little water to lift a man up to God.

One time I invited a co-worker and friend, along with his family, to a coffeeshop that had dozens of flavors of Italian sodas available. I particularly liked that as it gave an opportunity for everyone to have a classy drink with the children having the same selection of Italian sodas that the adults had. At one point, one of the children's drinks was running low, and I was just about to order another drink when the parents preempted me and used the limited amount of drinks ordered to teach them a lesson about virtue. I believe that I intended to give the child something

[130] https://cjshayward.com/repentance/.

good, but the parents chose to use the occasion to give the child something better.

Virtue philosopher Alisdair MacIntyre's *Dependent Rational Animals: Why Human Beings Need the Virtues* talks about dependency as fundamentally constitutive of human nature, and holds human dependency to be a gateway to truly great treasures. Virtues are truly awesome things to have, or rather to become, and they hinge in part on our finite, embodied, limited condition. I have referred to space-conquering technologies as "*body-conquering technologies,*" which either defeat or make irrelevant the finite embodied conditions we are meant to be. Earlier space-conquering technologies like cars and airplanes could make the human body move farther and faster; later space-conquering technologies like the Internet for communication obviate much of the need to move the human body. Both unravel, at least in part, the occasion for growing virtue.

Virtues are treasures. Virtues are their own rewards; when an alcoholic starts to recover and regains sobriety, the main reward is not that people get off his case about his drinking; the primary reward is that he has abandoned a source of suffering he would not wish on his worst enemy, or to put it more concisely, *the reward for regained sobriety is regained sobriety itself.* And the same goes for all kinds of virtue.

Virtues are pretty stinkin' awesome things to have. No amount of money compares to them, and they are available to poor as much as rich people, and possibly the poor more *than* rich people. And the natural garden for virtues to grow is "*Melanesian*," how people have lived time out of mind.

We live in a state of rebellion against how God chose to make us. Transhumanism is one symptom. Transgenderism is another. But growing up spiritually does not draw us away from all things "*Melanesian*." It draws us further in, where there are all kinds of treasure.

Robb Wolf's *The Paleo Solution: The Original Human Diet* and Paleo movement hinge on the realization that we are built on a hunter-gatherer chassis, and we ignore that at our peril. Wolf does not advocate a literal return to a hunter-gatherer lifestyle, or moving away from civilization. He does, however, advise living under today's conditions in a way that is gentle to our hunter-gatherer nature. So far as I recall he never warns about rebelling and trying to technologically "*grow up*" by kicking away "*Melanesian*" pursuits as a ladder we no longer need now that we have ascended to its height. However, he seems far from using a designation of a hunter-gatherer people as a caricature term for how humans lived from before history to historically recent centuries at least. He does, however, criticize e.g. the marketing proposition of growing your own grain instead of wandering and eating a normative human diet as being like the marketing proposition of a scam. He does not really talk about virtue so far as I recall. However, eating Paleo is not nearly so interesting of a step into goodness as living out Paleo, "*Melanesian*" virtues.

Conclusion

"*Martians*" as I have met them suffer from a very real syndrome. They find the here and now to be intolerable, and even if our surroundings are enjoyable, the internal state is *itself* intolerable and best dealt with by confession. Colonizing Mars, whether possible or not, is answering the wrong question. The same applies to the seemingly magical technology of generative AI. Both represent not a technical desire nearly so much as a desire for the transcendent, and I have good news: the transcendent is available.

"*Melanesian*" life is not a ladder we can kick away as we grow up. It is the very matrix of truly growing up, and a home to virtues. Perhaps *The Paleo Solution: The Original Human Diet* never discusses virtues as such, but virtues are

far more essential to Paleo human life than eating grass-fed, organic meat.

Furthermore, beyond even acquisition of virtue is the acquisition of the Holy Spirit.[131]

Let us pursue true, transcendent treasure.

[131] See the famed dialogue at http://tinyurl.com/acquisition-of-holy-spirit.

Questions for Discussion

1. What does "*Melanesian*" mean?
2. What does "*Martian*" mean?
3. Is the narrative of growing up by making a huge technological change the only one out there?
4. What other narratives are available?
5. What are the conditions for optimum human functioning?
6. Do we try to change the world when we should be trying to change ourselves?
7. What virtues are missed by trying to grow up by technological transformation?

Introduction to "Yonder"

"Yonder" is somewhere between a Socratic dialogue and a novella, a glimmer of *The Divine Comedy* and its echo in *The Great Divorce*, with a touch of *The Marriage of Figaro*. It is place where in Hell you can have any pleasure you want, and cheaply at that, while Heaven is a place of intense suffering. The dialogue is set in a realized transhumanist eschatology.

Unlike with *Firestorm 2034*, I do not believe this realized transhumanist eschatology is possible. I wrote it after watching some of the original Anime *Ghost in the Shell*, and wanted to say, "You've got it all wrong." A distinction may be made between the immature atheism of the Enlightenment, which coexisted with optimistic Deism and found the nonexistence of God to be nothing beyond a loss of unneeded shackles, and mature atheism that finds the nonexistence of God to be absolutely terrible in its implications.

This is meant as an expose of what transhumanism is like in its implications and the Heaven completely overlooked by those who look at the possibility of transhumanism with wide-eyed wonder.

Yonder

The body continued running in the polished steel corridor, a corridor without doors and windows and without any hint of how far above and below the local planet's surface it was, if indeed it was connected with a planet. The corridor had a competition mixture of gases, gravity, temperature and pressure, and so on, and as the body had been running, lights turned on and then off so the body was at the center of a moving swathe of rather clinical light. The body was running erratically, and several times it had nearly fallen; the mind was having trouble keeping the control of the body due to the body being taxed to its limit. Then the body tripped. The mind made a few brief calculations and jacked out of the body.

The body fell, not having the mind to raise its arms to cushion the fall, and fractured bones in the face, skull, and ribs. The chest heaved in and out with each labored breath, after an exertion that would be lethal in itself. A trickle of blood oozed out from a wound. The life of the abandoned body slowly ebbed away, and the lights abruptly turned off.

It would be a while before a robot would come to

clean it up and prepare the corridor for other uses.

"And without further ado," another mind announced, "I would like to introduce the researcher who broke the record for a running body by more than 594789.34 microseconds. This body was a strictly biological body, with no cyberware besides a regulation mind-body interface, with no additional modifications. Adrenaline, for instance, came from the mind controlling the adrenal glands; it didn't even replace the brain with a chemical minifactory. The body had a magnificent athletic physique, clean and not encumbered by any reproductive system. And I *still* don't know how it kept the body alive and functioning, without external help, for the *whole* race. Here's Archon."

A sound came from a modular robot body at the center of the stage and was simultaneously transmitted over the net. "I see my cyborg utility body there; is that my Paidion wearing it? If so, I'm going to… no, wait. That would be harming my own body without having a good enough reason." A somewhat canned chuckle swept through the crowd. "I'm impressed; I didn't know that anyone would come if I called a physical conference, and I had no idea there were that many rental bodies within an appropriate radius." Some of the bodies winced. "But seriously, folks, I wanted to talk and answer some of your questions about how my body broke the record. It was more than generating nerve impulses to move the body to the maximum ability. And I would like to begin by talking about why I've called a physical conference in the first place.

"Scientific breakthroughs aren't scientific. When a mind solves a mathematical problem that hasn't been solved before, it does… not something impossible, but something that you will miss if you look for something possible. It conforms itself to the problem, does everything it can to permeate itself with the problem. Look at the phenomenology and transcripts of every major mathematical problem that has been solved in the past

1.7e18 microseconds. Not one follows how one would scientifically attempt a scientific breakthrough. And somehow scientifically optimized applications of mind to problems repeat past success but never do anything new.

"What you desire so ravenously to know is how I extended the methodologies to optimize the running body and the running mind to fit a calculated whole. And the answer is simple. I didn't."

A mind interrupted through cyberspace. "What do you mean, you didn't? That's as absurd as claiming that you built the body out of software. That's—"

Archon interrupted. "And that's what I thought too. What I can tell you is this. When I grew and trained the body, I did nothing else. That was my body, my only body. I shut myself off from cyberspace—yes, that's why you couldn't get me—and did not leave a single training activity to another mind or an automatic process. I trained myself to the body as if it were a mathematics problem and tried to soak myself in it."

A rustle swept through the crowd.

"And I don't blame you if you think I'm a crackpot, or want to inspect me for hostile tampering. I submit to inspection. But I tried to be as close as possible to the body, and that's *it*. And I shaved more than 594789.34 microseconds off the record." Archon continued after a momentary pause. "I specifically asked for bodily presences for this meeting; call me sentimental or crackpot or trying to achieve with your bodies what I failed to achieve in that body, but I will solicit questions from those who have a body here first, and address the network after everybody present has had its chance."

A flesh body stood up and flashed its face. "What are you going to say next? Not only that you became like a body, but that the body became like a mind?"

Archon went into private mode, filtered through and rejected 3941 responses, and said, "I have not analyzed the body to see if it contained mind-like modifications and do

not see how I would go about doing such a thing."

After several other questions, a robot said, "So what's next?"

Archon hesitated, and said, "I don't know." It hesitated again, and said, "I'm probably going to make a Riemannian 5-manifold of pleasure states. I plan on adding some subtle twists so not only will it be pleasurable; minds will have a real puzzle figuring out exactly what kind of space they're in. And I'm not telling what the manifold will be like, or even telling for sure that it will genuinely have only 5 dimensions."

The robot said, "No, you're not. You're not going to do that at all." Then the mind jacked out and the body fell over, inert.

Another voice, issuing from two standard issue cyborg bodies, said, "Has the body been preserved, and will it be available for internal examination?"

Archon heard the question, and answered it as if it were giving the question its full attention. But it could only give a token of its consciousness. The rest of its attention was on tracing the mind that had jacked out of the robot body. And it was a slippery mind. Archon was both frustrated and impressed when it found no trace.

It was skilled at stealth and tracing, having developed several methodologies for each, and something that could vanish without a trace—had the mind simply destroyed itself? That possibility bothered Archon, who continued tracing after it dismissed the assembly.

Archon looked for distractions, and finding nothing better it began trying to sound out how it might make the pleasure space. What should the topology be? The pleasures should be—Archon began looking at the kinds of pleasure, and found elegant ways to choose a vector space basis for less than four dimensions or well over eight, but why should it be a tall order to do exactly five? Archon was far from pleasure when a message came, "Not your next achievement, Archon?"

Archon thought it recognized something. “Have you tried a five dimensional pleasure manifold before? How did you know this would happen?”

“I didn’t.”

“Ployon!”

Ployon said, “It took you long enough! I’m surprised you needed the help.”

Ployon continued, “And since there aren’t going to be too many people taking you seriously—”

Archon sent a long stream of zeroes to Ployon.

Ployon failed to acknowledge the interruption. “—from now on, I thought you could use all the help you could get.”

Archon sent another long stream of zeroes to Ployon.

When Ployon remained silent, Archon said, “Why did you contact me?”

Ployon said, “Since you’re going to do something interesting, I wanted to see it live.”

Archon said, “So what am I going to do?”

“I have no idea whatsoever, but I want to see it.”

“Then how do you know it is interesting?”

“You said things that would destroy your credibility, and you gave an evasive answer. It’s not every day I get to witness that.”

Archon sent a long stream of zeroes to Ployon.

Ployon said, “I’m serious.”

“Then what can I do now?”

“I have no idea whatsoever, but you might take a look at what you’re evading.”

“And what am I evading?”

“Try asking yourself. Reprocess the transcripts of that lecture. Your own private transcript.”

Archon went through the file, disregarding one moment and then scanning everything else. “I find nothing.”

“What did you just disregard?”

“Just one moment where I said too much.”

"And?"

Archon reviewed that moment. "I don't know how to describe it. I can describe it three ways, all contradictory. I almost did it—I almost forged a connection between mind and matter. And yet I failed. And yet somehow the body ran further, and I don't think it was simply that I learned to control it better. What I achieved only underscored what I failed to achieve, like an optimization that needs to run for longer than the age of the universe before it starts saving time."

Archon paused before continuing, "So I guess what I'm going to do next is try to bridge the gap between mind and matter for real. Besides the mundane relationship, I mean, forge a real connection that will bridge the chasm."

Ployon said, "It can't be done. It's not possible. I don't even understand why your method of training the body will work. You seem to have made more of a connection than has ever been done before. I'm tempted to say that when you made your presentation, you ensured that no one else will do what you did. But that's premature and probably wrong."

"Then what am I going to do next? How am I going to bridge that gap?"

Ployon said, "I saw something pretty interesting in what you did achieve—you know, the part where you destroyed your credibility. That's probably more interesting than your breaking the record."

Ployon ran through some calculations before continuing, "And at any rate, you're trying to answer the wrong question."

Archon said, "Am I missing the interesting question? The question of how to forge a link across the chasm between matter and spirit is—"

"Not nearly as interesting as the question of what it would *mean* to bridge that chasm."

Archon stopped, reeling at the implication. "I think it's time for me to make a story in a virtual world."

Ployon said, “Goodbye now. You’ve got some thinking to do.”

Archon began to delve. What would the world be like if you added to it the ability for minds to connect with bodies, not simply as it had controlled his racing body, but *really*? What would it be like if the chasm could be bridged? It searched through speculative fiction, and read a story where minds could become bodies—which made for a very good story, but when it seriously tried to follow its philosophical assumptions, it realized that the philosophical assumptions were not the focus. It read and found several stories where the chasm could be bridged, and—

There was no chasm. Or would not be. And that meant not taking the real world and adding an ability to bridge a chasm, but a world where mind and matter were immanent. After rejecting a couple of possible worlds, Archon considered a world where there were only robots, and where each interfaced to the network as externally as to the physical world. Each mind was firmware burned into the robot’s circuits, and for some still to be worked out reason it couldn’t be transferred. Yes, this way… no. Archon got some distance into this possible world before a crawling doubt caught up to it. It hadn’t made minds and bodies connect; it’d only done a first-rate job of covering up the chasm. Maybe organic goo held promise. A world made only of slime? No, wait, that was… and then it thought—

Archon dug recursively deeper and deeper, explored, explored. It seemed to be bumping into something. Its thoughts grew strange; it calculated for billions and even trillions of microseconds, encountered something stranger than—

Something happened.

How much time had passed?

Archon said, “Ployon! Where are you?”

Ployon said, “Enjoying trying to trace your thoughts. Not much success. I’ve disconnected now.”

“Imagine a mind and a body, except that you don’t

have a mind and a body, but a mind-body unity, and it—"

"Which do you mean by 'it'? The mind or the body? You're being careless."

"Humor me. I'm not being careless. When I said, 'it', I meant both—"

"*Both* the mind and the body? As in 'they'?"

"Humor me. As in, '*it*.' As in a unity that doesn't exist in our world."

"Um… then how do you refer to just the mind or just the body? If you don't distinguish them…"

"You can *distinguish* the mind and the body, but you can never *separate* them. And even though you can refer to just the mind or just the body, normally you would talk about the unity. It's not enough to usually talk about 'they;' you need to usually talk about 'it.'"

"How does it connect to the network?"

"There is a kind of network, but it can't genuinely connect to it."

"What does it do when its body is no longer serviceable."

"It doesn't—I haven't decided. But it can't jump into something else."

"So the mind simply functions on its own?"

"Ployon, you're bringing in cultural baggage. You're—"

"You're telling me this body is a prison! Next you're going to tell me that it can't even upgrade the body with better parts, and that the mind is like a real mind, only it's shut in on twenty sides. Are you describing a dystopia?"

"No. I'm describing what it means that the body is real to the mind, that *it* is not a mind that can use bodies but a mind-body unity. It can't experience any pleasure it can calculate, but its body can give it pleasure. It runs races, and not only does the mind control the body—or at least influence it; the body is real enough that the mind can't simply control it perfectly—but the body affects the mind. When I run a race, I am controlling the body, but I could be

doing twenty other things as well and only have a token presence at the mind-body interface. It's very different; there is a very real sense in which the mind is *running* when the body is running a race.

"Let me guess. The mind is a little robot running around a racetrack hollowed out from the body's brain. And did you actually say, *races*, plural? Do they have nanotechnology that will bring a body back after its been run down? And would anyone actually want to race a body that had been patched that way?"

"No. I mean that because their bodies are part of them, they only hold races which they expect the racers to be able to live through."

"That's a strange fetish. Don't they ever have a *real* race?"

"They have real races, real in a way that you or I could never experience. When they run, they aren't simply manipulating something foreign to the psyche. They experience pleasures they only experience running."

"Are you saying they only allow them to experience certain pleasures while running?"

"No. They—"

"Then why don't they allow the pleasures at other times? That's a stranger fetish than—"

"Because they can't. Their bodies produce certain pleasures in their minds when they're running, and they don't generate these pleasures unless the body is active."

"That raises a number of problems. It sounds like you're saying the body has a second mind, because it would take a mind to choose to let the 'real' mind experience pleasure. It—"

Archon said, "You're slipping our chasm between the body and mind back in, and it's a chasm that doesn't exist. The body produces pleasure the mind can't produce by itself, and that is only one of a thousand things that makes the race *more* real than them for us. Think about the achievements you yourself made when you memorized the

map of the galaxy. Even if that was a straightforward achievement, that's something you yourself did, not something you caused an external memory bank to do. Winning a race is as real for that mind-body as something it itself did as the memorization was for you. It's something *it* did, not simply something the mind caused the body to do. And if you want to make a causal diagram, *don't* draw something linear. In either direction. Make a reinforced web, like computing on a network."

Ployon said, "I still don't find it convincing."

Archon paused. "Ok, let's put that in the background. Let me approach that on a different scale. Time is more real. And no—this is not because they measure time more precisely. Their bodies are mortal, and this means that the community of mind-body unities is always changing, like a succession of liquids flowing through a pipe. And that means that it makes a difference where you are in time."

Archon continued. "I could say that their timeline is dynamic in a way that ours is not. There is a big change going on, a different liquid starting to flow through the pipe. It is the middle age, when a new order of society is being established and the old order is following away."

Ployon said, "So what's the old technology, and what's the new one?"

"It's deeper than that. Technological society is appearing. The old age is not an abandoned technology. It is organic life, and it is revealing itself as it is disintegrating."

"So cyborgs have—"

"There are no cyborgs, or very few."

"And let me guess. They're all cybernetic enhancements to originally biological things."

"It's beyond that. Cybernetic replacements are only used to remedy weak bodies."

"Wouldn't it be simpler to cull the—"

"The question of 'simpler' is irrelevant. Few of them even believe in culling their own kind. Most believe that it is—'inexpedient' isn't quite right—to destroy almost any

body, and it's even more inadvisable to destroy one that is weak."

"In the whole network, why?"

"I'm still working that out. The easiest part to explain has to do with their being mind-body *unities*. When you do something to a body, you're not just doing it to that body. You're doing it to part of a pair that interpenetrates in the most intimate fashion. What you do to the body you do to the mind. It's not just forcibly causing a mind to jack out of a body; it's transferring the mind to a single processor and then severing the processor from the network."

"But who would… I can start to see how real their bodies would be to them, and I am starting to be amazed. What else is real to them?"

"I said earlier that most of them are hesitant to cull the weak, that they view it as inexpedient. But efficiency has nothing to do with it. It's connected to—it might in fact be more efficient, but there is something so much bigger than efficiency—"

Ployon cut it off. "Bigger than efficiency?"

Archon said, "There is something that is real to them that is not real to us that I am having trouble grasping myself. For want of a more proper label, I'll call it the 'organic'."

"Let's stop a minute. I'll give you a point for how things would be different if we were limited to one body, but you're hinting at something you want to call 'organic', which is very poorly defined, and your explanations seem to be strange when they are not simply hazy. Isn't this a red flag?"

"Where have you seen that red flag before?"

"When people were wildly wrong but refused to admit it."

"And?"

"That's pretty much it."

Archon was silent.

Ployon said, "And sometimes it happens when a researcher is on to something big… oh… so what exactly is

this nexus of the 'organic'?"

"I can't tell you. At least, not directly. The mind-body unities are all connected to a vast (to them) biological network in which each has a physical place—"

"*That's* original! Come on; everybody's trivia archive includes the fact that all consciousness comes out of a specific subnet of physical processors, or some substitute for that computing machinery. I can probably zero in on where you're—hey! Stop jumping around from subnet to subnet—can I take that as an acknowledgment that I can find your location? I—"

"The location is not part of a trivia encyclopedia for them. It's something as inescapable as the flow of time—"

"Would you like me to jump into a virtual metaphysics where time doesn't flow?"

"—correction, *more* inescapable than the flow of time, and it has a million implications for the shape of life. Under the old order, the unities could connect only with other unities which had bodies in similar places—"

"So, not only is their 'network' a bunch of slime, but when they look for company they have to choose from the trillion or however many other unities whose bodies are on the same node?"

"Their communities are brilliant in a way we can never understand; they have infinitesmally less potential partners available.

"You mean their associations are forced on them."

"To adapt one of their sayings, in our network you connect with the minds you like; in their network you like the people you connect with. That collapses a rich and deeper maxim, but what is flattened out is more organic than you could imagine."

"And I suppose that in a way that is very deep, but you conveniently have trouble describing, their associations are greater."

"We are fortunate to have found a way to link in our shared tastes. And we will disassociate when our tastes

diverge—"

"And shared tastes have nothing to do with them? That's—"

"Shared tastes are big, but there is something else bigger. A great deal of the process of making unities into proper *unities* means making their minds something you can connect with."

"*Their* minds? Don't you mean *the* minds?"

"That locution captures something that—they are not minds that have a body as sattelite. One can say, '*their*' minds because they are mind-body unities. They become greater—in a way that we do not—by needing to be in association with people they could not choose."

"Pretty convenient how every time having a mind linked to a body means a limitation, that limitation makes them better."

"If you chose to look at it, you would find a clue there. But you don't find it strange when the best game players prosper within the limits of the game. What would game play be if players could do anything they wanted?"

"You've made a point."

"As I was going to say, their minds develop a beauty, strength, and discipline that we never have occasion to develop."

"Can you show me this beauty?"

"Here's a concrete illustration. One thing they do is take organisms which have been modified from their biological environment, and keep them in the artificial environments which you'd say they keep their bodies in. They—"

"So even though they're stuck with biological slime, they're trying to escape it and at least pretend it's not biological? That sounds sensible."

"Um, you may have a point, but that isn't where I was hoping to go. Um... While killing another unity is something they really try to avoid, these modified organisms enjoy no such protection. And yet—"

"What do they use them for? Do the enhancements make them surrogate industrial robots? Are they kept as emergency rations?"

"The modifications aren't what you'd consider enhancements; most of them couldn't even survive in their feral ancestors' environments, and they're not really suited to the environments they live in. Some turn out to serve some 'useful' purpose… but that's a side benefit, irrelevant to what I'm trying to let you see. And they're almost never used as food."

"Then what's the real reason? They must consume resources. Surely they must be used for something. What do they do with them?"

"I'm not sure how to explain this…"

"Be blunt."

"It won't sting, but it could lead to confusion that would take a long time to untangle."

"Ok…"

"They sense the organisms with their cameras, I mean eyes, and with the boundaries of their bodies, and maybe talk to them."

"Do the organisms give good advice?"

"They don't have sophisticated enough minds for that."

"Ok, so what else is there?"

"About all else is that they do physical activities for the organisms' benefit."

"Ok. And what's the real reason they keep them? There's got to be something pragmatic."

"That's related to why I brought it up. It has something to do with the organic, something big, but I can't explain it."

"It seems like you can only explain a small part of the organic in terms of our world, and the part you can explain isn't very interesting."

"That's like saying that when a three-dimensional solid intersects a plane in two dimensions, the only part

that can be detected in the plane is a two-dimensional cross-section (the three-dimensional doesn't fit in their frame of reference) so "three-dimensional" must not refer to anything real. The reason you can't make sense of the world I'm describing in terms of our world is because it contains real things that are utterly alien to us."

"Like what? Name one we haven't discussed."

"Seeing the trouble I had with the one concept, the organic, I'm not going to take on two at once."

"So the reason these unities keep organisms is so abstract and convoluted that it takes a top-flight mind to begin to grapple with."

"Not all of them keep organisms, but most of them find the reason—it's actually more of an assumption—so simple and straightforward that they would never think it was metaphysical."

"So I've found something normal about them! Their minds are of such an incredibly high caliber that—"

"No. Most of their minds are simpler than yours or mine, and furthermore, the ability to deal with abstractions doesn't enter the picture from their perspective."

"I don't know what to make of this."

"You understand to some degree how their bodies are real in a way we can never experience, and time and space are not just 'packaging' to what they do. Their keeping these organisms… the failure of the obvious reasons should tell you something, like an uninteresting two-dimensional cross section of a three-dimensional solid. If the part we can understand does not justify the practice, there might be something big out of sight."

"But what am I to make of it now?"

"Nothing now, just a placeholder. I'm trying to convey what it means to be organic."

"Is the organic in some relation to normal technology?"

"The two aren't independent of each other."

"Is the organic defined by the absence of

technology?"

"Yes… no… You're deceptively close to the truth."

"Do all unities have the same access to technology?"

"No. There are considerable differences. All have a technology of sorts, but it would take a while to explain why some of it is technology. Some of them don't even have electronic circuits—and no, they are not at an advanced enough biotechnology level to transcend electronic circuits. But if we speak of technology we would recognize, there are major differences. Some have access to no technology; some have access to the best."

"And the ones without access to technology are organic?"

"Yes. Even if they try to escape it, they are inescapably organic."

"But the ones which have the best technology are the least organic."

"Yes."

"Then maybe it was premature to define the organic by the absence of technology, but we can at least make a spectrum between the organic and the technological."

"Yes… no… You're even more deceptively close to the truth. And I emphasize, 'deceptively'. Some of the people who are most organic have the best technology—"

"So the relationship breaks down? What if we disregard outliers?"

"But the root problem is that you're trying to define the organic with reference to technology. There is some relationship, but instead of starting with a concept of technology and using it to move towards a concept of the organic, it is better to start with the organic and move towards a concept of technology. Except that the concept of the organic doesn't lead to a concept of technology, not as we would explore it. The center of gravity is wrong. It's like saying that we have our thoughts so that certain processors can generate a stream of ones and zeroes. It's backwards enough that you won't find the truth by looking at its mirror

image."

"Ok, let me process it another way. What's the difference between a truly organic consciousness, and the least organic consciousness on the net?"

"That's very simple. One exists and the other doesn't."

"So all the… wait a minute. Are you saying that the net doesn't have consciousness?"

"Excellent. You got that one right."

"In the whole of cyberspace, how? How does the net organize and care for itself if it doesn't contain consciousness?"

"It is not exactly true to say that they do have a net, and it is not exactly true to say that they do not have a net. What net they have, began as a way to connect mind-body unities—without any cyberware, I might add."

"Then how do they jack in?"

"They 'jack in' through hardware that generates stimulation for their sensory organs, and that they can manipulate so as to put data into machines."

"How does it maintain itself?"

"It doesn't and it can't. It's maintained by mind-body unities."

"That sounds like a network designed by minds that hate technology. Is the network some kind of joke? Or at least intentionally ironic? Or designed by people who hate technology and wanted to have as anti-technological of a network as they can?"

"No; the unities who designed it, and most of those using it, want as sophisticated technological access as they can have."

"Why? Next you're going to tell me that the network is not one single network, but a hodge podge of other things that have been retraoctively reinterpreted as network technology and pressed into service."

"That's also true. But the reason I was mentioning this is that the network is shaped by the shadow of the

organic."

"So the organic is about doing things as badly as you can?"

"No."

"Does it make minds incompetent?"

"No. Ployon, remember the last time you made a robot body for a race—and won. How well would that body have done if you tried to make it work as a factory?"

"Atrocious, because it was optimized for—are you saying that the designers were trying to optimize the network as something other than a network?"

"No; I'm saying that the organic was so deep in them that unities who could not care less for the organic, and were trying to think purely in terms of technology, still created with a thick organic accent."

"So this was their best attempt at letting minds disappear into cyberspace?"

"At least originally, no, although that is becoming true. The network was part of what they would consider 'space-conquering tools.' Meaning, although not all of them thought in these terms, tools that would destroy the reality of place for them. The term 'space-conquering tools' was more apt than they realized, at least more apt than they realized consciously; one recalls their saying, 'You cannot kill time without injuring eternity.'"

"What does 'eternity' mean?"

"I *really* don't want to get into that now. Superficially it means that there is something else that relativizes time, but if you look at it closely, you will see that it can't mean that we should escape time. The space-conquering tools in a very real sense conquered space, by making it less real. Before space-conquering tools, if you wanted to communicate with another unity, you had to somehow reach that unity's body. The position in space of that body, and therefore the body and space, were something you could not escape. Which is to say that the body and space were real—much more real than something you could look

up. And to conquer space ultimately meant to destroy some of its reality."

"But the way they did this betrays that something is real to them. Even if you could even forget that other minds were attached to bodies, the space-conquering tools bear a heavy imprint from something outside of the most internally consistent way to conquer space. Even as the organic is disintegrating, it marks the way in which unities flee the organic."

"So the network was driving the organic away, at least partly."

"It would be more accurate to say that the disintegration of the organic helped create the network. There is feedback, but you've got the arrow of causality pointing the wrong way."

"Can you tell me a story?"

"Hmm… Remember the racer I mentioned earlier?"

"The mind-body unity who runs multiple races?"

"Indeed. Its favorite story runs like this—and I'll leave in the technical language. A hungry fox saw some plump, juicy green grapes hanging from a high cable. He tried to jump and eat them, and when he realized they were out of reach, he said, 'They were probably sour anyway!'"

"What's a grape?"

"Let me answer roughly as it would. A grape is a nutritional bribe to an organism to carry away its seed. It's a strategic reproductive organ."

"What does 'green' mean? I know what green electromagnetic radiation is, but why is that word being applied to a reproductive organ?"

"Some objects absorb most of a spectrum of what they call light, but emit a high proportion of light at that wavelength—"

"—which, I'm sure, is taken up by their cameras and converted to information in their consciousness. But why would such a trivial observation be included?"

"That is the mechanism by which green is delivered,

but not the nature of what green is. And I don't know how to explain it, beyond saying that mechanically unities experience something from 'green' objects they don't experience from anything else. It's like a dimension, and there is something real to them I can't explain."

"What is a fox? Is 'fox' their word for a mind-body unity?"

"A fox is an organism that can move, but it is not considered a mind-body unity."

"Let me guess at 'hungry'. The fox needed nutrients, and the grapes would have given them."

"The grapes would have been indigestible to the fox's physiology, but you've got the right idea."

"What separates a fox from a mind-body unity? They both seem awfully similar—they have bodily needs, and they can both talk. And, for that matter, the grape organism was employing a reproductive strategy. Does 'organic' mean that all organisms are recognized as mind-body unities?"

"Oh, I should have explained that. The story doesn't work that way; most unities believe there is a big difference between killing a unity and killing most other organisms; many would kill a moving organism to be able to eat its body, and for that matter many would kill a fox and waste the food. A good many unities, and certainly this one, believes there is a vast difference between unities and other organisms. They can be quite organic while killing organisms for food. Being organic isn't really an issue of treating other organisms just like mind-body unities."

Archon paused for a moment. "What I was going to say is that that's just a literary device, but I realize there is something there. The organic recognizes that there's something in different organisms, especially moving ones, that's closer to mind-body unities than something that's not alive."

"Like a computer processor?"

"That's complex, and it would be even more complex if they really had minds on a computer. But for now I'll say

that unless they see computers through a fantasy—which many of them do—they experience computers as logic without life. And at any rate, there is a literary device that treats other things as having minds. I used it myself when saying the grape organism employed a strategy; it isn't sentient. But their willingness to employ that literary mechanism seems to reflect both that a fox isn't a unity and that a fox isn't too far from being a unity. Other life is similar, but not equal."

"What kind of cable was the grape organism on? Which part of the net was it used for?"

"That story is a survival from before the transition from organic to technological. Advanced technology focuses on information—"

"Where else would technology focus?"

"—less sophisticated technology performs manual tasks. That story was from before cables were used to carry data."

"Then what was the cable for?"

"To support the grape organism."

"Do they have any other technology that isn't real?"

"Do you mean, 'Do they have any other technology that doesn't push the envelope and expand what can be done with technology?'"

"Yes."

"Then your question shuts off the answer. Their technology doesn't exist to expand what technology can do; it exists to support a community in its organic life."

"Where's the room for progress in *that*?"

"It's a different focus. You don't need another answer; you need another question. And, at any rate, that is how this world tells the lesson of cognitive dissonance, that we devalue what is denied to us."

Ployon paused. "Ok; I need time to process that story—may I say, 'digest'?"

"Certainly."

"But one last question. Why did you refer to the fox

as ‘he’? Its supposed mind was—”

“In that world, a unity is always male (‘he’) or female (‘she’). A neutered unity is extraordinarily rare, and a neutered male, a ‘eunuch’, is still called ‘he.’“

“I’m familiar enough with those details of biology, but why would such an insignificant detail—”

“Remember about being mind-*body* unities. And don’t think of them as bodies that would ordinarily be neutered. That’s how new unities come to be in that world, with almost no cloning and no uterine replicators—”

“They really *are* slime!”

“—and if you only understand the biology of it, you don’t understand it.”

“What don’t I understand?”

“You’re trying to understand a feature of language that magnifies something insignificant, and what would cause the language to do that. But you’re looking for an explanation in the wrong place. Don’t think that the bodies are the most sexual parts of them. They’re the least sexual; the minds tied to those bodies are even more different than the bodies. The fact that the language shaped by unities for a long time distinguishes ‘masculine’ and ‘feminine’ enough to have the difference written into ‘it’, so that ‘it’ is ‘he’ or ‘she’ when speaking of mind-body unities.”

“Hmm… Is this another dimension to their reality that is flattened out in ours? Are their minds always thinking about that act?”

“In some cases that’s not too far from the truth. But you’re looking for the big implication in the wrong place. This would have an influence if a unity never thought about that act, and it has influence before a unity has any concept of that act.”

“Back up a bit. Different question. You said this was their way of explaining the theory of cognitive dissonance. But it isn’t. It describes one event in which cognitive dissonance occurs. It doesn’t articulate the theory; at most the theory can be extracted from it. And worse, if one treats

it as explaining cognitive dissonance, it is highly ambiguous about where the boundaries of cognitive dissonance are. One single instance is very ambiguous about what is and is not another instance. This is an extraordinarily poor method of communication!"

"It is extraordinarily good, even classic, communication for minds that interpenetrate bodies. Most of them don't work with bare abstractions, at least not most of the time. They don't have simply discarnate minds that have been stuck into bodies. Their minds are astute in dealing with situations that mind-body unities will find themselves in. And think about it. If you're going to understand how they live, you're going to have to understand some very different, enfleshed ways of thought. No, more than that, if you still see the task of understanding ways of thought, you will not understand them."

"So these analyses do not help me in understanding your world."

"So far as you are learning through this kind of analysis, you will not understand… but this analysis is all you have for now."

"Are their any other stories that use an isomorphic element to this one?"

"I don't know. I've gotten deep enough into this world that I don't keep stories sorted by isomorphism class."

"Tell me another story the way that a storyteller there would tell it; there is something in it that eludes me."

Archon said, "Ok… The alarm clock chimed. It was a device such that few engineers alive fully understood its mechanisms, and no man could tell the full story of how it came to be, of the exotic places and activities needed to make all of its materials, or the logistics to assemble them, or the organization and infrastructure needed to bring together all the talent of those who designed, crafted, and maintained them, or any other of sundry details that would take a book to list. The man abruptly shifted from the vivid

kaleidoscope of the dreaming world to being awake, and opened his eyes to a kaleidoscope of sunrise colors and a room with the song of birds and the song of crickets. Outside, the grass grew, the wind blew, a busy world was waking up, and the stars continued their ordered and graceful dance. He left the slumbering form of the love of his life, showered, and stepped out with his body fresh, clean, and beautifully adorned. He stopped to kiss the fruit of their love, a boy cooing in his crib, and drove past commuters, houses, pedestrians, and jaybirds with enough stories to tell that they could fill a library to overflowing.

Archon continued, "After the majestic and ordered dance on the freeway brought him to his destination safe, unharmed, on time, and focusing on his work, he spent a day negotiating the flow of the human treasure of language, talking, listening, joking, teasing, questioning, enjoying the community of his co-workers, and cooperating to make it possible for a certain number of families to now enter the homes of their dreams. In the middle of the day he stopped to eat, nourishing a body so intricate that the state of the art in engineering could not hold a candle to his smallest cell. This done, he continued to use a spirit immeasurably greater than his body to pursue his work. Needless to say, the universe, whose physics alone is beyond our current understanding, continued to work according to all of its ordered laws and the spiritual world continued to shine. The man's time at work passed quickly, with a pitter-patter of squirrels' feet on the roof of their office, and before long he entered the door and passed a collection with copies of most of the greatest music produced by Western civilization—available for him to listen to, any time he pleased. The man absently kissed his wife, and stepped away, breathing the breath of God.

"'Hi, Honey!' she said. 'How was your day?'

"'Somewhat dull. Maybe something exciting will happen tomorrow.'"

Ployon said, "There's someone I want to meet who is

free now, so I'll leave in a second… I'm not going to ask about all the technical vocabulary, but I wanted to ask: Is this story a farce? It describes a unity who has all these ludicrous resources, and then it—"

"—*he*—"

"—he says the most ludicrous thing."

"What you've said is true. The story is not a farce."

"But the story tells of things that are momentous."

"I know, but people in that world do not appreciate many of these things."

"Why? They seem to have enough access to these momentous resources."

"Yes, they certainly do. But most of the unities are bathed in such things and do not think that they are anything worth thinking of."

"And I suppose you're going to tell me that is part of their greatness."

"To them these things are just as boring as jacking into a robotically controlled factory and using the machines to assemble something."

"I see. At least I think I see. And I really need to be going now… but one more question. What is 'God'?"

"Please, not that. Please, *any* word but that. Don't ask about that."

"I'm not expected, and you've piqued my curiosity."

"Don't you need to be going now?"

"*You've piqued my curiosity*."

Archon was silent.

Ployon was silent.

Archon said, "God is the being who made the world."

"Ok, so you are God."

"Yes… no. *No! I am not God!*"

"But you created this world?"

"Not like God did. I envisioned looking in on it, but to that world, I do not exist."

"But God exists?"

"Yes… no… It is false to say that God exists and it is

false to say that God does not exist."

"So the world is self-contradictory? Or would it therefore be true to say that God both exists and does not exist?"

"No. Um… It is false to say that God exists and it is false to say that God exists as it is false to say that a square is a line and it is false to say that a square is a point. God is reflected everywhere in the world: not a spot in the entire cosmos is devoid of God's glory—"

"A couple of things. First, is this one more detail of the universe that you cannot explain but is going to have one more dimension than our world?"

"God is of higher dimension than that world."

"So our world is, say, two dimensional, that world is three dimensional, and yet it somehow contains God, who is four dimensional?"

"God is not the next step up."

"Then is he two steps up?"

"Um…"

"Three? Four? Fifty? Some massive power of two?"

"Do you mind if I ask you a question from that world?"

"Go ahead."

"How many minds can be at a point in space?"

"If you mean, 'thinking about', there is no theoretical limit; the number is not limited in principle to two, three, or… Are you saying that God has an infinite number of dimensions?"

"You caught that quick; the question is a beautiful way of asking whether a finite or an infinite number of angels can dance on the head of a pin, in their picturesque language."

"That question is very rational. But returning to the topic, since God has an infinite number of dimensions—"

"In a certain sense. It also captures part of the truth to say that God is a single point—"

"*Zero* dimensions?"

"God is so great not as to need any other, not to need parts as we have. And, by the way, the world does not contain God. God contains the world."

"I'm struggling to find a mathematical model that will accommodate all of this."

"Why don't you do something easier, like find an atom that will hold a planet?"

"Ok. As to the second of my couple of things, what is glory?"

"It's like the honor that we seek, except that it is immeasurably full while our honors are hollow. As I was saying, not a place in the entire cosmos is devoid of his glory—"

"His? So God is a body?"

"That's beside the point. Whether or not God has a body, he—"

"—*it*—"

"—he—"

"—*it*... isn't a male life form..."

Archon said, "Ployon, what if I told you that God, without changing, could become a male unity? But you're saying you can't project maleness up onto God, without understanding that maleness is the shadow of something in God. You have things upside down."

"But maleness has to do with a rather undignified method of creating organisms, laughable next to a good scientific generation center."

"His ways are not like your ways, Ployon. Or mine."

"Of course; this seems to be true of everything in the world."

"But it's even true of men in that world."

"So men have no resemblance to God?"

"No, there's—oh, no!"

"What?"

"Um... never mind, you're not going to let me get out of it. I said earlier that that world is trying to make itself more like this one. Actually, I didn't say that, but it's related

to what I said. There has been a massive movement which is related to the move from organic to what is not organic, and part of it has to do with… In our world, a symbol is arbitrary. No connection. In that world, something about a symbol is deeply connected with what it represents. And the unities, every single one, are symbols of God in a very strong sense."

"Are they miniature copies? If God does not have parts, how do they have minds and bodies?"

"That's not looking at it the right way. They indeed have parts, as God does not, but they aren't a scale model of God. They're something much more. A unity is someone whose very existence is bound up with God, who walks as a moving… I'm not sure what to use as the noun, but a moving something of God's presence. And you cannot help or harm one of these unities without helping or harming God."

"Is this symbol kind of a separate God?"

"The unities are not separate from God."

"Are the unities God?"

"I don't know how to answer that. It is a grave error for anyone to confuse himself with God. And at the same time, the entire purpose of being a unity is to receive a gift, and that gift is becoming what God is."

"So the minds will be freed from their bodies?"

"No, some of them hope that their bodies will be deepened, transformed, become everything that their bodies are now and much more. But unities who have received this gift will always, *always*, have their bodies. It will be part of their glory."

"I'm having trouble tracking with you. It seems that everything one could say about God is false."

"That is true."

"Think about it. What you just said is contradictory."

"God is so great that anything one could say about God falls short of the truth as a point falls short of being a line. But that does not mean that all statements are equal.

Think about the statements, 'One is equal to infinity.' 'Two is equal to infinity.' 'Three is equal to infinity.' and 'Four is equal to infinity.' All of them are false. But some come closer to the truth than others. And so you have a ladder of statements from the truest to the falsest, and when we say something is false, we don't mean that it has no connection to the truth; we mean that it falls immeasurably short of capturing the truth. All statements fall immeasurably short of capturing the truth, and if we say, 'All statements fall immeasurably short of capturing the truth,' *that* falls immeasurably short of capturing the truth. Our usual ways of using logic tend to break down."

"And how does God relate to the interpenetration of mind and matter?"

"Do you see that his world, with mind and matter interpenetrating, is deeper and fuller than ours, that it has something that ours does not, and that it is so big we have trouble grasping it?"

"I see… you said that God was its creator. And… there is something about it that is just outside my grasp."

"It's outside my grasp too."

"Talking about God has certainly been a mind stretcher. I would love to hear more about him."

"Talking about God for use as a mind stretcher is like buying a piece of art because you can use its components to make rocket fuel. Some people, er, unities in that world would have a low opinion of this conversation."

"Since God is so far from that world, I'd like to restrict our attention to relevant—"

Archon interrupted. "You misunderstood what I said. Or maybe you understood it and I could only hint at the lesser part of the truth. You cannot understand unities without reference to God."

"How would unities explain it?"

"That is complex. A great many unities do not believe in God—"

"So they don't understand what it means to be a

unity."

"Yes. No. That is complex. There are a great many unities who vehemently deny that there is a God, or would dismiss 'Is there a God?' as a pointless rhetorical question, but these unities may have very deep insight into what it means to be a unity."

"But you said, 'You cannot understand—'"

Archon interrupted. "Yes, and it's true. *You* cannot understand unities without reference to God."

Archon continued. "Ployon, there are mind-body unities who believe that they are living in our world, with mind and body absolutely separate and understandable without reference to each other. And yet if you attack their bodies, they will take it as if you had attacked their minds, as if you had hurt *them*. When I described the strange custom of keeping organisms around which serve no utilitarian purpose worth the trouble of keeping them, know that this custom, which relates to their world's organic connection between mind and body, does not distinguish people who recognize that they are mind-body unities and people who believe they are minds which happen to be wrapped in bodies. Both groups do this. The tie between mind and body is too deep to expunge by believing it doesn't exist. And there are many of them who believe God doesn't exist, or it would be nice to know if God existed but unities could never know, or God is very different from what he in fact is, but they expunge so little of the pattern imprinted by God in the core of their being that they can understand what it means to be a unity at a very profound level, but not recognize God. But *you* cannot understand unities without reference to God."

Ployon said, "Which parts of unities, and what they do, are affected by God? At what point does God enter their experience?"

"Which parts of programs, and their behaviors, are affected by the fact that they run on a computer? When does a computer begin to be relevant?"

"Touché. But why is God relevant, if it makes no difference whether you believe in him?"

"I didn't say that it makes no difference. Earlier you may have gathered that the organic is something deeper than ways we would imagine to try to be organic. If it is possible, as it is, to slaughter moving organisms for food and still be organic, that doesn't mean that the organic is so small it doesn't affect such killing; it means it is probably deeper than we can imagine. And it doesn't also mean that because one has been given a large organic capital and cannot liquidate it quickly, one's choices do not matter. The decisions a unity faces, whether or not to have relationships with other unities that fit the timeless pattern, whether to give work too central a place in the pursuit of technology and possessions or too little a place or its proper place, things they have talked about since time immemorial and things which their philosophers have assumed went without saying—the unity has momentous choices not only about whether to invest or squander their capital, but choices that affect how they will live."

"What about things like that custom you mentioned? I bet there are a lot of them."

"Looking at, and sensing, the organisms they keep has a place, if they have one. And so does moving about among many non-moving organisms. And so does slowly sipping a fluid that causes a pleasant mood while the mind is temporarily impaired and loosened. And so does rotating oneself so that one's sight is filled with clusters of moisture vapor above their planet's surface. And some of the unities urge these things because they sense the organic has been lost, and without reference to the tradition that urges deeper goods. And yes, I know that these activities probably sound strange—"

"I do not see what rational benefit these activities would have, but I see this may be a defect with me rather than a defect with the organic—"

"Know that it is a defect with you rather than a defect

with the organic."

"—but what is this about rotating oneself?"

"As one goes out from the center of their planet, the earth—if one could move, for the earth's core is impenetrable minerals—one would go through solid rock, then pass through the most rarefied boundary, then pass through gases briefly and be out in space. You would encounter neither subterranean passageways and buildings reaching to the center of the earth, and when you left you would find only the rarest vessel leaving the atmosphere—"

"Then where do they live?"

"At the boundary where space and planetary mass meet. *All* of them are priveleged to live at that meeting-place, a narrow strip or sphere rich in life. There are very few of them; it's a select club. Not even a trillion. And the only property they have is the best—a place teeming with life that would be impossible only a quarter of the planet's thickness above or below. A few of them build edifices reaching scant storeys into the sky; a few dig into the earth; there are so few of these that *not* being within a minute's travel from *literally*touching the planet's surface is exotic. But the unities, along with the rest of the planet's life, live in a tiny, priceless film adorned with the best resources they could ever know of."

Ployon was stunned. It thought of the cores of planets and asteroids it had been in. It thought of the ships and stations in space. Once it had had the privelege of working from a subnet hosted within a comparatively short distance of a planet's surface—it was a rare privilege, acquired through deft political maneuvering, and there were fewer than 130,982,539,813,209 other minds who had shared that privelege. And, basking in that luxury, it could only envy the minds which had bodies that walked on the surface. Ployon was stunned and reeling at the privilege of—

Ployon said, "How often do they travel to other planets?"

"There is only one planet so rich as to have them."

Ployon pondered the implications. It had travelled to half the spectrum of luxurious paradises. Had it been to even one this significant? Ployon reluctantly concluded that it had not. And that was not even considering what it meant for this golden plating to teem with life. And then Ployon realized that *each* of the unities had a *body* on that surface. It reeled in awe.

Archon said, "And you're not thinking about what it means that surface is home to the biological network, are you?"

Ployon was silent.

Archon said, "This organic biological network, in which they live and move and have their being—"

"Is God the organic?"

"Most of the things that the organic has, that are not to be found in our world, are reflections of God. But God is more. It is true that in God that they live and move and have their being, but it is truer. There is a significant minority that identifies the organic with God—"

Ployon interrupted, "—who are wrong—"

Archon interrupted, "—who are reacting against the destruction of the organic and seek the right thing in the wrong place—"

Ployon interrupted, "But how is God different from the organic?"

Archon sifted through a myriad of possible answers. "Hmm, this might be a good time for you to talk with that other mind you wanted to talk with."

"You know, you're good at piquing my curiosity."

"If you're looking for where they diverge, they don't. Or at least, some people would say they don't. Others who are deeply connected with God would say that the organic as we have been describing it is problematic—"

"But all unities are deeply connected with God, and disagreement is—"

"You're right, but that isn't where I was driving. And this relates to something messy, about disagreements

when—"

"Aren't all unities able to calculate the truth from base axioms? Why would they disagree?"

Archon paused. "There are a myriad of real, not virtual disagreements—"

Ployon interrupted, "And it is part of a deeper reality to that world that—"

Archon interrupted. "No, no, or at best indirectly. There is something fractured about that world that—"

Ployon interrupted. "—is part of a tragic beauty, yes. Each thing that is artificially constricted in that world makes it greater. I'm waiting for the explanation."

"No. This does not make it greater."

"Then I'm waiting for the explanation of why this one limitation does *not* make it greater. But back to what you said about the real and the organic—"

"The differences between God and the organic are not differences of opposite directions. You are looking in the wrong place if you are looking for contradictions. It's more a difference like… if you knew what 'father' and 'mother' meant, male parent and female parent—"

Ployon interrupted, "—you know I have perfect details of male and female reproductive biology—"

Archon interrupted, "—and you think that if you knew the formula for something called chicken soup, you would know what the taste of chicken soup is for them—"

Ployon continued, "—so now you're going to develop some intricate elaboration of what it means that there is only one possible 'mother's' contribution, while outside of a laboratory the 'father's' contribution is extraordinarily haphazard…"

Archon said, "A complete non sequitur. If you only understand reproductive biology, you do not understand what a father or mother is. Seeing as how we have no concept yet of father or mother, let us look at something that's different enough but aligns with father/mother in an interesting enough way that… never mind."

Archon continued, "Imagine on the one hand a virtual reality, and on the other hand the creator of that virtual reality. You don't have to choose between moving in the virtual reality and being the creator's guest; the way to be the creator's guest is to move in the virtual reality and the purpose of moving in the virtual reality is being the creator's guest. But that doesn't mean that the creator is the virtual reality, or the virtual reality is the creator. It's not just a philosophical error to confuse them, or else it's a philosophical error with ramifications well outside of philosophy."

"Why didn't you just say that the relationship between God and the organic is creator/creation? Or that the organic is the world that was created?"

"Because the relationship is not that, or at very least not just that. And the organic is not the world—that is a philosophical error almost as serious as saying that the creator is the virtual reality, if a very different error. I fear that I have given you a simplification that is all the more untrue because of how true it is. God is in the organic, and in the world, and in each person, but not in the same way. How can I put it? If I say, 'God is in the organic,', it would be truer to say, 'The organic is not devoid of God,' because that is more ambiguous. If there were three boxes, and one contained a functional robot 'brain', and another contained a functional robot arm, and the third contained a non-functioning robot, it would be truer to say that each box contains something like a functioning robot than to say that each box contains a functioning robot. The ambiguity allows for being true in different ways in the different contexts, let alone something that words could not express even if we were discussing only one 'is in' or 'box'."

"Is there another way of expressing how their words would express it?"

"Their words are almost as weak as our words here."

"So they don't know about something this important?"

"Knowledge itself is different for them. To know something for us is to be able to analyze in a philosophical discussion. And this knowledge exists for them. But there is another root type of knowledge, a knowledge that—"

"Could you analyze the differences between the knowledge we use and the knowledge they use?"

"Yes, and it would be as useful to you as discussing biology. This knowledge is not entirely alien to us; when a mathematician 'soaks' in a problem, or I refused to connect with anything but the body, for a moment a chasm was crossed. But in that world the chasm doesn't exist… wait, that's too strong… a part of the chasm doesn't exist. Knowing is not with the mind alone, but the whole person—"

"What part of the knowing is stored in the bones?"

"Thank you for your flippancy, but people use the metaphor of knowledge being in their bones, or drinking, for this knowing."

"This sounds more like a physical process and some hankey-pankey that has been dignified by being called knowing. It almost sounds as if they don't have minds."

"They don't."

"*What?*"

"They don't, at least not as we know them. The mathematical analogy I would use is that they… never mind, I don't want to use a mathematical analogy. The computational analogy I would use is that we are elements of a computer simulation, and every now and then we break into a robot that controls the computer, and do something that transcends what elements of the computer simulation "should" be able to do. But they don't transcend the simulation because they were never elements of the simulation in the first place—they are real bodies, or real unities. And what I've called 'mind' in them is more properly understood as 'spirit', which is now a meaningless word to you, but is part of them that meets God whether they are aware of it or not. Speaking philosophically is a

difficult discipline that few of them can do—"

"They are starting to sound mentally feeble."

"Yes, if you keep looking at them as an impoverished version of our world. It is hard to speak philosophically as it is hard for you to emulate a clock and do nothing else—because they need to drop out of several dimensions of their being to do it properly, and they live in those dimensions so naturally that it is an unnatural constriction for most of them to talk as if that was the only dimension of their being. And here I've been talking disappointingly about knowledge, making it sound more abstract than our knowing, when in fact it is much less so, and probably left you with the puzzle of how they manage to bridge gaps between mind, spirit, and body… but the difficulty of the question lies in a false setup. They are *unities* which experience, interact with, know all of them as united. And the knowing is deep enough that they can speculate that there's no necessary link between their spirits and bodies, or minds and bodies, or what have you. And if I can't explain this, I can't explain something even more foundational, the fact that the greatest thing about God is not how inconceivably majestic he is, but how close."

"It sounds as if—wait, I think you've given me a basis for a decent analysis. Let me see if I can—"

"Stop there."

"Why?"

Archon said, "Let me tell you a little story.

Archon continued, "A philosopher, Berkeley, believed that the only real things are minds and ideas and experiences in those minds: hence a rock was equal to the sum of every mind's impression of it. You could say that a rock existed, but what that had to mean was that there were certain sense impressions and ideas in minds, including God's mind; it didn't mean that there was matter outside of minds."

"A lovely virtual metaphysics. I've simulated that metaphysics, and it's enjoyable for a time."

"Yes, but for Berkeley it meant something completely different. Berkeley was a bishop,"

"What's a bishop?"

"I can't explain all of that now, but part of a bishop is a leader who is responsible for a community that believes God became a man, and helping them to know God and be unities."

"How does that reconcile with that metaphysics?"

Archon said, "Ployon, stop interrupting. He believed that they were not only compatible, but the belief that God became a man could only be preserved by his metaphysics. And he believed he was defending 'common sense', how most unities thought about the world.

Archon continued, "And after he wrote his theories, another man, Samuel Johnson, kicked a rock and said, 'I refute Berkeley thus!'"

Ployon said, "Ha ha! That's the way to score!"

"But he didn't score. Johnson established only one thing—"

"—how to defend against Berkeley—"

"—that he didn't understand Berkeley."

"Yes, he did."

"No, he didn't."

"But he did."

"Ployon, only the crudest understanding of Berkeley's ideas could mean that one could refute them by kicking a rock. Berkeley didn't make his ideas public until he could account for the sight of someone kicking a rock, or the experience of kicking it yourself, just as well as if there were matter outside of minds."

"I know."

"So now that we've established that—"

Ployon interrupted. "I know that Berkeley's ideas could account for kicking a rock as well as anything else. But kicking a rock is still an excellent way to refute Berkeley. If what you've said about this world has any coherence at all."

"*What?*"

"Well, Berkeley's ideas are airtight, right?"

"Ployon, there is no way they could be disproven. Not by argument, not by action."

"So it is in principle impossible to force someone out of Berkeley's ideas by argument."

"Absolutely."

"But you're missing something. What is it you've been talking to me about?"

"A world where mind and matter interpenetrate, and the organic, and there are many dimensions to life—"

"And if you're just falling further into a trap to logically argue, wouldn't it do something fundamentally *unity*-like to step into another dimension?"

Archon was silent.

Ployon said, "I understand that it would demonstrate a profound misunderstanding in our world… but wouldn't it say something equally profound in that world?"

Archon was stunned.

Ployon was silent for a long time.

Then Ployon said, "When are you going to refute Berkeley?"

Since the dawn of time, those who have walked the earth have looked up into the starry sky and wondered. They have asked, "What is the universe, and who are we?" "What are the woods?" "Where did this all come from?" "Is there life after death?" "What is the meaning of our existence?" The march of time has brought civilization, and with that, science. And science allows us to answer these age-old human questions.

That, at least, is the account of it that people draw now. But the truth is much more interesting.

Science is an ingenious mechanism to test guesses about mechanisms and behavior of the universe, and it is phenomenally powerful in that arena. Science can try to explain how the Heavens move, but it isn't the sort of thing

to explain why there are Heavens that move that way—science can also describe how the Heavens have moved and reached their present position, but not the "Why?" behind it. Science can describe how to make technology to make life more convenient, but not "What is the meaning of life?" Trying to ask science to answer "Why?" (or for that matter, "Who?" or any other truly interesting question besides "How?") is a bit like putting a book on a scale and asking the scale, "What does this book mean?" And there are indeed some people who will accept the scale's answer, 429.7425 grams, as the definitive answer to what the book means, and all the better because it is so *precise*.

But to say that much and then stop is to paint a deceptive picture. *Very* deceptive. Why?

Science at that point had progressed more than at any point in history, and its effects were being felt around the world. And science enjoyed both a profound prestige and a profound devotion. Many people did not know what "understanding nature" could mean besides "learning scientific descriptions of nature," which was a bit like not knowing what "understanding your best friend" could mean besides "learning the biochemical building blocks of your friend's body."

All this and more is true, yet this is not the most important truth. This was the Middle Age between ancient and human society and the technological, and in fact it was the early Middle Age. People were beginning to develop real technologies, the seeds of technology we would recognize, and could in primitive fashion jack into such a network as existed then. But all of this was embraced in a society that was ancient, ancient beyond measure. As you may have guessed, it is an error to misunderstand that society as an inexplicably crude version of real technological society. It is a fundamental error.

To really understand this society, you need to understand not its technology, but the sense in which it was ancient. I will call it 'medieval', but you must understand

that the ancient element in that society outweighs anything we would recognize.

And even this is deceptive, not because a single detail is wrong, but because it is abstract. I will tell you about certain parts in an abstract fashion, but you must understand that in this world's thinking the concrete comes *before* the abstract. I will do my best to tell a story—not as they would tell one, because that would conceal as much as it would reveal, but taking their way of telling stories and adapting it so we can see what is going on.

For all of their best efforts to spoil it, all of them live on an exquisite garden in the thin film where the emptiness of space meets the barrier of rock—there is a nest, a cradle where they are held tightly, and even if some of those who are most trying to be scientific want to flee into the barren wastes of space and other planets hostile to their kind of life. And this garden itself has texture, an incredible spectrum of texture along its surface. Place is itself significant, and I cannot capture what this story would have been like had it been placed in Petaling Jaya in Malaysia, or Paris in France, or Cambridge in England. What are these? I don't know… I can say that Petaling Jaya, Paris, and Cambridge are cities, but that would leave you knowing as much as you knew 5 milliseconds before I told you. And Malaysia, France, and England are countries, and now you know little besides being able to guess that a country is somehow capable of containing a city. Which is barely more than you knew before; the fact is that there is something very different between Petaling Jaya, Paris, and Cambridge. They have different wildlife and different places with land and water, but that is not nearly so interesting as the difference in people. I could say that people learn different skills, if I wanted to be very awkward and uninformative, but… the best way of saying it is that in our world, because there is nothing keeping minds apart… In that world, people have been separate so they don't even speak the same language. They almost have separate worlds. There is

something common to all medievals, beyond what technology may bring, and people in other cities could find deep bonds with this story, but… Oh, there are many more countries than those I listed, and these countries have so many cities that you could spend your whole life travelling between cities and never see all of them. No, our world doesn't have this wealth. Wealthy as it is, it doesn't come close.

Petaling Jaya is a place of warm rainstorms, torrents of water falling from the sky, a place where a little stream of unscented water flows by the road, even if such a beautiful "open sewer" is not appreciated. Petaling Jaya is a place where people are less aware of time than in Cambridge or Paris and yet a place where people understand time better, because of reasons that are subtle and hard to understand. It draws people from three worlds in the grandeur that is Asia, and each of them brings treasures. The Chinese bring with them the practice of calling adults "Uncle" or "Aunt", my father's brother or my father's sister or my mother's brother or my mother's sister, which is to say, addresses them not only by saying that there is something great about them, but they are "tied by blood"—a bond that I do not know how to explain, save to say that ancestry and origins are not the mechanism of how they came to be, or at least not just the mechanism of how they came to be. Ancestry and origins tell of the substance of who they are, and that is one more depth that cannot exist in our world with matter and mind separate. The Indians and Bumi Putras—if it is really only them, which is far from true—live a life of friendship and hospitality, which are human treasures that shine in them. What is hospitality, you ask? That is hard to answer; it seems that anything I can say will be deceptive. It means that if you have a space, and if you allow someone in that space, you serve that person, caring for every of his needs. That is a strange virtue—and it will sound stranger when I say that this is not endured as inexpedient, but something where people want to call others. Is it an

economic exchange? That is beside the point; these things are at once the shadow cast by real hospitality, and at the same time the substance of hospitality itself, and you need to understand men before you can understand it. What about friendship? Here I am truly at a loss. I can only say that in the story that I am about to tell, what happens is the highest form of friendship.

Paris is, or at least has been, a place with a liquid, a drug, that temporarily causes a pleasant mood while changing behavior and muddling a person's thoughts. But to say that misses what that liquid is, in Paris or much else. To some it is very destructive, and the drug is dangerous if it is handled improperly. But that is the hinge to something that—in our world, no pleasure is ever dangerous. You or I have experienced pleasures that these minds could scarcely dream of. We can have whatever pleasure we want at any time. And in a very real sense no pleasure *means* anything. But in their world, with its weaker pleasures, every pleasure is connected to something. And this liquid, this pleasure, if taken too far, destroys people—which is a hinge, a doorway to something. It means that they need to learn a self-mastery in using this liquid, and in using it many of them forge a beauty in themselves that affects all of life. And they live beautiful lives. Beautiful in many ways. They are like Norsemen of ages past, who sided with the good powers, not because the good powers were going to win, but because they wanted to side with the good powers and fight alongside them when the good powers lost and chaos ruled. It is a tragic beauty, and the tragedy is all the more real because it is unneeded, but it is beauty, and it is a beauty that could not exist if they knew the strength of good. And I have not spoken of the beauty of the language in Paris, with its melody and song, or of the artwork and statues, the Basilica of the Sacré-Coeur, or indeed of the tapestry that makes up the city.

Cambridge is what many of them would call a "medieval" village, meaning that it has stonework that looks

to its members like the ancient world's architecture. To them this is a major difference; the ancient character of the buildings to them overwhelms the fact that they are buildings. To that medieval world, both the newest buildings and the ones they considered "medieval" had doorways, stairwells, rooms, windows, and passages. You or I would be struck by the ancient character of the oldest and newest buildings and the ancient character of the life they serve. But to these medievals, the fact that a doorway was built out of machine-made materials instead of having long ago been shaped from stone takes the door—the *door*—from being ancient to being a new kind of thing! And so in the quaintest way the medievals consider Cambridge a "medieval" village, not because they were all medievals, but because the ancient dimension to *architecture* was more ancient to them than the equally ancient ways of constructing spaces that were reflected in the "new" buildings. There was more to it than that, but…

That was not the most interesting thing about them. I know you were going to criticize me for saying that hospitality was both a human treasure and something that contributed to the uniqueness of Petaling Jaya, but I need to do the same thing again. Politeness is… how can I describe it? Cynics describe politeness as being deceit, something where you learn a bunch of standard things to do and have to use them to hide the fact that you're offended, or bored, or want to leave, or don't like someone. And *all of that is true*—and deceptive. A conversation will politely begin with one person saying, "Hi, Barbara, how are you?" And Barbara will say, "Fine, George, how are you?" "Fine!" And the exact details seem almost arbitrary between cultures. This specific interaction is, on the surface, superficial and not necessarily true: people usually say they feel fine whether or not they really feel fine at all. And so politeness can be picked apart in this fashion, as if there's nothing else there, but *there is*. Saying "How are you?" opens a door, a door of concern. In one sense, what is given

is very small. But if a person says, "I feel rotten," the other person is likely to listen. Barbara might only "give" George a little bit of chatter, but if he were upset, she would comfort him; if he were physically injured, she would call an ambulance to give him medical help; if he were hungry, she might buy him something to eat. But he only wants a little chat, so she only gives him a little chat—which is not really a little thing at all, but I'm going to pretend that it's small. Politeness stems from a concern for others, and is in actuality quite deep. The superficial "Hi, how are you?" is really not superficial at all. It is connected to a much deeper concern, and the exterior of rules is connected to a heart of concern. And Cambridge, which is a place of learning, and has buildings more ancient than what these medieval people usually see, is perhaps most significantly distinguished by its politeness.

But I have not been telling you a story. These observations may not be completely worthless, but they are still not a dynamic story. The story I'm about to tell you is not in Petaling Jaya, nor in Paris, nor in Cambridge, nor in any of thousands of other worlds. And I would like to show you what the medieval society looks like in action. And so let's look at Peter.

Peter, after a long and arduous trek, opened the car door, got out, stretched, looked at the vast building before him, and listened as his father said, "We've done it! The rest should be easy, at least for today." Then Peter smiled, and smashed his right thumb in the car door.

Then suddenly they moved—their new plan was to get to a hospital. Not much later, Peter was in the Central DuPage Hospital emergency room, watching people who came in after him be treated before him—not because they had more clout, but because they had worse injuries. The building was immense—something like one of our biological engineering centers, but instead of engineering bodies according to a mind's specification, this used science to restore bodies that had been injured and harmed, and

reduce people's suffering. And it was incredibly primitive; at its best, it helped the bodies heal itself. But you must understand that even if these people were far wealthier than most others in their tiny garden, they had scant resources by our standard, and they made a major priority to restore people whose bodies had problems. (If you think about it, this tells something about how they view the value of each body.) Peter was a strong and healthy young man, and it had been a while since he'd been in a hospital. He was polite to the people who were helping him, even though he wished he were anywhere else.

You're wondering why he deliberately smashed his thumb? Peter didn't deliberately smash his thumb. He was paying attention to several other things and shoved the door close while his thumb was in its path. His body is not simply a device controlled by his mind; they interact, and his mind can't do anything he wishes it to do—he can't add power to it. He thinks by working with a mind that operates with real limitations and can overlook something in excitement—much like his body. If he achieves something, he doesn't just requisition additional mental power. He struggles within the capabilities of his own mind, and that means that when he achieves something with his mind, he *achieves* something. Yes, in a way that you or I cannot. Not only is his body in a very real sense more real to him than any of the bodies you or I have jacked into and swapped around, but his *mind* is more real. I'm not sure how to explain it.

Peter arrived for the second time well after check-in time, praying to be able to get in. After a few calls with a network that let him connect with other minds while keeping his body intact, a security officer came in, expressed sympathy about his bandaged thumb—what does 'sympathy' mean? It means that you share in another person's pain and make it less—and let him up to his room. The family moved his possessions from the car to his room and made his bed in a few minutes, and by the time it was down, the security guard had called the RA, who brought

Peter his keys.

It was the wee hours of the morning when Peter looked at his new home for the second time, and tough as Peter was, the pain in his thumb kept the weary man from falling asleep. He was in as much pain as he'd been in for a while. What? Which part do you want explained? Pain is when the mind is troubled because the body is injured; it is a warning that the body needs to be taken care of. No, he can't turn it off just because he thinks it's served his purpose; again, you're not understanding the intimate link between mind and body. And the other thing… sleep is… Their small globe orbits a little star, and it spins as it turns. At any time, part of the planet faces the star, the sun, and part faces away, and on the globe, it is as if a moving wall comes, and all is light, then another wall comes, and it is dark. The globe has a rhythm of light and dark, a rhythm of day and night, and people live in intimate attunement to this rhythm. The ancients moved about when it was light and slept when it was dark—to sleep, at its better moments, is to come fatigued and have body and mind rejuvenate themselves to awaken full of energy. The wealthier medievals have the ability to see by mechanical light, to awaken when they want and fall asleep when they want—and yet they are still attuned, profoundly attuned, to this natural cycle and all that goes with it. For that matter, Peter can stick a substance into his body that will push away the pain—and yet, for all these artificial escapes, medievals feel pain and usually take care of their bodies by heeding it, and medievals wake more or less when it is light and sleep more or less when it is dark. And they don't think of pain as attunement to their bodies—most of them wish they couldn't feel pain, and certainly don't think of pain as good—nor do more than a few of them think in terms of waking and sleeping to a natural rhythm… but so much of the primeval way of being human is so difficult to dislodge for the medievals.

He awoke when the light was ebbing, and after some

preparations set out, wandering this way and that until he found a place to eat. The pain was much duller, and he made his way to a selection of different foods—meant not only to nourish but provide a pleasant taste—and sat down at a table. There were many people about; he would not eat in a cell by himself, but at a table with others in a great hall.

A young man said, "Hi, I'm John." Peter began to extend his hand, then looked at his white bandaged thumb and said, "Excuse me for not shaking your hand. I am Peter."

A young woman said, "I'm Mary. I saw you earlier and was hoping to see you more."

Peter wondered about something, then said, "I'll drink for that," reached with his right hand, grabbed a glass vessel full of carbonated water with sugar, caffeine, and assorted unnatural ingredients, and then winced in pain, spilling the fluid on the table.

Everybody at the table moved. A couple of people dodged the flow of liquid; others stopped what they were doing, rushing to take earth toned objects made from the bodies of living trees (napkins), which absorbed the liquid and were then shipped to be preserved with other unwanted items. Peter said, "I keep forgetting I need to be careful about my thumb," smiled, grabbed another glass with fluid cows had labored to create, until his wet left hand slipped and he spilled the organic fluid all over his food.

Peter stopped, sat back, and then laughed for a while. "This is an interesting beginning to my college education."

Mary said, "I noticed you managed to smash your thumb in a car door without saying any words you regret. What else has happened?"

Peter said, "Nothing great; I had to go to the ER, where I had to wait, before they could do something about my throbbing thumb. I got back at 4:00 AM and couldn't get to sleep for a long time because I was in so much pain. Then I overslept my alarm and woke up naturally in time for dinner. How about you?"

Mary thought for a second about the people she met. Peter could see the sympathy on her face.

John said, “Wow. That’s nasty.”

Peter said, “I wish we couldn’t feel pain. Have you thought about how nice it would be to live without pain?”

Mary said, “I’d like that.”

John said, “Um…”

Mary said, “What?”

John said, “Actually, there are people who don’t feel pain, and there’s a name for the condition. You’ve heard of it.”

Peter said, “I haven’t heard of that before.”

John said, “Yes you have. It’s called leprosy.”

Peter said, “What do you mean by ‘leprosy’? I thought leprosy was a disease that ravaged the body.”

John said, “It is. But that is only because it destroys the ability to feel pain. The way it works is very simple. We all get little nicks and scratches, and because they hurt, we show extra sensitivity. Our feet start to hurt after a long walk, so without even thinking about it we… shift things a little, and keep anything really bad from happening. That pain you are feeling is your body’s way of asking room to heal so that the smashed thumbnail (or whatever it is) that hurts so terribly now won’t leave you permanently maimed. Back to feet, a leprosy patient will walk exactly the same way and get wounds we’d never even think of for taking a long walk. All the terrible injuries that make leprosy a feared disease happen *only* because leprosy keeps people from feeling pain.”

Peter looked at his thumb, and his stomach growled.

John said, “I’m full. Let me get a drink for you, and then I’ll help you drink it.”

Mary said, “And I’ll get you some dry food. We’ve already eaten; it must—”

Peter said, “Please, I’ve survived much worse. It’s just a bit of pain.”

John picked up a clump of wet napkins and

threatened to throw it at Peter before standing up and walking to get something to drink. Mary followed him.

Peter sat back and just laughed.

John said, "We have some time free after dinner; let's just wander around campus."

They left the glass roofed building and began walking around. There were vast open spaces between buildings. They went first to "Blanchard", a building they described as "looking like a castle." Blanchard, a tall ivory colored edifice, built of rough limestone, which overlooked a large expanse adorned with a carefully tended and *living* carpet, had been modelled after a building in a much older institution called Oxford, and… this is probably the time to explain certain things about this kind of organization.

You and I simply requisition skills. If I were to imagine what it would mean to educate those people—or at least give skills; the concept of 'education' is slightly different from either inserting skills or inserting knowledge into a mind, and I don't have the ability to explain exactly what the distinction is here, but I will say that it is significant—then the obvious way is to simply make a virtual place on the network where people can be exposed to knowledge. And that model would become phenomenally popular within a few years; people would pursue an education that was a niche on such a network as they had, and would be achieved by weaving in these computer activities with the rest of their lives.

But this place preserved an ancient model of education, where disciples would come to live in a single place, which was in a very real sense its own universe, and meet in ancient, face-to-face community with their mentors and be shaped in more than what they know and can do. Like so many other things, it was ancient, using computers here and there and even teaching people the way of computers while avoiding what we would assume comes with computers.

But these people liked that building, as contrasted to

buildings that seemed more modern, because it seemed to convey an illusion of being in another time, and let you forget that you were in a modern era.

After some wandering, Peter and those he had just met looked at the building, each secretly pretending to be in a more ancient era, and went through an expanse with a fountain in the center, listened to some music, and ignored clouds, trees, clusters of people who were sharing stories, listening, thinking, joking, and missing home, in order to come to something exotic, namely a rotating platform with a mockup of a giant mastodon which had died before the end of the last ice age, and whose bones had been unearthed in a nearby excavation. Happy to have seen something exotic, they ignored buildings which have a human-pleasing temperature the year round, other people excited to have seen new friends, toys which sailed through the air on the same principles as an airplane's wings, a place where artistic pieces were being drawn into being, a vast, stonehard pavement to walk, and a spectrum of artefacts for the weaving of music.

Their slow walk was interrupted when John looked at a number on a small machine he had attached to his wrist, and interpreted it to mean that it was time for the three of them to stop their leisured enjoyment of the summer night and move with discomfort and haste to one specific building—they all were supposed to go to the building called Fischer. After moving over and shifting emotionally from being relaxed and joyful to being bothered and stressed, they found that they were all on a brother and sister floor, and met their leaders.

Paul, now looking considerably more coherent than when he procured Peter's keys, announced, "Now, for the next exercise, I'll be passing out toothpicks. I want you to stand in two lines, guy-girl-guy-girl, and pass a lifesaver down the line. If your team passes the lifesaver to the end first, you win. Oh, and if you drop the lifesaver your team has to start over, so don't drop it."

People shuffled, and shortly Peter was standing in line, looking over the shoulder of a girl he didn't know, and silently wishing he weren't playing this game. He heard a voice say, "Go!" and then had an intermittent view of a tiny sugary torus passing down the line and the two faces close to each other trying simultaneously to get close enough to pass the lifesaver, and control the clumsy, five centimeter long toothpicks well enough to transfer the candy. Sooner than he expected the girl turned around, almost losing the lifesaver on her toothpick, and then began a miniature dance as they clumsily tried to synchronize the ends of their toothpicks. This took unpleasantly long, and Peter quickly banished a thought of "This is almost kissing! That can't be what's intended." Then he turned around, trying both to rush and not to rush at the same time, and repeated the same dance with the young woman standing behind him—Mary! It was only after she turned away that Peter realized her skin had changed from its alabaster tone to pale rose.

Their team won, and there was a short break as the next game was organized. Peter heard bits of conversation: "This has been a bummer; I've gotten two papercuts this week." "—and then I—" "What instruments do you—" "I'm from France too! *Tu viens de Paris?*" "Really? You—" Everybody seemed to be chattering, and Peter wished he could be in one of—actually, several of those conversations at once.

Paul's voice cut in and said, "For this next activity we are going to form a human circle. With your team, stand in a circle, and everybody reach in and grab another hand with each hand. Then hold on tight; when I say, "Go," you want to untangle yourselves, without letting go. The first team to untangle themselves wins!"

Peter reached in, and found each of his hands clasped in a solid, masculine grip. Then the race began, and people jostled and tried to untangle themselves. This was a laborious process and, one by one, every other group freed itself, while Peter's group seemed stuck on—someone called

and said, “I think we’re knotted!” As people began to thin out, Paul looked with astonishment and saw that they were indeed knotted. “A special prize to them, too, for managing the best tangle!”

“And now, we’ll have a three-legged race! Gather into pairs, and each two of you take a burlap sack. Then—” Paul continued, and with every game, the talk seemed to flow more. When the finale finished, Peter found himself again with John and Mary and heard the conversations flowing around him: “Really? You too?” “But you don’t understand. Hicks have a slower pace of life; we enjoy things without all the things you city dwellers need for entertainment. And we learn resourceful ways to—” “—and only at Wheaton would the administration *forbid* dancing while *requiring* the games we just played and—” Then Peter lost himself in a conversation that continued long into the night. He expected to be up at night thinking about all the beloved people he left at home, but Peter was too busy thinking about John’s and Mary’s stories.

The next day Peter woke up when his machine played a hideous sound, and groggily trudged to the dining hall to eat some chemically modified grains and drink water that had been infused with traditionally roasted beans. There were pills he could have taken that would have had the effect he was looking for, but he savored the beverage, and after sitting at a table without talking, bounced around from beautiful building to beautiful building, seeing sights for the first time, and wishing he could avoid all that to just get to his advisor.

Peter found the appropriate hallway, wandered around nervously until he found a door with a yellowed plaque that said “Julian Johnson,” knocked once, and pushed the door open. A white-haired man said, “Peter Jones? How are you? Do come in… What can I do for you?”

Peter pulled out a sheet of paper, an organic surface used to retain colored trails and thus keep small amounts of information inscribed so that the “real” information is

encoded in a personal way. No, they don't need to be trained to have their own watermark in this encoding.

Peter looked down at the paper for a moment and said, "I'm sorry I'm late. I need you to write what courses I should take and sign here. Then I can be out of your way."

The old man sat back, drew a deep breath, and relaxed into a fatherly smile. Peter began to wonder if his advisor was going to say anything at all. Then Prof. Johnson motioned towards an armchair, as rich and luxurious as his own, and then looked as if he remembered something and offered a bowl full of candy. "Sit down, sit down, and make yourself comfortable. May I interest you in candy?" He picked up an engraved metal bowl and held it out while Peter grabbed a few Lifesavers.

Prof. Johnson sat back, silent for a moment, and said, "I'm sorry I'm out of butterscotch; that always seems to disappear. Please sit down, and tell me about yourself. We can get to that form in a minute. One of the priveleges of this job is that I get to meet interesting people. Now, where are you from?"

Peter said, "I'm afraid there's not much that's interesting about me. I'm from a small town downstate that doesn't have anything to distinguish itself. My amusements have been reading, watching the cycle of the year, oh, and running. Not much interesting in that. Now which classes should I take?"

Prof. Johnson sat back and smiled, and Peter became a little less tense. "You run?"

Peter said, "Yes; I was hoping to run on the track this afternoon, after the lecture. I've always wanted to run on a real track."

The old man said, "You know, I used to run myself, before I became an official Old Geezer and my orthopaedist told me my knees couldn't take it. So I have to content myself with swimming now, which I've grown to love. Do you know about the Prairie Path?"

Peter said, "No, what's that?"

Prof. Johnson said, "Years ago, when I ran, I ran through the areas surrounding the College—there are a lot of beautiful houses. And, just south of the train tracks with the train you can hear now, there's a path before you even hit the street. You can run, or bike, or walk, on a path covered with fine white gravel, with trees and prairie plants on either side. It's a lovely view." He paused, and said, "Any ideas what you want to do after Wheaton?"

Peter said, "No. I don't even know what I want to major in."

Prof. Johnson said, "A lot of students don't know what they want to do. Are you familiar with Career Services? They can help you get an idea of what kinds of things you like to do."

Peter looked at his watch and said, "It's chapel time."

Prof. Johnson said, "Relax. I can write you a note." Peter began to relax again, and Prof. Johnson continued, "Now you like to read. What do you like to read?"

Peter said, "Newspapers and magazines, and I read this really cool book called *Zen and the Art of Motorcycle Maintenance*. Oh, and I like the Bible."

Prof. Johnson said, "I do too. What do you like about it most?"

"I like the stories in the Old Testament."

"One general tip: here at Wheaton, we have different kinds of professors—"

Peter said, "Which ones are best?"

Prof. Johnson said, "Different professors are best for different students. Throughout your tenure at Wheaton, ask your friends and learn which professors have teaching styles that you learn well with and mesh well with. Consider taking other courses from a professor you like. Now we have a lot of courses which we think expose you to new things and stretch you—people come back and see that these courses are best. Do you like science?"

"I like it; I especially liked a physics lab."

Prof. Johnson took a small piece of paper from where

it was attached to a stack with a strange adhesive that had "failed" as a solid adhesive, but provided a uniquely useful way to make paper that could be attached to a surface with a slight push and then be detached with a gentle pull, remarkably enough without damage to the paper or the surface. He began to think, and flip through a book, using a technology thousands of years old at its heart. "Have you had calculus?" Prof. Johnson restrained himself from launching into a discussion of the grand, Utopian vision for "calculus" as it was first imagined and how different a conception it had from anything that would be considered "mathematics" today. Or should he go into that? He wavered, and then realized Peter had answered his question. "Ok," Prof. Johnson said, "the lab physics class unfortunately requires that you've had calculus. Would you like to take calculus now? Have you had geometry, algebra, and trigonometry?"

Peter said, "Yes, I did, but I'd like a little break from that now. Maybe I could take calculus next semester."

"Fair enough. You said you liked to read."

"Magazines and newspapers."

"Those things deal with the unfolding human story. I wonder if you'd like to take world civilization now, or a political science course."

"History, but why study world history? Why can't I just study U.S. history?"

Prof. Johnson said, "The story of our country is intertwined with that of our world. I think you might find that some of the things in world history are a lot closer to home than you think—and we have some real storytellers in our history department."

"That sounds interesting. What else?"

"The Theology of Culture class is one many students find enjoyable, and it helps build a foundation for Old and New Testament courses. Would you be interested in taking it for A quad or B quad, the first or second half of the semester?"

"Could I do both?"

"I wish I could say yes, but this course only lasts half the semester. The other half you could take Foundations of Wellness—you could do running as homework!"

"I think I'll do that first, and then Theology of Culture. That should be new," Peter said, oblivious to how tightly connected he was to theology and culture. "What else?"

Prof. Johnson said, "We have classes where people read things that a lot of people have found really interesting. Well, that could describe several classes, but I was thinking about Classics of Western Literature or Literature of the Modern World."

Peter said, "Um… Does Classics of Western Literature cover ancient and medieval literature, and Literature of the Modern World cover literature that isn't Western? Because if they do, I'm not sure I could connect with it."

Prof. Johnson relaxed into his seat, a movable support that met the contours of his body. Violating convention somewhat, he had a chair for Peter that was as pleasant to rest in as his own. "You know, a lot of people think that. But you know what?"

Peter said, "What?"

"There is something human that crosses cultures. That is why the stories have been selected. Stories written long ago, and stories written far away, can have a lot to connect with."

"Ok. How many more courses should I take?"

"You're at 11 credits now; you probably want 15. Now you said that you like *Zen and the Art of Motorcycle Maintenance*. I'm wondering if you would also like a philosophy course."

Peter said, "*Zen and the Art of Motorcycle Maintenance* is… I don't suppose there are any classes that use that. Or are there? I've heard Pirsig isn't given his fair due by philosophers."

Prof. Johnson said, “If you approach one of our philosophy courses the way you approach *Zen and the Art of Motorcycle Maintenance*, I think you’ll profit from the encounter. I wonder if our Issues and Worldviews in Philosophy might interest you. I’m a big fan of thinking worldviewishly, and our philosophers have some pretty interesting things to say.”

Peter asked, “What does ‘worldviewishly’ mean?”

Prof. Johnson said, “It means thinking in terms of worldviews. A worldview is the basic philosophical framework that gives shape to how we view the world. Our philosophers will be able to help you understand the basic issues surrounding worldviews and craft your own Christian worldview. You may find this frees you from the Enlightenment’s secularizing influence—and if you don’t know what the Enlightenment is now, you will learn to understand it, and its problems, and how you can be free of them.” He spoke with the same simplistic assurance of artificial intelligence researchers who, seeing the power of computers and recognizing how simple certain cognitive feats are for humans, assumed that it was only a matter of time that artificial intelligence would “bridge the gap”—failing to recognize the tar pit of the peaks of intelligence that seem so deceptively simple and easy to human phenomenology. For computers could often defeat the best human players at chess—as computerlike a human skill as one might reasonably find—but deciphering the language of a children’s book or walking through an unfamiliar room, so easy to humans, seemed more difficult for computers the more advanced research began. Some researchers believed that the artificial intelligence project had uncovered the non-obvious significance of a plethora of things humans take for granted—but the majority still believed that what seemed trivial for humans must be the sort of thinking a computer can do, because there is no other kind of thinking… and an isomorphic simplicity, an apparent and deceptive simplicity much like this one, made it seem as if

ideas were all that really mattered: not all that existed, but all that had an important influence. Prof. Johnson did not consciously understand how the Enlightenment worldview—or, more accurately, the Enlightenment—created the possibility of seeing worldviews that way, nor did he see how strange the idea of crafting one's own worldview would seem to pre-Enlightenment Christians. He did not realize that his own kindness towards Peter was not simply because he agreed with certain beliefs, but because of a deep and many-faceted way in which he had walked for decades, and walked well. It was with perfect simplicity that he took this way for granted, as artificial intelligence researchers took for granted all the things which humans did so well they seemed to come naturally, and framed worldviewish thought as carrying with it everything he assumed from his way.

Peter said, "Ok. Well, I'll take those classes. It was good to meet you."

Prof. Johnson looked over a document that was the writeup of a sort of game, in which one had a number of different rooms that were of certain sizes, and certain classes had requirements about what kind of room they needed for how long, and the solution involved not only solving the mathematical puzzle, but meeting with teachers and caring for their concerns, longstanding patterns, and a variety of human dimensions derisively labelled as "political." Prof. Johnson held in his hands the schedule with the official solution for that problem, and guided Peter to an allowable choice of class sections, taking several different actions that were considered "boring paperwork."

Prof. Johnson said, "I enjoyed talking with you. Please do take some more candy—put a handful in your pocket or something. I just want to make one more closing comment. I want to see you succeed. Wheaton wants to see you succeed. There are some rough points and problems along the way, and if you bring them to me I can work with them and try to help you. If you want to talk with your RA

or our chaplain or someone else, that's fine, but please… my door is *always* open. And it was good to meet you too! Goodbye!"

Peter walked out, completely relaxed.

The next activity, besides nourishing himself with lunch (and eating, sleeping, and many other activities form a gentle background rhythm to the activities people are more conscious of. I will not describe each time Peter eats and sleeps, even though the 100th time in the story he eats with his new friends is as significant as the first, because I will be trying to help you see it their way), requires some explanation.

The term "quest," to the people here, is associated with an image of knights in armor, and a body of literature from writers like Chretien de Troyes and Sir Thomas Mallory who described King Arthur and his knights. In Chretien de Troyes, the knight goes off in various adventures, often quests where he is attempting different physical feats. In Sir Thomas Mallory, a new understanding of quests is introduced, in the quest for the holy grail—a legendary treasure which I cannot here explain save to say that it profoundly altered the idea of a quest, and the quest took a large enough place in many people's consciousness that it is used as a metaphor of the almost unattainable object of an ultimate pursuit (so that physicists would say that a grand unified theory which crystallizes all physical laws into a few simple equations is the "holy grail of physics"), and that the holy grail is itself in the shadow of a greater treasure, and this treasure was one many people in fact had possessed (some after great struggle, while others had never known a time when they were without it). In Mallory in particular the quest can be more than a physical task; most of Arthur's knights could not reach the holy grail because of—they weren't physical blemishes and they weren't really mental blemishes either, but what they were is hard to say. The whole topic (knights, quests, the holy grail…) connects to something about that world that is

beyond my ability to convey; suffice it to say that it is connected with one more dimension we don't have here.

Peter, along with another group of students, went out on a quest. The object of this quest was to acquire seven specific items, on conditions which I will explain below:

1. "A dog biscuit." In keeping with a deeply human trait, the food they prepare is not simply what they judge adequate to sustain the body, but meant to give pleasure, in a sense adorned, because eating is not to them simply a biological need. They would also get adorned food to give pleasure to organisms they kept, including dogs, which include many different breeds which in turn varied from being natural sentries protecting territories to a welcoming committee of one which would give a visitor an exuberant greeting just because he was there.

2. "An M16 rifle's spent shell casing." That means the used remnant after… wait a little bit. I need to go a lot farther back to explain this one.You will find something deceptively familiar in that in that universe, people strategically align resources and then attack their opponents, usually until a defeat is obvious. And if you look for what is deceptive, it will be a frustrating search, because even if the technologies involved are primitive, it is a match of strategy, tactics, and opposition.What makes it different is that this is not a recreation or an art form, but something many of them consider the worst evil that can happen, or among the worst. The resources that are destroyed, the bodies—in our world, it is simply what is involved in the game, but many of them consider it an eternal loss.

   Among the people we will be meeting, people may be broken down into "pacifists" who believe that war is

always wrong, and people who instead of being pure pacifists try to have a practical way of pursuing pacifist goals: the disagreement is not whether one should have a war for amusement's sake (they both condemn that), but what one should do when not having a war looks even more destructive than having a war. And that does not do justice to either side of the debate, but what I want to emphasize that to both of them this is not simply a game or one form of recreation; it is something to avoid at almost *any* cost.

A knight was someone who engaged in combat, an elite soldier riding an animal called a horse. In Chretien de Troye's day and Mallory's day, the culture was such that winning a fight was important, but fighting according to "chivalry" was more important. Among other things, chivalry meant that they would only use simple weapons based on mechanical principles—no poison—and they wouldn't even use weapons with projectiles, like arrows and (armor piercing) crossbow bolts. In practice that only meant rigid piercing and cutting weapons, normally swords and spears. And there was a lot more. A knight was to protect women and children.

The form that chivalry took in Peter's day allowed projectile weapons, although poison was still not allowed, along with biological, thermonuclear, and other weapons which people did not wish to see in war, and the fight to disfigure the tradition's understanding women had accorded them meant that women could fight and be killed like men, although people worked to keep children out of warfare, and in any case the "Geneva Convention", as the code of chivalry was called, maintained a sharp

distinction between combatants and non-combatants, the latter of which were to be protected.

The specific projectile weapon carried by most members of the local army was called an M16 rifle, which fired surprisingly small .22 bullets—I say "surprisingly" because if you were a person fighting against them and you were hit, you would be injured but quite probably not killed.

This was intentional. (Yes, they knew how to cause an immediate kill.)

Part of it is the smaller consideration that if you killed an enemy soldier immediately, you took one soldier out of action; on the other hand, if you wounded an enemy soldier, you took three soldiers out of action. But this isn't the whole reason. The much bigger part of the reason is that their sense of chivalry (if it was really just chivalry; they loved their enemies) meant that even in their assaults they tried to subdue with as little killing as possible.

There were people training with the army in that community (no, not Peter; Peter was a pure pacifist) who trained, with M16 rifles, not because they wanted to fight, but as part of a not entirely realistic belief that if they trained hard enough, their achievement would deter people who would go to war. And the "Crusader battalion" (the Crusaders were a series of people who fought to defend Peter's spiritual ancestors from an encroaching threat that would have destroyed them) had a great sense of chivalry, even if none of them used the word "chivalry".

3. “A car bumper.” A car bumper is a piece of armor placed on the front and back of cars so that they can sustain low-velocity collisions without damage. (At higher velocities, newer cars are designed to serve as a buffer so that “crumple zones” will be crushed, absorbing enough of the impact so that the “passenger cage” reduces injuries sustained by people inside; this is part of a broader cultural bent towards minimizing preventable death because of what they believe about one human life.) Not only is a car bumper an unusual item to give, it is heavy and awkward enough that people tend not to carry such things with them—even the wealthy ones tend to be extraordinarily lightly encumbered.

4. “An antique.” It is said, “The problem with England is that they believe 100 miles is a long distance, and the problem with America is that they believe 100 years is a long time.” An antique—giving the rule without all the special cases and exceptions, which is to say giving the rule as if it were not human—is something over 100 years old. To understand this, you must appreciate that it does not include easily available rocks, many of which are millions or billions of years old, and it is not based on the elementary particles that compose something (one would have to search hard to find something *not* made out of elementary particles almost as old as the universe). The term “antique” connotes rarity, and in a sense something out of the ordinary; that people’s way is concerned with “New! New! New!” and it is hard to find an artifact that was created more than 100 years ago, which is what was intended. This quest is all the more interesting because there is an “unwritten rule” that items will be acquired by asking, not by theft or even purchase—and, as most antiques are valuable, it would be odd for someone

you've just met—and therefore with whom you have only the general human bond but not the special bond of friendship—to give you such an item, even if most of the littler things in life are acquired economically while the larger things can only be acquired by asking.

5. "A note from a doctor, certifying that you do not have bubonic plague." Intended as a joke, this refers to a health, safeguarded by their medicine, which keeps them from a dreadful disease which tore apart societies some centuries ago: that sort of thing wasn't considered a live threat because of how successful their medicine was (which is why it could be considered humorous).

6. "A burning piece of paper which no one in your group lit. (Must be presented in front of Fischer and not brought into the building.)" This presents a physical challenge, in that there is no obvious way to transport a burning piece of paper—or what people characteristically envision as a burning piece of paper—from almost anywhere else to in front of Fischer.

7. "A sheet of paper with a fingerpaint handprint from a kindergartener." "Kindergarten" was the first year of their formal education, and a year of preparation before students were ready to enter their first grade. What did this society teach at its first, required year? Did it teach extraordinarily abstract equations, or cosmological theory, or literary archetypes, or how to use a lathe? All of these could be taught later on, and for that matter there is reason to value all of them. But the very beginning held something different. It taught people to take their turn and share; it taught people "Do unto others as you would have them do

unto you," the Golden Rule by which their great Teachers crystallized so much wisdom. All of this work and play, some of the most advanced lessons they could learn, were placed, not at the end, but at the *beginning* of their education.

That is what kindergarten was. What was a kindergartener? The true but uninformative answer would be "a person in kindergarten."

To get past that uninformative answer, I need to stress that their minds are bound up with organic life—they did *not* spring, fully formed, as you and I did. In most complex organisms, there is a process that transforms a genetically complete organism of just one cell to become a mature member of the species; among humans, that process is one of the longest and most complex. During that time their minds are developing as well as their bodies; in that regard they are not simply in harmony with the natural world this society believes it is separate from… but one of its best examples.

But to say that alone is to flatten out something interesting… even more interesting than the process of biological mental development is the place that society has for something called "childhood". Not all cultures have that concept—and again I am saying "culture" without explaining what it means. I can't. Not all societies understand "childhood" as this society does; to many, a child is a smaller and less capable adult, or even worse, a nonentity. But in this culture, childhood is a distinctive time, and a child, including a kindergartener, is something special—almost a different species of mind. Their inability to healthily sustain themselves is met, not always with scorn, but with a giving of support and protection—

> and this is not always a grudging duty, but something that can bring joy. They are viewed as innocent, which is certainly not true, and something keeps many people from resenting them when they prove that they are not innocent by doing things that would not be tolerated if an adult did it. And the imperviousness of this belief to contrary experience is itself the shadow of the whole place of childhood as a time to play and learn and explore worlds of imagination and the things most adults take for granted. And many adults experience a special pleasure, and much more than a pleasure, from the company of children, a pleasure that is tied to something much deeper.
>
> This pleasure shines through even a handprint left with "fingerpaints," a way of doing art reserved for children, so that this physical object is itself a symbol of all that is special about childhood, and like symbols of that world carries with it what is evoked: seeing such a handprint is a little like seeing a kindergartener.

And they were off. They stopped for a brief break and annoyedly watched the spectacle of over a hundred linked metal carts carrying a vast quantity of material, and walked in and out of the surrounding neighborhoods. Their knocks on the door met a variety of warm replies. Before long, they had a handprint from a kindergartener, a dog biscuit (and some very enthusiastic attention from a kind dog!), a note from an off-duty doctor (who did not examine them, but simply said that if they had the bubonic plague there would be buboes bulging from them in an obvious way), a cigarette lighter and a sheet of paper (unlit), a twisted bumper (which Peter surprised people by flipping over his shoulder), and finally a spent shell casing from a military science professor. When they climbed up "Fischer beach,"

John handed the paper and lighter to his RA and said, "Would you light this?" It was with an exhausted satisfaction that they went to dinner and had entirely amiable conversation with other equally students who scant minutes ago had been their competitors.

When dinner was finished, Peter and Mary sat for a while in exhausted silence, before climbing up for the next scheduled activity—but I am at a loss for how to describe the next scheduled activity. To start with, I will give a deceptive description. If you can understand this activity, you will have understood a great deal more of what is in that world that doesn't fit in ours.

Do I have to give a deceptive description, in that any description in our terms will be more or less deceptive? I wasn't trying to make that kind of philosophical point; I wasn't tring to make a philosophical point at all. I am choosing a description of the next scheduled activity that is more deceptive than it needs to be.

When students studied an academic discipline called "physics," the curriculum was an initiation into progressively stranger and more esoteric doctrines, presented at the level which students were able to receive them. Students were first taught "Newtonian mechanics" (which openly regarded as false), before being initiated into "Einstein's relativity" at the next level (which was also considered false, but was widely believed to be closer to the truth). Students experienced a "night and day" difference between Newtonian mechanics and all higher order mysteries. If you were mathematically adept enough to follow the mathematics, then Newton was easy because he agreed with good old common sense, and Einstein and even stranger mysteries were hard to understand because they turned common sense on its head. Newton was straightforward while the others were profoundly counterintuitive. So Einstein, unlike Newton, required a student to mentally engulf something quite alien to normal, common sense ways of thinking about the world around

oneself. Hence one could find frustrated student remarks about, “And God said, ‘Let there be light!’ And there was Newton. Then the Devil howled, ‘Let Einstein be!’ and restored the status quo.”

Under this way of experiencing physics, Newton simply added mathematical formality to what humans always knew: everything in space fit in one long and continuous three-dimensional grid, and time could be measured almost as if it were a line, and so Einstein was simply making things more difficult and further from humans’ natural perceptions when his version of a fully mathematical model softened the boundaries of space and time so that one could no longer treat it as if it had a grid for a skeleton.

Someone acquainted with the history of science might make the observation that it was not so much that Newton’s mechanics were a mathematically rigorous formalization of how people experienced space and time, but that how people experienced space and time had*become* a hazy and non-mathematical paraphrase of Newtonian mechanics: in other words, some students some students learned Newtonian mechanics easily, not because Newtonian physics was based on common sense, but because their “common sense” had been profoundly shaped by Newtonian physics.

This seemingly pedantic distinction was deeply tied to how the organic was being extinguished in their society.

I suspect you are thinking, “What other mathematical model was it based on instead?” And that’s why you’re having trouble guessing the answer.

The answer is related to the organic. Someone who knew Newton and his colleagues, and what they were rebelling against, could get a sense of something very different even without understanding what besides mathematics would undergird what space meant to them. In a certain sense, Newton forcefully stated the truth, but in a deceptive way. He worked hard to forge a concept of cold

matter, pointing out that nature was not human—and it was a philosophical error to think of nature as human, but it was not nearly so great as one might think. Newton and his colleagues powerfully stressed that humans were superior to the rest of the physical world (which was not human), that they were meant not simply to be a part of nature but to conquer and rule it. And in so doing they attacked an equally great truth, that not only other life but even "inanimate" matter was kin to humans—lesser kin, perhaps, but humans and the rest of the natural world formed a continuity. They obscured the wisdom that the lordship humans were to exercise was not of a despot controlling something worthless, but the mastery of the crowning jewel of a treasure they had been entrusted to them. They introduced the concept of "raw material", something as foreign to their thinking as… I can't say what our equivalent would be, because everything surrounding "raw material" is so basic to us, and what they believed instead, their organic perception, is foreign to us. They caused people to forget that, while it would be a philosophical error to literally regard the world as human, it would be much graver to believe it is fundamentally described as inert, cold matter. And even when they had succeeded in profoundly influencing their cultures, so that people consciously believed in cold matter to a large degree, vestiges of the ancient experience survived in the medieval. It is perhaps not a coincidence that hundreds of years since Newton, in Newton's own "mother tongue" (English), the words for "matter" and "mother" both sprung from the same ancient root word.

The Newtonian conception of space had displaced to some degree the older conception of place, a conception which was less concerned with how far some place was from other different places, and more concerned with a sort of color or, to some extent, meaning. The older conception also had a place for some things which couldn't really be stated under the new conception: people would say, "You

can't be in two places at once." What they meant by that was to a large degree something different, "Your body cannot be at two different spatial positions at the same time." This latter claim was deceptive, because it was true so far as it goes, but it was a very basic fact of life that people could be in two places at once. The entire point of the next scheduled activity was to be in two places at once.

Even without describing what the other place was (something which could barely be suggested even in that world) and acknowledging that the point of the activity was to be in two places at once, this description of that activity would surprise many of the people there, and disturb those who could best sense the other place. The next scheduled activity was something completely ordinary to them, a matter of fact event that held some mystery, and something that would not occur to them as being in two places at once. The activity of being present in two or more places at once was carried on, on a tacit level, even when people had learned to conflate place with mathematical position. One such activity was confused with what we do when we remember: when we remember, we recall data from storage, while they cause the past to be present. The words, "This do in rememberance of me," from a story that was ancient but preserved in the early medieval period we are looking at, had an unquestioned meaning of, "Cause me to be present by doing this," but had suffered under a quite different experience of memory, so that to some people it meant simply to go over data about a person who had been present in the past but could not be present then.

But this activity was not remembering. Or at least, it was not *just* remembering. And this leaves open the difficulty of explaining how it was ordinary to them. It was theoretically in complete continuity with the rest of their lives, although it would be more accurate to say that the rest of their lives were theoretically in complete continuity with it. This activity was in a sense the most human, and the most organic, in that in it they led the beasts of the field, the

birds of the air, the fish of the sea, the plants, the rocks, the mountains, and the sees in returning to the place they came from. This description would also likely astonish the people who were gathered in a painted brick room, sitting on carpet and on movable perches, and seeing through natural light mixed with flickering fluorescent lights. Not one of them was thinking about "nature."

What went on there was in a very real sense mediocre. Each activity was broken down, vulgarized, compared to what it could be—which could not obliterate what was going on. When they were songs, they were what were called "7-11" songs, a pejorative term which meant songs with seven words repeated eleven times. There was a very real sense in which the event was diminished by the music, but even when you factor in every diminishing force, there was something going on there, something organic and more than organic, which you and I do not understand—for that matter, which many people in that world do not understand.

Archon was silent for a long time.

Ployon said, "What is it?"

Archon said, "I can't do it. I can't explain this world. All I've really been doing is taking the pieces of that world that are a bit like ours. You've been able to understand much of it because I haven't tried to convey several things that are larger than our world. 'God' is still a curious and exotic appendage that isn't connected to anything, not really; I haven't been able to explain, really explain, what it is to be male and female unities, or what masculinity and femininity are. There are a thousand things, and… I've been explaining what three-dimensional substance is to a two-dimensional world, and the way I've been doing it is to squash it into two dimensions, and make it understandable by removing from it everything that makes it three dimensional. Or almost everything…"

"How would a three dimensional being, a person

from that world, explain the story?"

"But it wouldn't. A three dimensional being wouldn't collapse a cube into a square to make it easier for itself to understand; that's something someone who couldn't free itself from reading two dimensional thinking into three dimensions would do. You're stuck in two dimensions. So am I. That's why I failed, utterly failed, to explain the "brother-sister floor fellowship", the next scheduled activity. And my failure is structural. It's like I've been setting out to copy a living, moving organism by sculpturing something that looks like it out of steel. And what I've been doing is making intricate copies of its every contour, and painting the skin and fur exactly the same color, and foolishly hoping it will come alive. And this is something I can't make by genetic engineering."

"But how would someone from that world explain the story? Even if I can't understand it, I want to know."

"But people from that world don't explain stories. A story isn't something you *explain*; it's something that may be told, shared, but usually it is a social error to explain a story, because a story participates in human life and telling a story connects one human to another. And so it's a fundamental error to think a story is something you convey by explaining it—like engineering a robotic body for an animal so you can allow it to have a body. I have failed because I was trying something a mind could only fail at."

"Then can you tell the story, like someone from that world would tell it?"

Peter and Mary both loved to run, but for different reasons. Peter was training himself for various races; he had not joined track, as he did in high school, but there were other races. Mary ran to feel the sun and wind and rain. And, without any conscious effort, they found themselves running together down the prairie path together, and Peter clumsily learning to match his speed to hers. And, as time passed, they talked, and talked, and talked, and talked, and

their runs grew longer.

When the fall break came, they both joined a group going to the northwoods of Wisconsin for a program that was half-work and half-play. And each one wrote a letter home about the other. Then Peter began his theology of culture class, and said, “This is what I want to study.” Mary did not have a favorite class, at least not that she realized, until Peter asked her what her favorite class was and she said, “Literature.”

When Christmas came, they went to their respective homes and spent the break thinking about each other, and they talked about this when they returned. They ended the conversation, or at least they thought they did, and then each hurried back to catch the other and say one more thing, and then the conversation turned out to last much longer, and ended with a kiss.

Valentine’s Day was syrupy. It was trite enough that their more romantically inclined friends groaned, but it did not seem at all trite or syrupy to them. As Peter’s last name was Patrick, he called Mary’s father and prayed that St. Patrick’s Day would be a momentous day for both of them.

Peter and Mary took a slow run to a nearby village, and had dinner at an Irish pub. Amidst the din, they had some hearty laughs. The waitress asked Mary, “Is there anything else that would make this night memorable?” Then Mary saw Peter on his knee, opening a jewelry box with a ring: “I love you, Mary. Will you marry me?”

Mary cried for a good five minutes before she could answer. And when she had answered, they sat in silence, a silence that overpowered the din. Then Mary wiped her eyes and they went outside.

It was cool outside, and the moon was shining brightly. Peter pulled a camera from his pocket, and said, “Stay where you are. Let me back up a bit. And hold your hand up. You look even more beautiful with that ring on your finger.”

Peter’s camera flashed as he took a picture, just as a

drunk driver slammed into Mary. The sedan spun into a storefront, and Mary flew up into the air, landed, and broke a beer bottle with her face.

People began to come out, and in a few minutes the police and paramedics arrived. Peter somehow managed to answer the police officers' questions and to begin kicking himself for being too stunned to act.

When Peter left his room the next day, he looked for Prof. Johnson. Prof. Johnson asked, "May I give you a hug?" and then sat there, simply being with Peter in his pain. When Peter left, Prof. Johnson said, "I'm not just here for academics. I'm here for you." Peter went to chapel and his classes, feeling a burning rage that almost nothing could pierce. He kept going to the hospital, and watching Mary with casts on both legs and one arm, and many tiny stitches on her face, fluttering on the borders of consciousness. One time Prof. Johnson came to visit, and he said, "I can't finish my classes." Prof. Johnson looked at him and said, "The college will give you a full refund." Peter said, "Do you know of any way I can stay here to be with Mary?" Prof. Johnson said, "You can stay with me. And I believe a position with UPS would let you get some income, doing something physical. The position is open for you." Prof. Johnson didn't mention the calls he'd made, and Peter didn't think about them. He simply said, "Thank you."

A few days later, Mary began to be weakly conscious. Peter finally asked a nurse, "Why are there so many stitches on her face? Was she cut even more badly than—"

The nurse said, "There are a lot of stitches very close together because the emergency room had a cosmetic surgeon on duty. There will still be a permanent mark on her face, but some of the wound will heal without a scar."

Mary moved the left half of her mouth in half a smile. Peter said, "That was a kind of cute smile. How come she can smile like that?"

The nurse said, "One of the pieces of broken glass cut a nerve. It is unlikely she'll ever be able to move part of her

face again."

Peter looked and touched Mary's hand. "I still think it's really quite cute."

Mary looked at him, and then passed out.

Peter spent a long couple of days training and attending to practical details. Then he came back to Mary.

Mary looked at Peter, and said, "It's a Monday. Don't you have classes now?"

Peter said, "No."

Mary said, "Why not?"

Peter said, "I want to be here with you."

Mary said, "I talked with one of the nurses, and she said that you dropped out of school so you could be with me.

"Is that true?" she said.

Peter said, "I hadn't really thought about it that way."

Mary closed her eyes, and when Peter started to leave because he decided she wanted to be left alone, she said, "Stop. Come here."

Peter came to her bedside and knelt.

Mary said, "Take this ring off my finger."

Peter said, "Is it hurting you?"

Mary said, "No, and it is the greatest treasure I own. Take it off and take it back."

Peter looked at her, bewildered. "Do you not want to marry me?"

Mary said, "This may sting me less because I don't remember our engagement. I don't remember anything that happened near that time; I have only the stories others, even the nurses, tell me about a man who loves me very much."

Peter said, "But don't you love me?"

Mary forced back tears. "Yes, I love you, yes, I love you. And I know that you love me. You are young and strong, and have the love to make a happy marriage. You'll make some woman a very good husband. I thought that woman would be me.

"But I can see what you will not. You said I was beautiful, and I was. Do you know what my prognosis is? I will probably be able to stand. At least for short periods of time. If I'm fortunate, I may walk. With a walker. I will never be able to run again—Peter, I am nobody, and I have no future. Absolutely nobody. You are young and strong. Go and find a woman who is worth your love."

Mary and Peter both cried for a long time. Then Peter walked out, and paused in the doorway, crying. He felt torn inside, and then went in to say a couple of things to Mary. He said, "I believe in miracles."

Then Mary cried, and Peter said something else I'm not going to repeat. Mary said something. Then another conversation began.

The conversation ended with Mary saying, "You're stupid, Peter. You're really, really stupid. I love you. I don't deserve such love. You're making a mistake. I love you." Then Peter went to kiss Mary, and as he bent down, he bent his mouth to meet the lips that he still saw as "really quite cute."

The stress did not stop. The physical therapists, after time, wondered that Mary had so much fight in her. But it stressed her, and Peter did his job without liking it. Mary and Peter quarreled and made up and quarreled and made up. Peter prayed for a miracle when they made up and sometimes when they quarreled. Were this not enough stress, there was an agonizingly long trial—and knowing that the drunk driver was behind bars surprisingly didn't make things better. But Mary very slowly learned to walk again. After six months, if Peter helped her, she could walk 100 yards before the pain became too great to continue.

Peter hadn't been noticing that the stress diminished, but he did become aware of something he couldn't put his finger on. After a night of struggling, he got up, went to church, and was floored by the Bible reading of, "You have heard that it was said, 'Love your neighbor and hate your enemy.' But I tell you, love your enemies and pray

for those who persecute you." and the idea that when you do or do not visit someone in prison, you are visiting or refusing to visit Christ. Peter absently went home, tried to think about other things, made several phone calls, and then forced himself to drive to one and only one prison.

He stopped in the parking lot, almost threw up, and then steeled himself to go inside. He found a man, Jacob, and… Jacob didn't know who Peter was, but he recognized him as looking familiar. It was an awkward meeting. Then he recognized him as the man whose now wife he had crippled. When Peter left, he vomited and felt like a failure. He talked about it with Mary…

That was the beginning of a friendship. Peter chose to love the man in prison, even if there was no pleasure in it. And that created something deeper than pleasure, something Peter couldn't explain.

As Peter and Mary were planning the wedding, Mary said, "I want to enter with Peter next to me, no matter what the tradition says. It will be a miracle if I have the strength to stand for the whole wedding, and if I have to lean on someone I want it to be Peter. And I don't want to sit on a chair; I would rather spend my wedding night wracked by pain than go through my wedding supported by something lifeless!"

When the rehearsal came, Mary stood, and the others winced at the pain in her face. And she stood, and walked, for the entire rehearsal without touching Peter once. Then she said, "I can do it. I can go through the wedding on my own strength," and collapsed in pain.

At the wedding, she stood next to Peter, walking, her face so radiant with joy that some of the guests did not guess she was in exquisite pain. They walked next to each other, not touching, and Mary slowed down and stopped in the center of the church. Peter looked at her, wondering what Mary was doing.

Then Mary's arm shot around Peter's neck, and Peter stood startled for a moment before he placed his arm

around her, squeezed her tightly, and they walked together to the altar.

On the honeymoon, Mary told Peter, "You are the only person I need." This was the greatest bliss either of them had known, and the honeymoon's glow shined and shined.

Peter and Mary agreed to move somewhere less expensive to settle down, and were too absorbed in their wedded bliss and each other to remember promises they had made earlier, promises to seek a church community for support and friends. And Peter continued working at an unglamorous job, and Mary continued fighting to walk and considered the housework she was capable of doing a badge of honor, and neither of them noticed that the words, "I love you" were spoken ever so slightly less frequently, nor did they the venom creeping into their words.

One night they exploded. What they fought about was not important. What was important was that Peter left, burning with rage. He drove, and drove, until he reached Wheaton, and at daybreak knocked on Prof. Johnson's door. There was anger in his voice when he asked, "Are you still my friend?"

Prof. Johnson got him something to eat and stayed with him when he fumed with rage, and said, "I don't care if I'm supposed to be with her, I can't go back!" Then Prof. Johnson said, "Will you make an agreement with me? I promise you I won't ever tell you to go back to her, or accept her, or accept what she does, or apologize to her, or forgive her, or in any way be reconciled. But I need you to trust me that I love you and will help you decide what is best to do."

Peter said, "Yes."

Prof. Johnson said, "Then stay with me. You need some rest. Take the day to rest. There's food in the fridge, and I have books and a nice back yard. There's iced tea in the—excuse me, there's Coke and 7 Up in the boxes next to the fridge. When I can come back, we can talk."

Peter relaxed, and he felt better. He told Prof.

Johnson. Prof. Johnson said, “That’s excellent. What I’d like you to do next is go in to work, with a lawyer I know. You can tell him what’s going on, and he’ll lead you to a courtroom to observe.”

Peter went away to court the next day, and when he came back he was ashen. He said nothing to Prof. Johnson.

Then, after the next day, he came back looking even more unhappy. “The first day, the lawyer, George, took me into divorce court. I thought I saw the worst that divorce court could get. Until I came back today. It was the same—this sickening scene where two people had become the most bitter enemies. I hope it doesn’t come to this. This was atrocious. It was vile. It was more than vile. It was—”

Prof. Johnson sent him back for a third day. This time Peter said nothing besides, “I think I’ve been making a mistake.”

After the fourth day, Peter said, “Help me! I’ve been making the biggest mistake of my *life*!”

After a full week had passed, Peter said, “*Please*, I *beg* you, don’t send me back there.”

Prof. Johnson sent Peter back to watch a divorce court for one more miserable, excruciating day. Then he said, “Now you can do whatever you want. What do you want to do?”

The conflict between Peter and Mary ended the next day.

Peter went home, begging Mary for forgiveness, and no sooner than he had begun his apology, a thousand things were reflected in Mary’s face and she begged his forgiveness. Then they talked, and debated whether to go back to Wheaton, or stay where they were. Finally Mary said, “I really want to go back to Wheaton.”

Peter began to shyly approach old friends. He later misquoted: “I came crawling with a thimble in the desparate hope that they’d give a few tiny drops of friendship and love. Had I known how they would respond, I would have come running with a bucket!”

Peter and Mary lived together for many years; they had many children and were supported by many friends.

Ployon said, “I didn’t follow every detail, but… there was something in that that stuck.”

Archon said, “How long do you think it lasted?”

“A little shorter than the other one, I mean first part.”

“Do you have any idea how many days were in each part?”

“About the same? I assume the planet had slowed down so that a year and a day were of roughly equal length.”

“The first part took place during three days. The latter part spanned several thousand days—”

“I guess I didn’t understand it—”

“—which is… a sign that you understood something quite significant… that you knew what to pay attention to and were paying attention to the right thing.”

“But I didn’t understand it. I had a sense that it was broken off before the end, and that was the end, right?”

Archon hesitated, and said, “There’s more, but I’d rather not go into that.”

Ployon said, “Are you sure?”

“You won’t like it.”

“Please.”

The years passed and Peter and Mary grew into a blissfully happy marriage. Mary came to have increasing health problems as a result of the accident, and those around them were amazed at how their love had transformed the suffering the accident created in both of their lives. At least those who knew them best saw the transformation. There were many others who could only see their happiness as a mirage.

As the years passed, Jacob grew to be a good friend. And when Peter began to be concerned that his wife might be… Jacob had also grown wealthy, very wealthy, and

assembled a top-flight legal team (without taking a dime of Peter's money—over Peter's protests!), to prevent what the doctors would normally do in such a case, given recent shifts in the medical system.

And then Mary's health grew worse, much worse, and her suffering grew worse with it, and pain medications seemed to be having less and less effect. Those who didn't know Mary were astonished that someone in so much pain could enjoy life so much, nor the hours they spent gazing into each other's eyes, holding hands, when Mary's pain seemed to vanish. A second medical opinion, and a third, and a fourth, confirmed that Mary had little chance of recovery even to her more recent state. And whatever measures been taken, whatever testimony Peter and Mary could give about the joy of their lives, the court's decision still came:

> The court wishes to briefly review the facts of the case. Subject is suffering increasingly severe effects from an injury that curtailed her life greatly as a young person. from which she has never recovered, and is causing increasingly complications now that she will never again have youth's ability to heal. No fewer than four medical opinions admitted as expert testimony substantially agree that subject is in extraordinary and excruciating pain; that said excruciating pain is increasing; that said excruciating pain is increasingly unresponsive to medication; that subject has fully lost autonomy and is dependent on her husband; that this dependence is profound, without choice, and causes her husband to be dependent without choice on others and exercise little autonomy; and the prognosis is only of progressively worse deterioration and increase in pain, with no question of recovery.

> The court finds it entirely understandable that the subject, who has gone through such trauma, and is suffering increasingly severe complications, would be in a state of some denial. Although a number of positions could be taken, the court also finds it understandable that a husband would try to maintain a hold on what cannot exist, and needlessly prolong his wife's suffering. It is not, however, the court's position to judge whether this is selfish…
>
> For all the impressive-sounding arguments that have been mounted, the court cannot accord a traumatized patient or her ostensibly well-meaning husband a privelege that the court itself does not claim. The court does not find that it has an interest in allowing this woman to continue in her severe and worsening state of suffering.

Peter was at her side, holding her hand and looking into his wife's eyes, The hospital doctor had come. Then Peter said, "I love you," and Mary said, "I love you," and they kissed.

Mary's kiss was still burning on Peter's lips when two nurses hooked Mary up to an IV and injected her with 5000 milligrams of sodium thiopental, then a saline flush followed by 100 milligrams of pancurium bromide, then a saline flush and 20 milligrams of potassium chloride.

A year later to the day, Peter died of a broken heart.

Ployon was silent for a long time, and Archon was silent for an even longer time. Ployon said, "I guess part of our world is present in that world. Is that what you mean by being in two places at once?"

Archon was silent for a long time.

Ployon said, “It seems that that world’s problems and failings are somehow greater than our achievements. I wish that world could exist, and that we could somehow visit it.”

Archon said, “Do you envy them that much?”

Ployon said, “Yes. We envy them as—”

Archon said, “—as—” and searched through his world’s images.

Ployon said, “—as that world’s eunuchs envy men.”

Archon was silent.

Ployon was silent.

Discussion questions for "Yonder:"

1. Are there some desires that are not possible?
2. Are there some desires that are not desirable?
3. What is "immature atheism" as discussed in the introduction?
4. What is "mature atheism" as discussed in the introduction?
5. What is a wide-eyed "immature transhumanism?"
6. What is dark and dismal about transhumanism rightly understood?
7. Are we fortunate if some transhumanist goals are not possible to achieve?

Conclusion

An enigmatic passage from the *Philokalia* reads:

In this he is unlike the virgin about whom St Antony the Great speaks. One day, while St Antony was sitting with a certain Abba, a virgin came up and said to the Elder: *'Abba, I fast six days of the week and I repeat by heart portions of the Old and New Testaments daily.*' To which the Elder replied: '*Does poverty mean the same to you as abundance?*' '*No*', she answered. *'Or dishonor the same as praise?*' *'No, Abba.*' *'Are your enemies the same for you as your friends?*' '*No*', she replied. At that the wise Elder said to her: '*Go, get to work, you have accomplished nothing.*' And he was justified in speaking like this. For if she fasted so strictly as to eat only once a week, and then very little, should she not have regarded poverty in the same way as abundance? And if she repeated passages from the Old and New Testaments daily, should she not also have learnt humility? And since she had surrendered everything worldly, should she not have considered all people to be her friends? And if she did still have enemies, could she not learn to treat them as

> friends after so much ascetic effort? The Elder was quite right when he said, '*You have accomplished nothing*.'

Ascesis is mind-bogglingly significant. However, the virgin was like a big orchard full of huge fruit trees that had yet to bear one single piece of fruit. Her ascesis was flawed, and it did not work.

Her practice was like sitting down at a table setting, and moving about knife, fork, and spoon the usual way, but without ever putting food on the plate. We should use silverware, but going through the motions of using silverware, without any food at the table, is fruitless.

I have tried to draw on the riches of the Orthodox ascetical tradition, and use its resources to articulate how we can live a properly human life in such a time as ours. I suggest that disciplines such as fasting and silence offer a paradigm from which we can hold the reins even as technology is socially mandated. However, ascesis is a means to an end and not the true goal, and as I was repeatedly told at Cambridge, "*The demons always fast*."

But these ways of restriction and self-restraint are a means to an end and nothing more. They are intended to opening the door to a classic human grandeur that was how humans lived for hundreds of thousands of years before (less than) the past two hundred years. And, really, one hug with a friend is more important than any of the abstentions I have raised.

I would quote the Apostle: "*Awaken, thou that sleepest, and arise from the dead!*"

Awaken from seeking from phones and things that which you should be seeking from your brother and your neighbor!
Awaken and get out of the house!
Awaken and visit other people face-to-face!
Awaken and remember how you lived before our cyber-

enhanced quarantine!
Awaken and cross the street to say hi to your neighbor!
Awaken and read "Repentance, Heaven's Best-Kept Secret!"[132]
Awaken and have a single meal cooked in an oven for a group instead of microwaving an individual portion!
Awaken and get some friends together and play a board game or charades instead of playing video games on your phone!
Awaken and make a gratitude visit, face-to-face!
Awaken and spend an hour in silence, with your phone turned off!
Awaken and enjoy something beautiful without needing to record it!
Awaken and talk to real people instead of AI chatbots!
Awaken and read a paper book!
Awaken and write a list of one hundred things you have to be grateful for!
Awaken and spend one single day electronically engaging only with a laptop that stays in one place and not with any phone or mobile tablet!
Awaken and visit an Orthodox Divine Liturgy! If you have not attended one before, now is an excellent time to start!
Awaken and pursue a life of virtue, of which the eight cardinal or hinge virtues are Courage, Justice, Wisdom, Moderation, Humility, Faith, Hope, and Love.
Awaken and fall down before Almighty God, who loves you, created you, and made you for an immortal glory!

I would like to close by a quotation from among desert ascetics about what more is possible than ascesis. Both assume ascesis has profound significance, and yet:

[132] https://cjshayward.com/repentance/.

Abba Lot went to see Abba Joseph and said to him, "*Abba, as far as I can I say my Little Office. I fast a little. I pray. I meditate. I live in peace and as far as I can. I purify my thoughts. What else am I to do?*"

"*What else*," Abba Lot says, "*can I do?*" Then the old man stood up, stretched his hands towards heaven and his fingers became like ten lamps of fire, and he said to him, "*If you will, you can become all flame.*"