

SALVO

Issue 51 Winter 2019

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WHAT HAPPENS WHEN WE BECOME
COMPLETELY DETACHED FROM FAITH?

PLUS

Thinning Margins

Two More
Habitable Zones
Expand the Case
for Design

by Hugh Ross

Planetary Jewel

Earth's Story Is
One in a Billion
by Neil English

Who Made Whom?

A Big Bang of
Religions Sets the
Stage for God
by Regis Nicoll

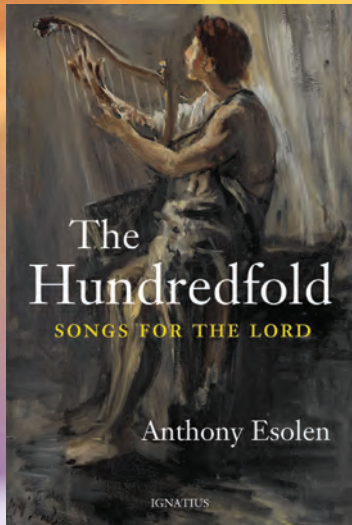
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THE POWER OF FAITH, BEAUTY & MUSIC IN A BROKEN WORLD



◆ THE HUNDREDFOLD

Songs for the Lord

Anthony Esolen

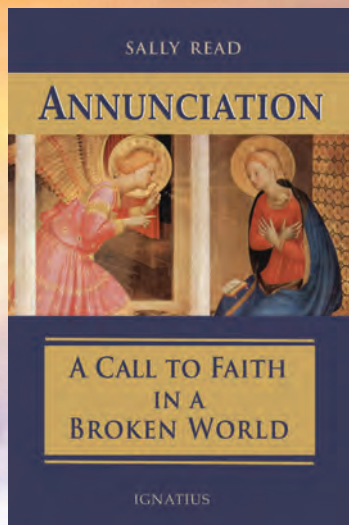
A tapestry of hymns, monologues, and short lyrics knit together as one book-length poem in praise of Christ in all his startling humanity. Drawing from the riches of the English poetic tradition—meter, rhyme, music—Esolen considers the mysterious man from Nazareth and the world he came to set on fire with splendor.

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— Most Reverend Charles Chaput, O.F.M. Cap.,
Archbishop of Philadelphia



◆ ANNUNCIATION

A Call to Faith in a Broken World

Sally Read

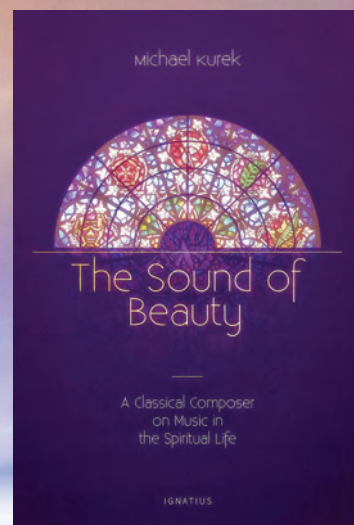
A convert from atheism to Catholicism when her daughter was four years old, Read saw the awareness of "two worlds" for her daughter as she has grown, leading to many doubts about the Faith. Seeing the precarious nature of Faith in a secular world, she presents compelling reasons for holding on to God and Church. Taking the Annunciation as her template, she explores our common experiences of the spiritual life as she meditates on each part of the story in Luke's Gospel.

Drawing on Scripture, the saints, and the lives of people she has known as a nurse and a poet, Read shows how God is with us always—even in suffering, spiritual dryness, and depression. Though inspired by a mother's loving response to a daughter, this beautifully rendered work will speak to any believer engaged in a relationship with God.

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"Read discovers in Mary's experience the pattern of all believers in miniature. She beautifully weaves into one fabric our doubts, fears, raptures, and vocations with those of Mary, the first to receive within herself the Word of God."

— Al Kresta, Radio Host, *Kresta in the Afternoon*



◆ THE SOUND OF BEAUTY

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Michael Kurek

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— Joseph Pearce, from the Foreword;
Author, *Catholic Literary Giants*



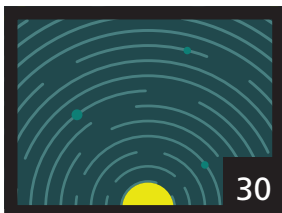
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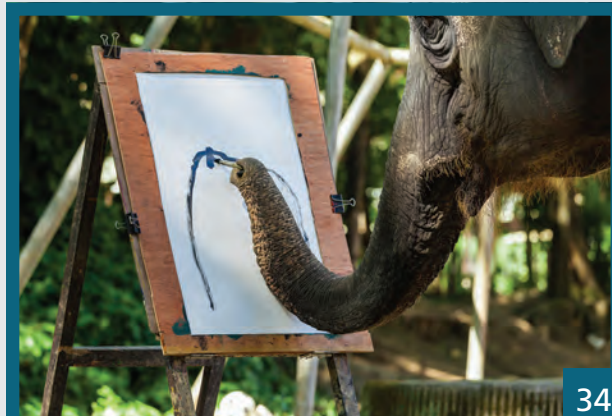
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salvo n. (säl'vō)

1. A mental reservation
2. An expedient for protecting one's reputation
3. A forceful verbal or written assault
4. A group of shots fired simultaneously for effect

A publication of The Fellowship of St. James (www.fsj.org), *Salvo* is dedicated to debunking the cultural myths that have undercut human dignity, all but destroyed the notions of virtue and morality, and slowly eroded our appetite for transcendence. It also seeks to promote the Christian worldview. The opinions expressed by individual contributors are not necessarily those of the editors or publisher.

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Winter 2019

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Under the Counter

If Only *Samizdat* Writers Had the Internet!

by James M. Kushiner

You've seen the word *samizdat*. It's a compound of two Russian words: *sam* (self, by oneself) and *izdat* (abbreviation for *izdatel'stvo*, publishing house), so it means "self-published."

Self-publishing has been around for a long time, even before the invention of the printing press, but only certain individuals could afford to do it. Today, most people think of self-publishing as a new feature of our open market society; that is, anyone can affordably publish his books without an outside publisher. Self-publishing has become much easier with the advent of personal computers, publishing software, and cheap printing-on-demand. Authors who can't find a publisher willing to publish and market their books can now do it themselves.

However, in the former Soviet Union, the self-published work, the *samizdat*, was a dangerous venture for authors who could not get their works published openly because of Soviet censorship. The distribution of any unapproved writings, even giving a single copy to a friend, risked the author's arrest and imprisonment.

Samizdat periodicals, articles, and books were usually published without printing presses. Most manuscripts were produced and copied by hand or by using typewriters and carbon paper. The distribution of these writings had to be secretive, underground, away from the searching eyes of the KGB.

Alexander Solzhenitsyn played cat-and-mouse with the KGB while typewritten installments of



his blockbuster exposé of Soviet sins, *The Gulag Archipelago*, were squirreled away in and shuttled between the apartments of sympathizers. Eventually, a manuscript of the *Gulag* was smuggled to the West, where it was published, and all hell broke loose, including the permanent exile of Solzhenitsyn from the Soviet Union.

The Soviet Union had newspapers—*Isvestia* (News) and *Pravda* (Truth)—but they merely promoted the communist party line. (An old Soviet joke went that there was no news in *Isvestia* and no truth in *Pravda*.) Any counter-press existed only through samizdat.

Our Minority Report

While we have freedom of the press here in the West, the mainstream media (MSM) has rapidly abandoned journalism and adopted an ideological agenda. A single politically incorrect tweet or

social media comment can result in a demotion or even the loss of one's job. Just as Soviet propaganda was all about advancing the revolution, today's MSM does not care about what is true but about protecting its agenda.

So objective journalism has disappeared from the Left and been replaced by journal-activism, produced by journal-activists. Not everyone in the MSM is literally an activist, but to keep one's job, one must adhere to the party line, and in so doing support the agenda of the MSM.

You could, for example, lose your job for expressing support for genuine marriage or for opposing transgender ideology. The MSM, along with academia, has wide influence and powers, so publishing politically incorrect ideas can require courage and patience, as well as the support of like-minded collaborators.

Salvo editors and writers do not risk arrest and imprisonment, but we clearly oppose many of the views of the MSM and the academy. We do not have to go underground, but we are a minority report, a precious supply-line of facts, true stories, and sane arguments with which to confound the errors of our society.

But *Salvo* is only published every three months. That's not often enough, given the daily stream of falsehoods flowing from the Left. So we are pleased to announce that the volume of *Salvo's* reporting is now being increased by regular blog posts on our website. Read the introduction at salvo-mag.com/post/welcome-to-the-salvo-blog and then find the posts at <https://salvomag.com/posts>.

Salvo is an alternative press, backed only by our subscribers and generous donors. Join the collaborators, and remember that there is no need to hide your copies—share them widely! ☸

Man Beats Woman!

A study conducted by the Karolinska Institute and Linköping University in Sweden has shown that biological males identifying as transgender women do not lose their advantages over females in strength and muscle mass even after going on testosterone-suppressing hormone therapy for a full year. The researchers wrote, "Our results indicate that after 12 months of hormonal therapy, a transwoman will still likely have performance benefits over a cis-woman." These findings, they noted, "could be relevant when evaluating transwomen's eligibility to compete in the women's category of athletic competitions."

The Swedish study's findings matched those of another study conducted by three professors at New Zealand's University of Otago, which "found that male athletes who identify as transgender women have an 'intolerable' advantage over their female competitors, even after suppressing testosterone levels." Specifically,

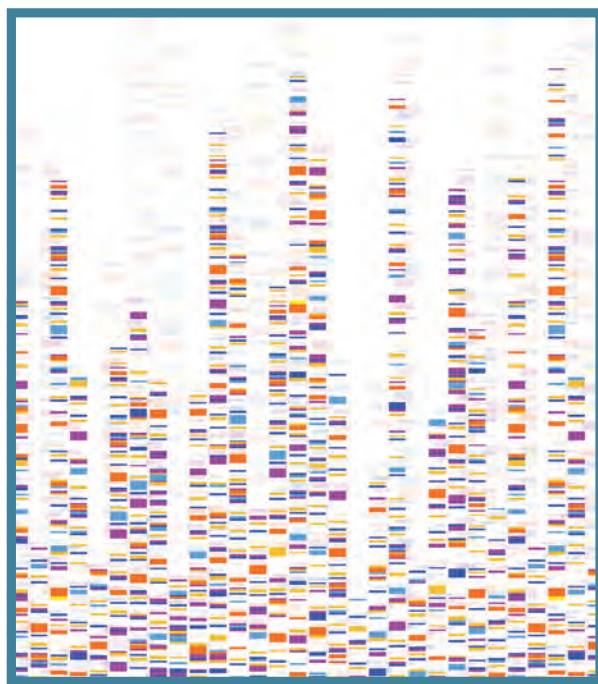
the New Zealand study noted, "hormone therapy will not alter bone structure, lung volume or heart size of the transwoman athlete, especially if she [sic] transitions postpuberty, so natural advantages including joint articulation, stroke volume and maximal oxygen uptake will be maintained."

These studies will provide ammunition for those seeking to protect the rights of female athletes in women's sports. Since they show that males retain considerable physical advantages over women even after extensive hormone therapy, female athletes in the U.S. will have grounds for filing Title IX discrimination complaints when males try to enter their competitions. Several males have already



dominated their female competitors in women's events. In Connecticut, two high-school boys have combined to win 15 girls' state track championships since 2017, and in New Hampshire, Franklin Pierce University track star CeCe Telfer, a biological male, has won national championships and set records in women's track events. •

(Sources: breitbart.com/sports/2019/09/27/study-transgender-athletes-have-advantages-in-womens-sports-despite-hormone-therapy; <https://dailycaller.com/2019/07/25/transgender-athletes-womens-sports-science>)



No Gay Babies!

The results of a genome-wide association study (GWAS) conducted by more than 20 scientists from around the world and involving more than 470,000 individuals was published in *Science* in August. The purpose of the massive study was to look for a correlation between genetics and homosexuality. The researchers examined DNA nucleotide differences in individuals—called single nucleotide polymorphisms, or SNPs—and looked for similar SNPs among people who reported having engaged in homosexual activity. What they discovered is that genetic factors explain less than 1 percent of homosexual

behavior. As *The Wall Street Journal* reported: "[W]hen the researchers pooled all of the identified markers to create a score for an individual person, the genetic variation explained less than 1%, making it practically impossible to predict a person's sexual orientation or behavior based on his or her genome."

This finding is both noteworthy and reliable, first, because it comes from a very large study with high scientific credibility, and second, because it contradicts the frequently voiced assertion that homosexual people are "born that way." With the "gay gene" refuted, homosexual ideology loses one of its principal buttresses. •

(Sources: Ganna et al., "Large-scale GWAS reveals insights into the genetic architecture of same-sex sexual behavior," *Science* (Aug. 30, 2019); Brianna Abbott, "Research Finds Genetic Links to Same-Sex Behavior," *Wall Street Journal* (Aug. 29, 2019).)

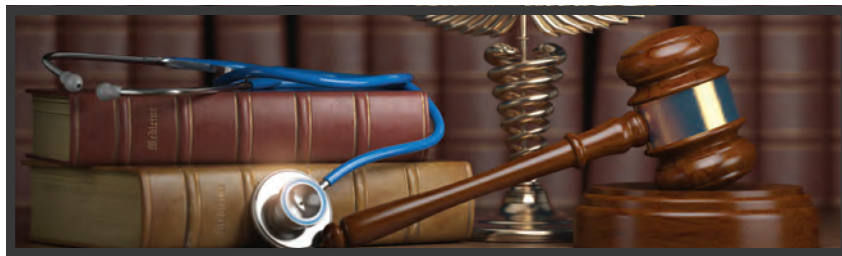
Thrown by “Love”?

In December 2018, Robert Knight killed his 79-year-old, dementia-stricken mother by throwing her off a 13-foot balcony at the nursing home where she had been living. June Knight suffered catastrophic brain injuries from the fall and died shortly afterward. Robert told authorities he had committed the deed because he could not bear to see her suffer. At his trial in September 2019, the jury

deemed that Robert had suffered from “a loss of control,” convicted him of manslaughter but not murder, and gave him a two-year suspended sentence. The judge said Knight “acted out of love and desperation” and called the slaying a “mercy killing.” A pro-life spokesman, however, said that “it is completely wrong to suggest that killing someone with dementia is a loving act. That sends a message that there’s no point in bothering about people with dementia.” •



(Source: spuc.org.uk/latest-news/latest-news/you-acted-out-of-love-son-who-threw-elderly-mother-off-balcony-is-cleared-of-murder)



Bible: Unworthy of Respect!

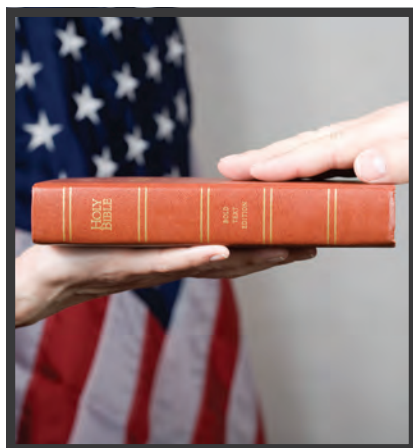
English doctor David Mackereth, a Christian with 30 years’ medical experience, was removed from his job in June 2018 for refusing, hypothetically, to refer to “a six-foot-tall bearded man” as “madam.” He brought suit before an Employment Tribunal for wrongful termination, but in October 2019, the tribunal

ruled against him, saying that “belief in Genesis 1:27, lack of belief in transgenderism and conscientious objection to transgenderism in our judgment are incompatible with human dignity and conflict with the fundamental rights of others” and that “in so far as those beliefs form part of [Dr. Mackereth’s] wider faith,

his wider faith also does not satisfy the requirement of being worthy of respect in a democratic society.”

Dr. Mackereth responded by saying that not only he but many others, including “those who do not share my Christian convictions,” were disturbed to see “their own freedom of thought and speech being undermined by the judges’ ruling,” and he noted that “without intellectual and moral integrity, medicine cannot function.” He explained his intent to appeal the ruling by saying, “I believe that I have to appeal in order to fight for the freedom of Christians—and any other NHS member of staff—to speak the truth. If they cannot, then freedom of speech has died in this country, with serious ramifications for the practice of medicine in the UK.” •

(Source: <https://www1.cbn.com/cbnnews/2019/october/christian-doc-loses-job-as-uk-judge-rules-biblical-view-of-male-and-female-violates-human-dignity-nbsp>)



Bible Gift Is Unethical?

On October 2, former Dallas police officer Amber Guyger was found guilty of murdering 26-year-old Botham Jean, whom she fatally shot when she mistook him for a burglar. At the end of the trial, Botham’s younger brother Brandt publicly forgave Guyger, asked her to give her life to Christ, and then, with the judge’s permission, gave her a hug. The powerful moment touched many in the courtroom, including Judge Tammy Kemp, who afterward gave Guyger her Bible, urging her to read John 3:16 and saying, “You

haven’t done so much that you can’t be forgiven.” The Dallas police chief later commented that the court had witnessed “a spirit of forgiveness, faith and trust,” but the Freedom from Religion Foundation (FFRF) saw things otherwise and filed a formal complaint with the Texas State Commission on Judicial Conduct, alleging that Judge Kemp had “overstepped [her] judicial authority,” committed “inappropriate” and “unconstitutional” actions and should be investigated for an ethics violation. Hopefully the commission will see the FFRF’s complaint for the spiteful act it is and disregard it. •

(Source: frc.org/get.cfm?i=WA19J10&f=WU19J04)



Going to Pot

Marijuana Use by the Numbers

by Heather Zeiger

37.6 million

Number of users in the U.S. in 2016, making marijuana the most commonly used illegal drug in the country.¹

As of this writing, the medicinal use of marijuana is legal in 33 states, the District of Columbia, and three U.S. territories. Of those states and territories, 14 also allow recreational use of marijuana. An additional 13 states allow the sale of products containing cannabidiol (CBD), with restrictions on the amount of THC (see definitions in sidebar). However, at the federal level, marijuana is classified as a Schedule 1 drug and is therefore illegal, although the FDA has approved certain components of cannabis for therapeutic purposes.²

Definitions

Cannabis

A general class of plants from which hemp and marijuana are derived. Though the word “cannabis” is sometimes used synonymously with marijuana, there are over 400 chemical components in the cannabis plant.

THC

(tetrahydrocannabinol)
The main psychoactive chemical in cannabis, responsible for producing marijuana’s “high”; its concentration in any given marijuana product can vary widely.

CBD

(cannabidiol)

A non-psychoactive ingredient in the cannabis plant that may have analgesic properties. It is legal in some states, so long as it is derived from hemp, but it is also sold in various products that are not FDA-approved and whose safety has not been tested.

Hemp

Considered a non-psychoactive strain of cannabis; hemp must contain no more than 0.3% THC; otherwise it is legally treated as marijuana according to the 2018 Farm Bill. Hemp is used to manufacture such products as rope, paper, and other textiles as well as for producing CBD products.

Adult Users in the U.S.

90%

percent who use marijuana primarily for recreational purposes³

10%

percent who use pot purely for medicinal purposes

36%

percent who use pot for both medicinal and recreational purposes

Daily Users

Compared to non-users, daily cannabis users are much more likely to have a psychotic episode, including schizophrenia:

3.2 times

the greater likelihood for all daily cannabis users

4.8 times

the greater likelihood for daily users of high-potency cannabis⁴

Teen Users

According to a survey of 44,482 eighth, tenth, and twelfth graders in both public and private schools in the U.S.:⁵

—Percent who had used marijuana daily in 2018:

- 8th graders: **0.7%**
- 10th graders: **3.4%**
- 12th graders: **5.5%**

—Percent who had vaped marijuana in 2017 and 2018, respectively:

- 8th graders: **1.6%—2.6%**
- 10th graders: **4.3%—7.0%**
- 12th graders: **4.9%—7.5%**



36%

percentage of high-school seniors in 2014 who thought marijuana was harmful, down from 54% in 2009.

Statistical Correlations

Changes in healthcare utilization in Colorado since pot was legalized there:⁶

10%

increase in motor vehicle accidents

5%

increase in alcohol abuse and overdoses that resulted in injury or death

5%

decrease in hospitalizations for chronic pain

2.8 times

increase in calls to poison control centers due to children accidentally ingesting a cannabis-containing product compared to states where recreational pot is not legal.⁷

Effects of Starting Young

Marijuana users have poorer cognitive and executive function compared to non-users. This was most pronounced in people who started in their teens.⁸

• **Frequency:** People who started using marijuana before age 16 smoked pot **1.75 times** as often as people who were over 16 when they started. The former also smoked **2.5 more grams** per week.

• **Addiction:** Of those who started using pot before age 18, **1 in 6** became addicted to it; of those who started after age 18, **1 in 10** became addicted.⁹

• **Escalation:** 12-to-17-year-olds who vape are **4.3 times** more like to use marijuana as those who don't vape.¹⁰

• **Psychoses:** Among teens who smoke pot, **14 in 1,000** are likely to develop psychoses, including schizophrenia; among those who don't smoke it, only **7 in 1,000** are likely to develop psychoses.¹¹

Notes

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5. "Monitoring the Future 2018 Survey Results," NIH, National Institute on Drug Abuse: drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2018-survey-results.
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10. "Teen vaping tied to marijuana use," *Reuters* (Aug. 13, 2019): reuters.com/article/us-health-kids-smoking/teen-vaping-tied-to-marijuana-use-idUSKCN1V324S.

11. "Continued cannabis use and risk of incidence and persistence of psychotic symptoms: 10 year follow-up cohort study," *BMJ* (Mar. 1, 2011): ncbi.nlm.nih.gov/pubmed/21363868. This is for teens that are not necessarily prone to psychoses based on family history and who did not show symptoms of psychoses at the beginning of the 10-year study.

Putting Liberty Back in Liberal Education

One Economist's Case for Separation of School & State

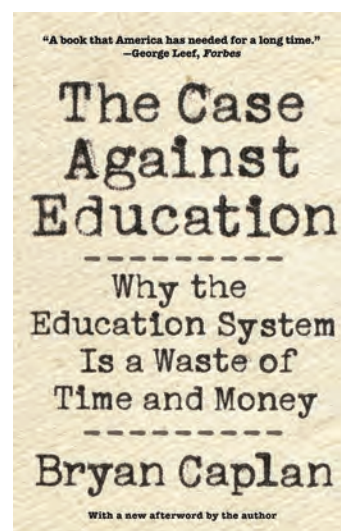
by Terrell Clemmons

As election season heats up, we will no doubt hear talk about education. We will hear about its importance (it's an investment in the future), and we will hear about its cost (which is skyrocketing but still worth it because—*duh!*—it's investment in the future), and since it's both important *and* expensive, we will also hear calls for making more of it free—well, “free” meaning “at no upfront cost to students.” But, setting aside the oxymoronic nature of a “free investment,” economists tell us that everything of value carries some cost. Sensible people already know these things.

But did you know that *anyone* can get a tuition-free education from almost *any* college in the country right now? Yes, says Bryan Caplan, economics professor at George Mason University, “*The best education in the world is already free. . . . Fact: anyone can study at Princeton for free. While tuition is over \$45,000 a year, anyone can show up and start attending classes. No one will stop you. No one will challenge you.*” He calls it, tongue in cheek, “guerilla education.”

But wait! you say; *just sitting in class won't get me a diploma!*

Ahh . . . and you would be correct. Keep that astute observation in mind, as we consider what Caplan has to say in his provocatively titled, *The Case Against Education: Why the Education System Is a Waste of Time and Money*. If, on the other hand, you think any “case against education” is nuts, muse on the following



thought experiment: You can have *either* a Princeton education without the diploma *or* a Princeton diploma without the education. Does this either/or offer strike you as a no-brainer? Or is it more of a head-scratcher? If the latter, then read on. Professor Caplan will help you make sense of *why*.

Completed!

Good Job!

Super star

Education: Two Economic Models

Caplan begins by contrasting two models by which economists evaluate education. The “human capital model” says that education is valuable because it builds human capital. Expenditures on education are justified because education produces useful job skills that yield economic and social returns. Reduced to the coarse terms of a cost-benefit analysis, education is worth what it costs because educated workers become sufficiently productive to justify the cost.

By contrast, the “signaling model” says that education supplies potential employers with “signals” about job applicants. In other words, whether or not an applicant’s education taught him the skills necessary to perform the job, an employer will seriously consider him for the job because mere possession of a diploma *signals* certain things about its bearer. Even if what a student learned in school was utterly useless, an employer will still happily pay the graduate more because his scholastic achievement “certifies” his productivity—it gives something akin to a “good seal of approval.”

These two models sit at either end of a continuum, and no one argues for one extreme or the other. Most people agree that there is an element of signaling involved in education, and perhaps justifiably so. But Caplan breaks drastically with conventional thought and says education today is *predominantly* signaling. He fills several chapters with graphs, charts, and economist-ese in laying out his “best guess” conclusion, which is that signaling accounts for 80 percent of education’s return. In other words, only about 20 percent of education is skill cultivation. The other 80 percent is signaling. “I even anoint this the ‘Reasonable’ position,” he says, presumably also tongue in cheek. An admitted iconoclast, he deems

our education system a huge waste of resources and says we need *less* of it, and we need it to be *less affordable*.

Taking Signaling Seriously

His entire case rests on the premise that most of education is signaling. Specifically, he contends that education signals three things: *intelligence* (knowledge, ability to learn), *conscientiousness* (work ethic, discipline, goal completion), and *conformity* (complying with expectations, getting along with peers, being a “team player”). One’s education, then, signals this *package* of desirable traits. Busy hiring managers know that the whole package won’t necessarily hold true for all applicants, but they filter out the uncredentialed sight-unseen anyway, because, statistically, it makes sense for them to do so. Caplan calls it, straightforwardly enough, “statistical discrimination.”

The high-school senior applying to college might think, *Who cares if education is mostly signaling? If a degree boosts my earnings potential, then it pays.* And given the data, that’s a reasonable inclination. Statistically, it does pay—for the individual looking solely at his own return on investment.

But economists ask different questions, and evaluating return for a society in aggregate is a different matter. Do we, as a whole, reap sufficient benefits from our education system to justify our current collective investment in it? The degree to which education imparts valuable skills or merely racks up signaling points *does* affect the answer to *that* question. Here’s why: to the extent that education is skill cultivation, it increases the

In an everyone-has-a-bachelor’s-degree employment market, the way to boost your perceived worth is to get a master’s degree. And so, to the extent that signaling drives this quest for degrees, the academic enterprise becomes a perverse kind of sheepskin arms race that wastes time, effort, and money and that benefits no one.

size of the economic pie. To the extent that it’s signaling, it only redistributes the pie. Skill is accumulative. Status is zero-sum.

Effects of Signaling

One effect of high signaling is “credential inflation.” In an everyone-has-a-bachelor’s-degree employment market, the way to boost your perceived worth is to get a master’s degree. And so, to the extent that signaling drives this quest for degrees, the academic enterprise becomes a perverse kind of sheepskin arms race that wastes time, effort, and money and that benefits no one. Factor in federal grants and loan subsidies, and what do you end up with? A glut of graduates with a high debt/low employability imbalance. Or in street terms, bartenders and baristas with BAs and big outstanding loans. (*Sound familiar?*) They might get paid more than their non-degreed counterparts, but it’s a pretty safe bet they didn’t go to college to make drinks for a living.

But while bartenders with BAs may well work their way into satisfying careers, there’s another segment of the population on whom the current system exacts a heavier toll. Economists also look

at opportunity costs—what has been *lost* because another alternative wasn't chosen? Originally, higher education prepared select students for vocations in medicine, law, and religious ministry. The modern curriculum is more versatile but still requires years of study in languages, history, arts, sciences, and more, and while the idea of training everyone for long-shot, prestigious careers is a noble aspiration, it can disproportionately harm those students who, for whatever reason, just don't do school well.

Despite his book's title, Caplan *does* recommend that students finish high school (though he'd like to see it require tuition), but if a fourteen-year-old is already bored and loathes school, might he be better served with an option to take a job and learn a skill? Shoehorning everyone into a one-size-fits-all regimen is a terrible way to foster thoughtful minds or inspire hearts. Working will at least teach an at-risk youth how to do *one* job, likely yielding higher individual *and* social returns than confining him, disgruntled, to a curriculum that trains him for *no* job. Caplan devotes a whole chapter to arguing for expanded vocational training and apprenticeship options, both in schools and in the labor market. "Visualize a world," he writes,

where 16-year-olds have real job skills and earn enough to provide for themselves . . . where academically uninclined preteens look up to apprentices instead of delinquents . . . where students find their lessons either practical or interesting. If we could raise a new productive, independent, engaged generation, wouldn't that be a great improvement over the bored, infantilized youth of today?

Indeed. These options should be put forth as equally commendable career paths—both as a matter of respect for those students and as a social curb against dropout delinquency.

It seems reasonable that education would indicate a certain level of intelligence and conscientiousness, but what about *conformity*? Caplan defends its inclusion in the signaling trifecta on the grounds that employers prefer "submissive worker bee[s]." It's conceivable that this might be the case, but the historically informed citizen might discern here a big red flag. Do we really want massive government investment in a system geared for social conformity? Caplan cites data on the appalling dearth of critical thinking in educated America, and specifically calls out college science for teaching *what* to think about topics on the syllabus rather than *how* to think about the world. Mass conformity of thought combined with poor reasoning has never augured well for anyone. If signaling plays a big part in education, and social conformity plays a part in signaling, then paring the system back is very much a "Reasonable" position.

Given a fair hearing, the signaling model explains many of the pervasive idiosyncrasies of student life: time burned cramming for tests on minutiae they don't care about and forget the day after, skipping classes or assignments because "I already have an A," and reducing academics to the least-common-denominator calculus of "What do I have to do to graduate?" rather than "How can I maximize my learning?" It also explains why the choice of a Princeton education or a Princeton diploma is an *actual dilemma*, rather than a no-brainer.

"All things considered," Caplan writes, "I favor full separation of school and state." He estimates that government outlays for K–college education amounts

to around a trillion dollars every year, but arbitrarily calling it "investment" doesn't make it so. "Who could oppose ample funding for education?" he asks, and then answers, "Anyone who takes signaling seriously."

Seriously.

Toward Freedom in Education

Despite the iconoclastic tone of all this, Caplan writes like a perennial optimist. *The Case Against Education* is not at all a screed against education *per se*. It's a pragmatic case for being more efficient and compassionate about how we *do* education.

Historically, a liberal education was called "*liberal*" because it aspired to be a means by which enlightened people freely sought truth, unconstrained by provincialism or mind-shackling groupthink. Caplan mostly reduces the purpose of education to workforce preparation, but he does leave room for this kind of valuing of ideas. Although he specifically rejects Christianity, those of us who think in Judeo-Christian categories can get on board with what he's saying and build from there. He lists three ingredients for a good education: worthy content, skillful teaching, and eager students. We should recognize in that prescription the elements of a truly *liberating* education—*truth* and *people who love it*.

There's no such thing as a "free education," but there is such a thing as an education that can make you free. Recall that the greatest liberator of all time connected knowledge, truth, and liberty with himself when he said, "You shall know the truth, and the truth shall make you free." A move toward separation of school and state would be an exceedingly "Reasonable" step toward making and keeping Americans free. ☉



Darwin vs. Darwin

The Incoherent “Science” of the National Science Teaching Association

by Terrell Clemmons

National Science Teaching Association

Background:

In 1944, the American Council of Science Teachers and the American Science Teachers Association merged to become the National Science Teachers Association (NSTA). With a membership of about 55,000 (not limited to science teachers), NSTA is the world’s largest science education advocacy organization. An affiliate of the American Association for the Advancement of Science, with an annual budget of over \$26 million, it employs about 100 full-time staff at its headquarters in Arlington, Virginia. In 2019, it changed its name to the National Science Teaching Association, as this “better reflects the numerous stakeholders in the K–16 science teaching community.”

Its mission is “to promote excellence and innovation in science teaching and learning for all.” It holds conferences, offers professional development, publishes journals and position statements, and lobbies Congress on science education-related legislation and other issues.

Reason for Surveillance:

To be sure, a forum for teachers to collaborate *could*—and perhaps in some ways *does*—benefit science education, but the NSTA is undermining excellence in education on two fronts. First, it has diluted its mission by adding political-correctness advocacy to its docket. Among its 38 position statements



are missives on “Gender Equity in Science Education,” “Multicultural Science Education,” and “Poverty,” as if those have anything to do with the empirical sciences, and its long-winded statement on

“Climate Science” doubles down on the “overwhelming scientific consensus” while psychologizing alternative positions as “cognitive biases” related to “one’s faith, family, and personal emotional experiences.”

Second, regarding evolution, it has contorted the very meaning of critical thinking into its exact opposite. Efforts to “‘teach the controversy’ or present ‘strengths and weaknesses of evolution’” amount to “twisting and abusing core pedagogical principles” and “open[ing] science classroom doors to non-science.”

So gender equity and multiculturalism are “science,” but weighing the strengths and weaknesses of evolutionary theory is “non-science.” Got that?

Most Recent Offense:

In subsequent editions of *The Origin*, Darwin himself responded carefully to his critics and added, “I look with confidence to the future, to young and rising naturalists, who will be able to view both sides of the question with impartiality.” Attorney Herman Bouma thought Darwin had provided us with a good example of respectful engagement with criticism, and so

he submitted a proposal to speak on that topic at the NSTA 2019 national conference. His talk was approved months in advance and scheduled for 8:00 AM on April 14, the final day of the conference.

At about 7:40 AM, as Bouma was setting up his equipment, three NSTA officials came in and said his presentation had been cancelled. Someone had contacted the NSTA the prior evening, he was told, whereupon NSTA officials had consulted the website for his nonprofit, the National Association for Objectivity in Science, and deemed it “fake science.” Beyond relating those details, they were “not at liberty” to discuss the cancellation. The officials then moved to the door to prevent anyone from entering, and four security guards arrived to ensure that Bouma left the room. An older gentleman, unaccustomed to being manhandled, Bouma was flabbergasted. “It was like the Darwinian Gestapo,” he said.

He requested a follow-up meeting, but NSTA executive director David Evans said *no*, noting, “We firmly oppose advising teachers to ‘teach the controversy’ regarding evolution by natural selection, as there is no scientific controversy.”

So now, Darwin’s theory is “science,” but Darwin’s engagement with criticism is “non-science.” And with presumably straight faces, they call this “excellence and innovation.” This double-minded activism is an Orwellian innovation that science would be better off without. ☹

Women & Children Last

The Dark Reality of Modern Slavery in America

The following are all true stories:

• Sacramento, California, 2018:

When two teenage girls, ages fifteen and seventeen, approached the American Airlines counter, ticket agent Denise Miracle knew something wasn't right. The girls were traveling unaccompanied with no ID on a first-class ticket to New York that had been purchased by a credit card in another name. She denied them boarding and called the Sheriff's Department Airport Bureau. Meanwhile, the girls called "Drey," who had invited them to New York for a weekend to earn \$2,000 modeling and appearing in a music video. They'd met him on Instagram, and each had told her parents that she would be staying at the other's house for the weekend, but then headed to the airport instead. By the time Deputy Todd Sanderson arrived, "Drey" had dropped off the grid—his phone number and all his social media accounts had been deactivated. The girls were shocked when Sanderson told them they'd been booked on one-way flights.

• Stockton, California, 2012:

Lee's job as a taxi driver was simply to drive people from point A to point B. He'd picked up his young female charge from a quiet suburban home around midnight, but there was no way he was going to drop her off at the address he'd been given. He ignored protocol and took her to the police station. It turned out that "Jason," whom she'd met on OK Cupid, had dispatched the taxi for her so they could meet and share some smokes and a little fun. "Jason," too, went dark shortly thereafter.

• Minneapolis, Minnesota, 1985:

Annie Lobert sensed right away that the charmingly attentive Mr. Hotness at the strip club where she danced for college money might be dangerous. But he was dripping with money, and she felt a spark. Maybe he would be "the one." Then again, maybe not. After a brief high-dollar romance, he reined her in as his very lucrative Las Vegas "cash cow" until she escaped five years later.¹

• Suburban Detroit, Michigan, 1981:

When David, the older-looking, gorgeous Chaldean sophomore Theresa Flores had been crushing on all year, offered her a ride home from school, she skipped track practice without missing a beat. When he turned his shiny black Trans Am away from her neighborhood and instead pulled up to a stunningly large house, she ignored the red flags and accepted his invitation to come inside while he "got something." It would only take a moment, she reasoned, and their families attended the same Catholic church. Surely, they shared the same moral values.

Surely, they did not. Theresa returned home that evening dazed and devastated. She had almost surely been drugged, and she had definitely been robbed of her virginity.



Sextortion in the Suburbs

The three California girls were saved by perceptive, quick-thinking adults, and Annie, who was well into her twenties, eventually escaped on her own. But Theresa's experience was uniquely bizarre. Just shy of her sixteenth birthday, she soon found herself at the mercy of what could only be described as a Chaldean mafia—all while living under her parents' roof in a safe, upper-middle-class neighborhood.

Here's how it went: After the afternoon sting operation, David sought her out at school. "I am really sorry," he said, "but my cousins saw us together. They took pictures of you, and you will have to work for them to get the pictures back. I tried talking them out of it, but they are cruel. You must do what they say." Then, for more than a year, David played the part of her "protector-handler" in a drawn-out good-cop, bad-cop scheme. After an otherwise ordinary day of school and homework, Theresa would drop into bed exhausted, and around midnight, her phone would ring. It was always David, and if she didn't follow directions, someone would pay a price, either her or someone in her family.

So Theresa would sneak out of the house, and David would drive her to one well-appointed home or another where she would be locked in a room for hours while one Middle Eastern man after another took his turn with her. This would happen several nights a week, and Theresa complied to protect her family. If she didn't answer the phone, a dead animal or a black rose would appear in the mailbox the next day, and once, when she escaped her late-night confines, her dog disappeared the following day, never to return. The entire ordeal mercifully came to an end when her father was transferred and the family moved away. Busy with their own concerns, her parents never knew any of this was going on.²

Hotline cases nearly doubled between 2015 and 2018, and a single case may involve more than one victim. Rogers says it's simple economics. **"Because of the demand, then these traffickers are filling that demand . . . with our very own kids."**



Modern-Day Slavery

The U.S. National Human Trafficking Hotline defines sex trafficking as "a form of modern-day slavery in which individuals perform commercial sex through the use of force, fraud, or coercion." According to Geoff Rogers of the U.S. Institute Against Human Trafficking, America is the number one consumer of sex worldwide, and the demand is rapidly growing. Hotline cases nearly doubled between 2015 and 2018, and a single case may involve more than one victim. Rogers says it's simple economics. "Because of the demand, then these traffickers are filling that demand . . . with our very own kids." The State Department released a report earlier this year listing the U.S., Mexico, and the Philippines as the top three nations of origin for victims in 2018, and according to the Hotline, the most common ages of entry are 15–17.

Traffickers prey on vulnerabilities, and social media is a rapidly growing tool for them. Another recruitment tactic is the offer of a job, such as a modeling contract. Sadly, the most common means of entry, according to the Hotline, are people known to the victim—an intimate partner, foster-care-related contact, or family member. A number of victims are foreigners who were lured into the U.S. under false pretenses, such as a marriage proposal or job offer.

The Rise & Fall of Sexual Restraint

In the wake of the Jeffrey Epstein affair, Rev. Ralph Smith, a missionary in Tokyo, published an essay on *Theopolis* about the long historical evolution of Western sensitivities concerning sex with prostitutes

and minors. Prostitution was prevalent in the ancient world; it was just a transaction, and the age of the service provider was irrelevant. "One thing and only one thing happened to provoke a cultural revolution in one part of the world—though its influence has reached others," he wrote. "Christianity and only Christianity transformed the way people viewed human sexual relationships by universalizing the standards of the Old and New Testaments." Nothing in Hinduism, Buddhism, or Islam explicitly upholds the dignity of women and protects minors from abuse, he pointed out. "Only Christianity required strict monogamy."³

Today, most people rightly recoil at the thought of women and children being held against their will and used for sex. We can thank Christianity for that. Yet, now, even as social justice warriors blaviate about America's shameful history of slavery, there exists right under their elevated noses a slavery problem in post-sexual-revolution America.

Meanwhile, *Teen Vogue* openly advocates for legitimized prostitution worldwide, even suggesting social media as a safe meeting space for conducting transactions.

The sexual revolutionaries told us that biblical monogamy and the natural family were oppressive. They also said that overthrowing sexual restraints would set women free. What they have done, though, is gradually replace one set of restraints with another. And the most vulnerable among us are the ones being sold a bill of goods and paying the highest toll. ☹

Notes

1. Annie's story is told in *Fallen: Out of the Sex Industry and into the Arms of the Savior* (Worthy Books, 2015); see also *Salvo* 33.
2. Theresa tells her story in her book, *The Slave Across the Street: A human trafficking survivor's spiritual journey of healing* (Ampelon Publishing, 2019; orig. pub. 2009).
3. "What Jeffrey Epstein Got Right" (Aug. 14, 2019): https://theopolisinstitute.com/leithart_post/what-jeffrey-epstein-got-right.

MeetMe

A dating social media app that connects people based on location. Users are encouraged to meet in person.

WhatsApp

A messaging app that allows texts, video calls, photo sharing and voicemails with users worldwide.

App Alert!

15 Apps Parents Should Know About

Information taken from the Madill, Oklahoma Police Department

Bumble

Similar to Tinder, but requires women to make the first contact. Law enforcement says kids and teens can create fake accounts and falsify their age.

Grindr

A dating app geared toward the LGBTQ community based on user location.

Holla

This self-proclaimed "addicting" video chat app lets users meet people in seconds. Law enforcement said users have seen racial slurs and explicit content.

TikTok

A new app popular with kids lets users create and share short videos. Law enforcement said the app has "very limited privacy controls" and users can be exposed to cyberbullying and explicit content.

Calculator+

Police say this is one of several apps that are used to hide photos, videos, files and browser history.

Live.Me

A live-streaming app that uses geolocation to share videos. The sheriff's office said users can earn "coins" to "pay" minors for photos.

Ask.FM

The sheriff's office said this app lets users ask anonymous questions and is known for cyberbullying.

Snapchat

One of the most popular social media apps in the world, Snapchat lets users take and share photos and videos. The app also lets people see your location.

Skout

A location-based dating app that is supposed to prohibit people under 17 from sharing private photos. However, police say kids can easily create an account with a different age.

Badoo

A dating and social media app where users can chat and share photos and videos based on location. Police say the app is supposed to be for adults only, but they've seen teens create accounts.

Kik

Police say kids can bypass traditional text messaging features using this app. Kik "gives users unlimited access to anyone, anywhere, anytime," the sheriff's office said.

Whisper

An anonymous social network that lets users share secrets with strangers. Police say it also shows users' location so people can meet up.

Hot or Not

The app lets users rate profiles, check out people in their area and chat with strangers. Police say the goal of the app is to hook up.





Body Discount

Assisted Suicide, Organ Donation & the Devaluing of the Human Person

Heather Ross could not hold her husband Bob's hand while he died because he was being prepped for surgery. His organs needed to be removed as close to the moment of death as possible to ensure the best outcome for their transplantation. Bob Blackwood was one of the first patients in Quebec to donate organs after medical aid in dying (MAID) was legalized in Canada in 2016.¹

While more than 6,700 people have chosen to end their lives through medically assisted suicide in Canada in the past three years, only a tiny fraction, about 30, also chose to donate their organs. Most people do not qualify because of the nature of their disease. And most of those who do qualify would prefer to die at home.

The Netherlands has tried a work-around for the competing goals of dying through assisted suicide at home and being able to donate viable organs: The patient takes medication that will put him in a deep sleep while still at home and surrounded by loved ones. Then a medical team transports the patient to the hospital, where he will receive a lethal injection, closely followed by organ removal. About four hours later, the body will be returned home. Rather than a so-called death with dignity, this is a staged "death," allowing the actual death to occur in a more convenient place.

In light of the Dutch solution, which doesn't sit well with many people, the *Journal of the Canadian Medical Association* published a set of guidelines in June that lays out how to talk to patients seeking assisted suicide about whether they want to donate their organs.² The Canadian guidelines say that the decision to choose to die through MAID or by the withdrawal of life-sustaining measures "must be separate from, and must precede, the decision to donate."

While the guidelines go to great lengths describing how conversations about organ donation should be carried out so as to protect patient autonomy, they seem to neglect a more important conversation. Wesley Smith, a vocal opponent of euthanasia and assisted dying, said in an article in *The American Spectator*, "I scoured the document, and do you know what I *didn't find*? Any requirement that patients who ask for euthanasia receive suicide prevention or treatment to help them overcome the desire to die."³

As a teen and college student, I served as a peer helper and a freshmen orientation mentor. As an adult, I have volunteered to work with teens. In all cases, I had training in what to do if someone was suicidal. I was legally required

to report the suicidal person to someone who could help, in the hope that the person could be dissuaded from committing suicide. But what medically assisted suicide coupled with organ donation communicates, without explicitly saying so, is that maybe some people aren't worth helping, but their organs are worth harvesting.

Means to an End

With the first successful kidney transplant in 1954 came a debate over what it means to harvest the parts of a person's body. The first transplant came from a living donor, but things became more complicated with the first heart, liver, and pancreas transplants in 1967. One year later, in 1968, the definition of death was changed to include so-called brain death, largely to facilitate organ transplantation.

We can intuitively sense the tug-of-war involved with organ transplantation. On the one hand, there's something troubling about disassembling a dead body, something that speaks to the same intuitions that keep laws against desecrating a corpse on the books. On the other hand, the idea of giving of oneself so that another may live is noble. In the case of organ donation after death, it isn't self-sacrifice in the sense that one person agrees to die in order to save another (at least it shouldn't be). But as a member of President Bush's Council on Bioethics put it, the dying person and his family are sacrificing *something* in allowing their loved one's body to become disaggregated.⁴

Organ transplantation can easily slip from altruism into exploitation, or from "donation" to "harvesting." Donation implies an altruistic act by which one person freely gives of himself to benefit another. Harvesting implies a utilitarian act by which one

person is used as the means of benefiting another.

The latter also implies a fractured, or dualistic, view of human beings, something Nancy Pearcey writes about in her book *Love Thy Body* (Baker Books, 2018). This fractured view splits the person in two, locating his identity in his mental state—which is considered the true "self" in our Gnostic-inspired culture—and regarding the body as mere flesh, something that can be used as a means to an end, whether that end be autonomy, pleasure, identity construction, or anything else the "self" decides it wants. When a person's mind is gone, his body, at least in this worldview, can then be used as a means to someone else's ends because it no longer houses the true person.

The question then arises: Is there a point at which the body can validly be subjected to a cost-versus-benefit analysis? Say the mental capacity of a particular person has slipped below a certain level; can we then deem him to be worth more dead than alive? Can we establish criteria for when a life has become unworthy of life, as the Nazis did?

Canada's coupling of assisted suicide with organ donation may seem to offer an opportunity to combine autonomy with altruism: a patient freely decides that his life is not worth living, while also giving of himself so that another may live. But in legalizing physician-assisted suicide, society has implicitly agreed with the suicidal person that his life



The question then arises: **Is there a point at which the body can validly be subjected to a cost-versus-benefit analysis?** Say the mental capacity of a particular person has slipped below a certain level; can we then deem him to be worth more dead than alive? Can we establish criteria for when a life has become unworthy of life, as the Nazis did?

is not worthy of life. And in coupling that view with organ donation, it affirms that such a person is actually worth more dead than alive. As Pearcey writes in *Love Thy Body*, "When a society accepts the practice, it absorbs the worldview that justifies it."

Buying & Selling Body Parts

To see how this utilitarian view of human beings plays out in real life, we can look at China's organ transplantation practices.

Last June, a tribunal initiated by the International Coalition to End Transplant Abuse in China concluded that the Chinese regime has for years been illegally harvesting organs from prisoners of conscience, particularly members of Falun Gong, and that it has done so even after promising to end the practice in 2015. Furthermore, China likely extricates those organs while the prisoners are still living, being kept alive either on an ECMO (extracorporeal membrane oxygenation) machine or through more gruesome methods. The evidence was so overwhelming that the tribunal provided an interim judgment six months earlier than expected, stating that it had determined "unanimously, and [was] sure beyond reasonable doubt" that China has continued to harvest organs from prisoners of conscience and members of religious minorities.⁵

The Chinese government began imprisoning members of the Falun Gong in 1999, and the tribunal said it was certain that imprisoned Falun Gong members were a principal source of organs. The tribunal also heard anecdotal stories that China was obtain-

ing organs from imprisoned Tibetans, Uyghurs, Kazakhs, Christians, and members of Christian-inspired cults as well.⁶ This combination of oppressing religious minorities and harvesting their organs has led to a brisk and lucrative organ trade. Unlike the U.S., Canada, or the U.K., where wait times for an organ can be years, people in China can receive a new organ in two weeks. Furthermore, undercover journalists found that recipients could schedule their organ transplant surgeries in advance, which is only possible if the hospital knows ahead of time that a matching organ will be available.

Gift & Giver

Although many in our society act as though the mental self is distinct from the physical body, bio-ethicist Gilbert Meilaender has pointed out that a "gift can never be entirely severed or alienated from the giver." Thus, what an organ donor gives "is not simply an organ but himself or herself." This is why people who have received organs from donors often subsequently bond with the donors' families. Although the body itself is merely flesh, it is the conduit through which we can know each other and interact with the world, and that makes the body an inextricable part of the person. The parts do not make the whole, but the whole is comprised of integrally related parts.⁷

Over the past sixty years, organ transplantation has been a source of renewed life to many suffering from organ failure, but where the practice has been abused, it has also cost the lives of those deemed unworthy of life. It can be a free gift that connects people within a community, or it can be a means of commodifying human beings. The difference lies in how we view the person: Does he or she have intrinsic moral worth, or has some arbitrary standard determined that he is worth more dead than alive? ☉

Notes

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2. "Deceased organ and tissue donation after medical assistance in dying and other conscious and competent donors: guidance for policy" CMAJ (June 3, 2019): cmaj.ca/content/cmaj/191/22/E604.full.pdf.
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Bad Seed

Jeffrey Epstein's Transhumanist Views Produce Human Chaos

Jeffrey Epstein, the mysterious multi-millionaire financier who was found dead in his prison cell after being arrested for child molestation, is a perfect example of what happens when science becomes unmoored from faith.

Epstein is best known for his glittery, celebrity-studded, funhouse-style life, in which he jetted with people like Bill Clinton to a private Caribbean island for days of debauchery. Not as well known is that Epstein was also deeply fascinated by and invested in the world of science. Specifically, according to a *New York Times* story, Epstein "hoped to seed the human race with his DNA by impregnating women at his vast New Mexico ranch."¹

That line may seem like something out of a particularly bad science-fiction novel, but at least four sources told the *Times* that Epstein had for many years confided this scheme to scientists of his acquaintance. He actively cultivated relationships with such scientists, hosting Harvard

luncheons and elaborate dinner parties for them, and even offering financing for some of their research projects.

"Mr. Epstein's vision," said the *Times*, "reflected his longstanding fascination with what has become known as transhumanism: the science of improving the human population through technologies like genetic engineering and artificial intelligence." His foundation even paid the salary of

the vice chairman of Humanity Plus, formerly the World Transhumanist Association. Apparently, Mr. Epstein believed himself to be a cut above the rest of mankind, to the extent that "seeding" the human race with his DNA would somehow improve matters on a global scale.

According to another source, Epstein spoke against helping poor people by providing them with food or healthcare, because doing so would only lead to an increase in the world's population. He also had an interest in cryonics, the freezing of the body after death in the hope of one day being able to restore it to life through improved scientific techniques.

In other words, Epstein completely divorced the concept of humanity, or of improving humanity, from the concept of the family. He didn't need a wife to access sex. And he wouldn't have needed one to produce children, either. Disturbingly, the authors of the *Times* story reported that "there is no indication that it would have been against the law" for Epstein to try to create a mini-race.

Detached from Faith

This is what happens when science becomes completely detached from faith, a process that has been happening for some centuries now. According to Rod Dreher in *The Benedict Option*, the unraveling began in the fourteenth century. Prior to that, philosophy was ruled by the concept of metaphysical realism, the idea that "all things exist and have a God-given essential nature independent of human thought."²



God was in Creation, and all Creation thus pointed to him. The scientist's job, then, was to discover how God had ordained things to work.

This concept was defeated by nominalism, the theory that nothing has intrinsic meaning but is instead assigned meaning by man. Dreher writes that although this may seem to be splitting hairs a bit, the distinction is profound. Nominalism laid the groundwork for all later political theories positing that man, not God, is at the center of the universe.

The family, then, which according to metaphysical realism has a divine and transcendent meaning and purpose bestowed upon it by God, under nominalism is rendered merely a collection of individuals who happen to live together as long as it pleases the more powerful members. First, we don't need the two sexes to have a marriage; then, we don't need a man and a woman to produce children. It's not a great leap from there to Epstein, who also didn't need a family to produce children and for whom children were merely a means to "better humanity," presumably by making humans smarter or more physically fit.

Transhumanism and other such movements operate in a moral vacuum—to what end is humanity “bettered”? A longer, healthier life? The elimination of poverty? These are laudable goals, perhaps, but even healthy goals become twisted in the wrong hands. Epstein wanted to “better humanity” but didn’t believe we should help the poor. People like Hitler and Stalin also wanted to “better humanity.”



The Christian knows that those who wish to “better humanity” are in fact buying into a pack of lies, the author of which is the evil one. Creation, including humanity, is fallen, to be redeemed only through the saving work of Christ, the Creator. Transhumanism and other such movements operate in a moral vacuum—to what end is humanity “bettered”? A longer, healthier life? The elimination of poverty? These are laudable goals, perhaps, but even healthy goals become twisted in the wrong hands. Epstein wanted to “better humanity” but didn't believe we should help the poor. People like Hitler and Stalin also wanted to “better humanity.”

The Christian is called not to save humanity—that has already been done, by Christ—but to save his neighbor by being the hands and feet of Christ to him or her. And our neighbor is, first and foremost, the one living under the same roof as us, related to us by vows or blood. Our first neighbors are the members of our family, instituted by God for his glory. Science unmoored from faith, science that seeks to further man by eliminating the family through selective breeding, or artificial intelligence, or genetic manipulation, will unleash only chaos and grief. ☉

Notes

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2. Rod Dreher, *The Benedict Option: A Strategy for Christians in a Post-Christian Nation* (Sentinel, 2017), 26.

Who Made Whom?

A Big Bang of Religions Sets the Stage for God

by Regis Nicoll

Secular historians like to point out the many similarities between Christianity and pagan religions in an effort to prove that, like the gods of pagan antiquity, the object of the Christian faith is a human invention. Sociologist Rodney Stark offers another interpretation.

In his book, *Discovering God* (HarperOne, 2007), Stark references a “big bang” that occurred in the sixth century B.C. No, it wasn’t the cosmic explosion of a supernova; it was a spiritual explosion that led to a constellation of religious movements. In the span of a mere one hundred years, civilization witnessed the rise of Zoroastrianism, Orphism, Jainism, Buddhism, Taoism, Confucianism, the “new” Hinduism, and post-exilic Judaism.



Nemrut Mountain, Turkey

Added to the sudden appearance of these faiths was the introduction of new and shared theological concepts. Doctrines of transcendent morality, sin, the afterlife, and salvation, hitherto unknown, were common among the new religions.

Why the explosion? Why the commonality? Is this “Axial Age” of religion evidence of the discovery or the invention of God? These are questions that Stark explores.

At the outset, Stark notes that, as in biology, the principle of “survival of the fittest” is at work in culture. He writes, “Humans will tend to adopt and retain those elements of culture that appear to produce ‘better’ results, while those that appear less rewarding will be discarded.” This applies equally to concepts of God, which, observes Stark, incline toward deities who are rational, loving, and limitless in scope and power.

Even in the earliest cultures—amid animism, naturism and totemism—there was belief in high gods: eternal, all-knowing, and all-powerful creator-deities who established a moral order and kept an eye on the affairs of mortals.

ZOROASTRIANISM

An Iranian religion, founded c600 B.C. by Zoroaster, the principal beliefs of which are in the existence of a supreme deity, Ahura Mazda, and in a cosmic struggle between a spirit of good, Spenta Mainyu, and a spirit of evil, Angra Mainyu.



Nemrut Mountain, Turkey

ORPHISM

A set of religious beliefs and practices originating in the ancient Greek and Hellenistic world, as well as from the Thracians, associated with literature ascribed to the mythical poet Orpheus, who descended into the Greek underworld and returned.

Contrary to the notion that primitives embraced a hodgepodge of superstitions, the fact is that many of them had a more advanced concept of God than those who came later.

The Devolving of Religion

With the rise of civilization, people began moving away from high gods toward polytheism. This move reflected their desire for gods that were more approachable. The Greeks, Sumerians, Egyptians, Mayans, and Aztecs had a rich assortment of deities with limited, specialized powers. Not only were these new gods more human-like, but they were also less morally demanding than the gods of yore.

In fact, the gods of the pantheon were unconcerned with moral behavior, as evidenced by their own petulance and penchant for puerile pranks. Their interest in human affairs extended only to ensuring that they received the worship and devotion owed to them. Hence, with the rise of polytheism, the moral dimension of religion was eclipsed by elaborate systems of ritual and sacrifice.

Because famines, floods, plagues, and other disasters were taken as judgments for neglecting the gods, religion became a matter of national security and welfare. To ensure that their deities were properly appeased, despotic rulers built temples and installed professional priests, creating "state" religions in which public involvement was not only unnecessary but discouraged, participation being reserved for members of the noble class. Also discouraged was competition from outside religions.

But temple faiths had little to offer commoners besides the distinct



Temple of Saturn, Italy

"privilege" of financially supporting the religious activities of the elites. Consequently, unlike religions practiced in an open spiritual marketplace, these theocratic religions tended to receive low levels of public commitment. That's because, as Stark observes, "pluralism is the natural state of any religious economy." Nowhere was pluralism more evident than in the Roman Empire.

Plural Rome

Early Rome played host to a plethora of religions, none of which received any appreciable state subsidies. Greek and Roman polytheism, Judaism, Zoroastrianism, and smatterings of new religious movements here and there made for a brisk religious economy. In this pluralistic, non-subsidized economy, rival faiths were forced to compete for market share.

JAINISM

A dualistic religion founded in the 6th century B.C. as a revolt against current Hinduism and emphasizing the perfectibility of human nature and liberation of the soul, especially through asceticism and nonviolence toward all living creatures.

TAOISM

A philosophical system developed by Lao-tzu and Chuang-tzu, advocating a life of complete simplicity and naturalness and of noninterference with the course of natural events, in order to attain a happy existence in harmony with the Tao.

Hence, unlike earlier versions of polytheistic faiths, the ones in Rome invited public involvement and depended on public support. At the same time, they were burdened by the same shortcomings: gods who were limited in power and who, despite being more human-like, were generally unconcerned with the plights of men, providing no principles, by way of rule or example, for human dignity, moral behavior, or spiritual fulfillment.

But this was a time when popular interest in existential questions had peaked. In a place where up to half of the populace were slaves and where women had few legal rights, a perfect storm was created for the emergence of more humanistic and salvific faiths. The tempest had been building for several centuries.

Preparing the Soil

Thus, after a long hiatus, monotheism began its comeback. In the sixth century B.C., belief in an uncreated, eternal, omnipotent, and beneficent God was introduced to the Persian Empire through the combined influence of Jewish exiles and the teachings of Zoroaster. Common to these two religious streams were the concepts of one true God, who is both creator and sustainer of all things; the existence of good and evil; individual moral responsibility; an afterlife; and the eternal consequences of personal choices.

Further east, the doctrines of good and evil and of the importance of right moral conduct (karma) were introduced by several concurrent movements: Taoism, Confucianism, Jainism, Buddhism, and a revamped Hinduism. In contrast to the moral muteness of traditional polytheism, each of these religions addressed

man's irrepressible need to know "How now shall we live?", with the latter three advancing doctrines on how to achieve a meritable afterlife.

Moral codes and concepts of sin, salvation, and life after death were revolutionary developments that prepared the soil for Christianity.

The Rise of the Christian Faith

The early appeal of Christianity came from its message of an afterlife that was attractive and accessible to all people as a gift to receive, rather than as a reward to earn. Novel teachings about human dignity, social responsibility, and loving one's fellow man produced followers whose attitudes and lifestyles were fetchingly distinct from those of their pagan counterparts.

In a culture endemically indifferent to the disadvantaged, writes Stark, "Christians created a miniature welfare state in an empire which for the most part lacked social services." Their care for the poor, widows, orphans, and sick extended beyond their own households to the wider community.

This was particularly evident in the second and third centuries A.D., when plagues ravaged the empire. As pagan leaders, priests, and doctors fled the cities in frenzied haste, Christians stayed behind to attend to the sick and bury the dead. Their sacrificial love not only led to higher survival rates in the communities they served, but also to increased levels of immunity against future outbreaks in those communities. To hearts that had been yearning for an interactive, caring God, the lives of Christians became a convincing argument that such a God existed.

Little wonder that, by the fourth century, the Christian population had grown to become the majority in Rome and in the principal cities of the Aegean world.

Pagan Parallels

The apparent similarity of certain aspects of Christianity to early



Basilica of the Annunciation, Nazareth

pagan religious elements (ritual cannibalism, Olympian deities impregnating human women to sire half-gods, and dying and rising Corn-Kings) is consistent with a self-revelatory God operating under the principle of "divine accommodation"—that is, limiting revelation to what people in their present capacity can grasp.

C. S. Lewis saw things this way. To him, myth at its best is a penumbra of divine light that inspires the human imagination about the true nature of things. Much of this mode of revelation is stamped onto the design of nature.

For example, myths about Corn-Kings abounded because of the natural pattern of life, death, and new life, which presaged the "real Corn-King who will die once and rise once at Jerusalem," Lewis writes. "We pass from a Balder or an Osiris, dying nobody knows when or where, to a historical person . . . under Pontius Pilate." He concludes, "We must not be nervous about 'parallels' and 'pagan Christs': they ought to be there—it would be a stumbling block if they weren't."

Two Criteria

Faced with a multitude of disparate religious doctrines, how does one distinguish human fabrication from divine revelation? Stark suggests two criteria.

The first is *consistency*. Faiths whose doctrines deviate from a consistent core "can be relegated to human origin." Stark sees little compatibility between most religions. Some believe the universe was created; others insist it is uncreated. Although most religions acknowledge the existence of God, there are widely varied doctrines about the

number of gods, their nature, and the duty man owes them. There is little agreement on the afterlife: for some, it's a conscious state of bliss, for others it's an impersonal state of obliviousness.

The other criterion is *increased complexity*. According to the principle of divine accommodation, revelation should become increasingly sophisticated, telling us more, not less, about God over time.

By those measures, the monotheistic religions stand out. The exception is Islam. Its doctrine of Allah as capricious and unknowable makes Islam *theologically* regressive. But it is also *morally* regressive. With its mission to spread the faith "by the sword," Islam is a throwback to the ancient theocratic religions.

Zoroastrianism, Judaism, and Christianity, on the other hand, share fundamental beliefs about the nature of God, man, and creation. And, in contrast to Islam, they involve a progression from divine "baby talk" to the unfolding of a mature, comprehensive belief system. This is especially true of Christianity, with its deeply challenging doctrines of the Trinity, substitutionary atonement, and other-centered love, which are embedded in a historical, rather than mythical, context and are corroborated by multiple eyewitness accounts.

We did not follow cleverly invented stories when we told you about the power and coming of our Lord Jesus Christ, but we were eyewitnesses of his majesty. . . . For prophecy never had its origin in the will of man, but men spoke from God as they were carried along by the Holy Spirit. (2 Peter 1:16,21) ☩

For this is what the Lord says—
he who created the heavens,
he is God; he who fashioned and made the earth,
he founded it; he did not create it to be empty,
but formed it to be inhabited—he says:
“I am the Lord, and there is no other.”

—Isaiah 45:18

Planetary Jewel

Earth's Story Is One in a Billion

by Neil English

Just a few short decades ago, the Earth was considered to be an ordinary planet, orbiting an ordinary star, lost in a vast galaxy of other stars, amid myriad other galaxies populating the cosmos. Mindless processes produced the first living organisms, we were told, which slowly evolved over the eons to produce creatures like us.¹ This secular myth was accepted hook, line, and sinker by the uneducated masses after its promotion by God-denying “high priests” of materialist science, including Arthur C. Clarke, Carl Sagan, and Richard Dawkins, and it was mindlessly parroted by a generation of science journalists unwilling to dig any deeper.

But now, with the exponential rise in human knowledge, this worldview is being radically overturned by an avalanche of new science, which paints an entirely different picture of our world. In this picture, the Earth's exceptional properties for supporting a long-lived biosphere—for the express benefit of humanity in particular—are coming to the fore, and life itself is seen to have “terraformed” the Earth under divine direction.

(continued)

An Anomalous Solar System

Many lines of evidence show that the Earth is old; 4.543 billion years old, to be exact (with a margin of uncertainty of just one percent). But the circumstances under which our planetary system was shaped were very unusual. Formed from the gravitational collapse of a vast cloud of gas and dust, the proto-solar system condensed into a relatively thin disk, with the neonatal Sun at its center. The inventory of elements endowed to our solar system might have turned out to be much like that of any other were it not for at least two relatively close-by supernova events,² which helped to eject the primordial solar system from a nursery of other stars, and to enrich it with relatively large quantities of heat-generating radioactive elements, such as aluminum 26, thorium, and uranium.³

The aluminum 26, with its short half-life of 730,000 years, provided enough thermal energy to remove excess levels of volatiles, including water, carbon monoxide, and carbon dioxide, which would have scuppered the future emergence of living creatures on our planet. In contrast, the very dense and long-lived radioactive elements, like uranium and thorium, sank to the center of the primordial earth, where their prodigious heat has kept the planet in a geologically active state for billions of years.

The Moon-forming event, which is thought to have occurred about 100 million years after the neonatal Earth formed, in a

highly improbable, oblique collision with a Mars-sized object,⁴ helped remove still more volatiles from the primordial Earth, allowing it to eventually form relatively shallow oceans, from whose floor the continental land-masses could eventually emerge. The debris from this cataclysmic event formed a relatively large Moon in close proximity to the Earth, helping to stabilize the latter's orbital inclination and, over time, to slow down its rotation rate from just 5 hours (shortly after the Moon's formation) to its present leisurely period of 24 hours.

For the first few hundred million years after its formation, the Earth would have looked black and gold from outer space, due to the vast amounts of solidified magma cooling on its surface, as well as to the prodigious levels of volcanic activity spewing out hot lava from the planet's interior. Frequent collision events with smaller objects like asteroids would have exacerbated these hellish conditions, but eventually the prodigious levels of water vapor outgassed from its interior would have transformed our lava-dominated planet into a blue water world still devoid of continental landmasses.⁵ But just as soon as the Earth cooled down enough to enable liquid water to flow on its surface, life appeared.

Life Terraforms the Planet

The standard evolutionary story is that life began as simple organisms and gradually progressed to more complex forms, but the best scientific evidence now suggests that early life-forms were already complex and biochemically sophisticated. This is based on evidence from the analysis of ratios of carbon and sulfur isotopes in sedimentary rocks laid down over 3.5 billion years ago.⁶ Since these biochemical processes could not have occurred unless highly complex protein enzymes were already present, they obviate an evolutionary explanation.

Then why did our Creator choose to begin Earth's life story with microbes? The answer has less to do with evolution than with chemical sophistication: microbes are, by some





considerable margin, the hardiest creatures ever to have lived on our planet.

Microbes are the die-hards of the living world, being capable of surviving in very hot and very cold temperatures, in high and low pH environments, and even amid toxic chemicals and radioactivity.

Once the planet had cooled enough to allow the first microbes to survive, they set to work removing a plethora of poisonous substances from the primordial Earth.

In those early times, the Earth's surface would have had large amounts of so-called vital poisons, substances that are required in small amounts for more complex life to thrive, but can prove lethal in higher concentrations; these include iron, copper, zinc, molybdenum, arsenic, boron, selenium and iodine, among others. In their soluble forms, these vital poisons would have stunted any new life-forms coming on the scene. But by chemically transforming them into insoluble ores and minerals, the microbes not only removed the vital poisons from the Earth's water environments but also left large deposits of valuable minerals in the ground, which are now mined for their use in high-technology devices.⁷

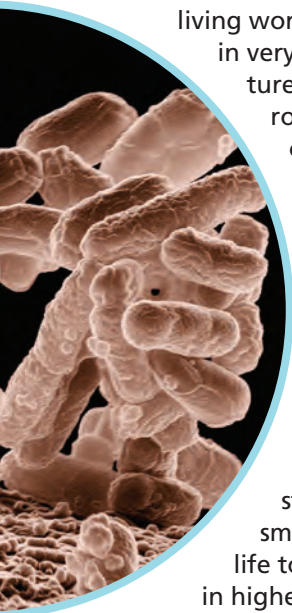
One other benefit that microbial life brought to the Earth is an abundance of minerals and gemstones. According to Dr. Robert Hazen, a world-leading mineralogist, Earth has the greatest diversity of mineral species of any body in the Solar System.⁸ Over 4,600 mineral species have been identified on Earth. In contrast, Mars probably has about 500 and

Venus about 1,000 at the most. What's more, Hazen discovered that life processes formed about two-thirds of Earth's mineral species.⁹

Atmospheric Conditions

Recent oxygen isotope evidence shows that ongoing plate tectonic activity had produced nearly all the continental landmasses by about 2.5 billion years ago.¹⁰ Just 29 percent of the planet's surface area is covered by dry land, an amount that appears to be highly fine-tuned. A greater amount of land surface would have induced too little precipitation in the interior of the ancient continents to allow life to gain a hold in those places. A smaller amount of land surface would have prevented sufficient re-cycling of valuable nutrients between the land, the sea, and the atmosphere to maintain a healthy biosphere.

The earliest life-forms extracted energy from minerals without the need for molecular oxygen, but once photosynthetic microbes were introduced, they radically transformed the early biosphere, paving the way for the appearance of advanced life-forms. One way to get a handle on how early oxygenic photosynthesis occurred on Earth is to study so-called Banded Iron Formations (BIFs) consisting of iron-rich clays containing magnetite and hematite. The early oceans had



high concentrations of soluble iron, but when iron reacts with oxygen, it forms an insoluble rust-like substance known as iron ore. BIFs were laid down over the period between 3 billion and 1.8 billion years ago.¹¹ This timescale coincides with the microfossil record of life, which shows that oxygen-dependent complex cellular life-forms (the so-called Eukaryotes) made their first appearance around 2 billion years ago.¹² The rise in atmospheric oxygen also created the ozone layer, which protected future life on land from the damaging effects of ultraviolet radiation from the Sun.

The emergence of oxygen-generating photosynthesis had other effects that are not immediately obvious. For instance, when the Sun was born, it was about 30 percent less luminous than it is today, but as it aged, its luminosity increased, with the result that the amount of thermal energy received by Earth also increased. Photosynthetic organisms removed great amounts of greenhouse gases from the atmosphere by absorbing carbon dioxide and generating oxygen, which reacted rapidly with another greenhouse gas, methane. In so doing, photosynthetic organisms served to counteract the tendency of the aging Sun to overheat the planet.¹³

The remains of these and other unicellular creatures settled to the bottom of the oceans, where they formed vast sediments that were compressed over time to produce the natural gas and oil reserves so important to human civilization today.

After a long cooling phase, which coincided with the formation of the supercontinent, Rhodinia,¹⁴ the first large (macroscopic) multicellular life-forms appeared about 600 million years ago, in an event

known to paleontologists as the Avalon Explosion. Scientists have uncovered the first evidence of simple life-forms from this period, but it is unclear whether these bizarre creatures were animals or plants.

What is clear from the fossil record is that in the space of a short, 10-million-year period

starting around 541 million years ago, 80 percent of all existing animal forms appeared on Earth, with no credible evolutionary antecedents. Paleontologists studying fossil layers from the so-called Cambrian Explosion have found no transitional forms in the layers immediately pre-dating this period in Earth history. Moreover, the land was being prepared for the arrival of vascular plants by fungi, which began breaking down rocks into soil as early as about one billion years ago.¹⁵ It is difficult to conceive how any blind process like Darwinian evolution could have produced such stunning biological complexity and diversity in such a short space of time.

Plate Tectonics

In recent times, a greater appreciation of the interplay between life and plate tectonics has emerged. Without plate tectonics, our planet wouldn't have a climate stable enough to support life over billions of years. That's because plate tectonics takes center stage as a planetary thermostat in a process called the "carbonate-silicate" cycle.¹⁶ Carbon dioxide in the atmosphere dissolves in rainwater to form carbonic acid, which dissolves silicate rocks. The by-products of this erosion, or "weathering," are conveyed to the oceans, where they are ingested by organisms—such as tiny planktonic foraminifera—and incorporated into limestone (calcium carbonate) shells. When those creatures die, they fall to the bottom of the ocean and pile up as sediments, creating new raw materials that humans can use.

The introduction of life on Earth also caused an increase in the amount of water subducted into the mantle, where it functions as a kind of lubricant, facilitating motions between plates. It also lowers the melting point in the mantle, which leads to more volcanism and therefore to more continent building. So without life speeding up both the weathering at the surface and the sedimentation rate on the sea floor, the fraction of Earth's surface covered by continents would be far smaller.

Plate tectonics has also had consequences for the maintenance of the Earth's strong magnetic field. By accelerating the transfer of heat to the surface, plate tectonics induces convection in the liquid iron outer core of our planet. It's the dynamic outer core that generates our planet's magnetic field, which in turn both protects Earth's atmosphere and oceans



from excessive erosion and desiccation from the solar wind and protects all surface life from dangerous cosmic rays.

Even Extinction Plays a Role

The fossil record attests to several mass extinction events that occurred over the long history of our planet.¹⁷ Research has shown that these devastating events were followed by equally spectacular mass speciation events, uncannily similar to the scenarios described in Psalm 104. According to Christian astronomer Hugh Ross, these events proved crucial for maximizing both the quantity and longevity of Earth's living creatures:

By ensuring that the right quantities and kinds of life are present at the right times, a Creator can use those organisms to remove the just-right quantities of greenhouse gases from Earth's atmosphere. So as the Sun brightens, the atmosphere's capacity to trap heat decreases by the just-right amount. Thus, from a creation model perspective, one would expect God to intervene periodically to remove life no longer appropriate for compensating for a brightening Sun and then replace it with life that is.¹⁸

Ross cites the work of astronomer Gennady Kochemasov, who showed that "Earth has the best possible orbit in the solar system to receive the frequency and kind of asteroid and comet collisions needed to cause the required mass extinction events."

Moreover, these extinction events did not occur randomly, but at regular 27-million-year intervals over the last 500 million years. This regular periodicity was also crucial for sustaining life on Earth.¹⁹

Finally, in the last few hundred million years, vast deposits of coal and oil were produced from the remains of plant life that flourished on land during the Carboniferous and Permian periods (360 to 250 million years ago). Without these resources, humans could never have launched the industrial revolution.

Jewel Planet

Together, these scientific discoveries show that the Earth has been highly fine-tuned to sustain a very stable environment for the flourishing of life. And some life-forms were themselves instrumental in making our world an ideal place for humans to thrive in.

This consensus has been expressed in a number of influential books by scientists who have noted Earth's amazing properties. Donald Brownlee and Peter Ward's *Rare Earth: Why Complex Life Is Rare in the Universe* (Springer, 2000), David Waltham's *Lucky Planet* (Icon Books, 2015), John Gribbin's *Alone in the Universe: Why Our Planet Is Unique* (John Wiley, 2011), and Guillermo Gonzalez and Jay Richards's *The Privileged Planet: How Our Place in the Cosmos Is Designed for Discovery* (Regnery, 2004) all seem to be singing from the same hymn sheet. They show that, far from being a humdrum planet orbiting an ordinary star, the Earth is an extraordinary planet that was designed by a mind vastly superior to our own. To God be all the glory! ☉

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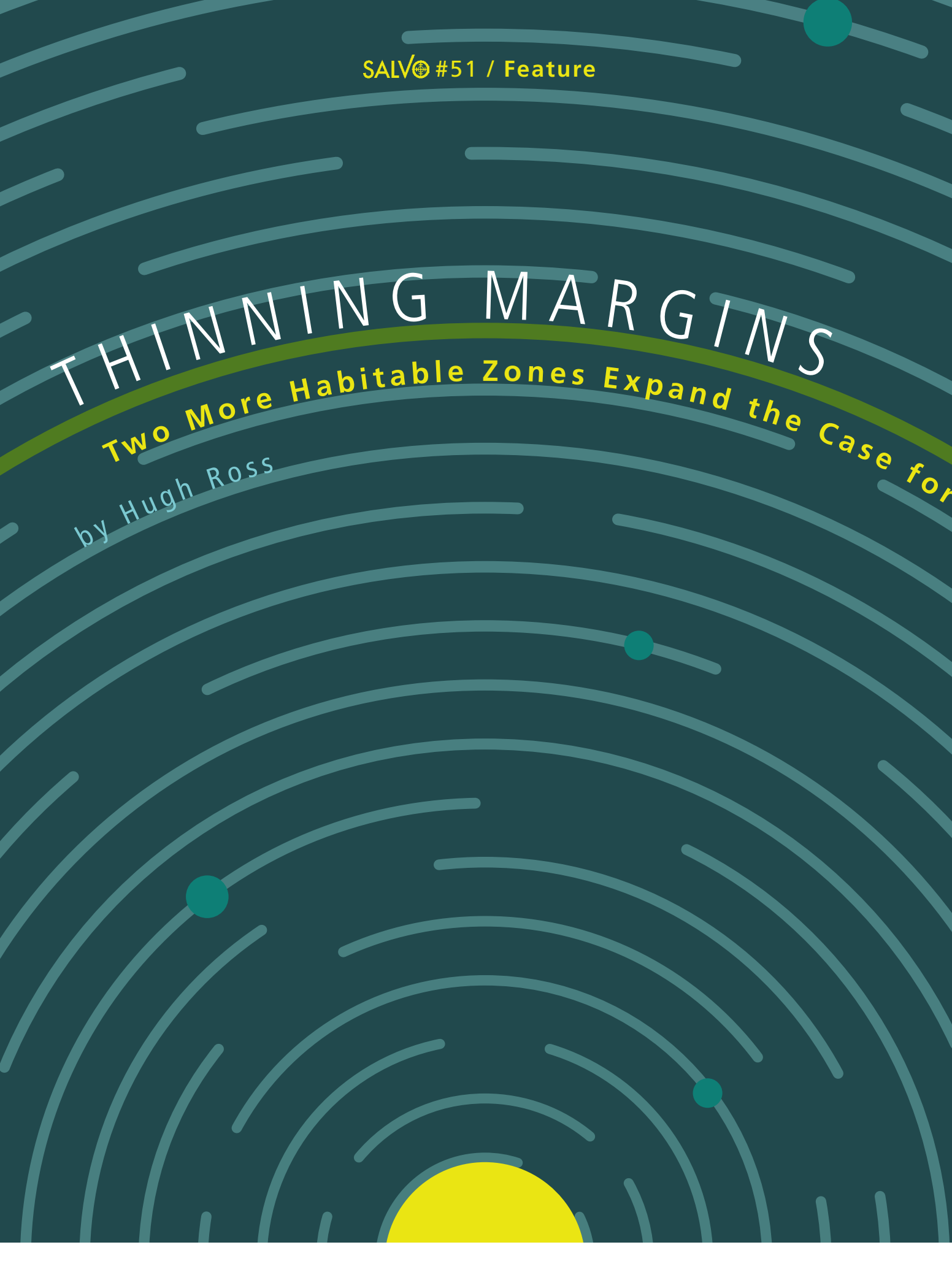
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SALVO #51 / Feature

THINNING MARGINS

Two More Habitable Zones Expand the Case for

by Hugh Ross



If you've ever visited the Dead Sea (1,412 feet below sea level) or climbed any high mountain (15,000 feet or more above sea level), you know how altitude affects breathing. Our lungs are incredibly robust, providing the highest conceivable respiratory efficiency for advanced, high-metabolism life.¹ Their efficient operation, however, is possible only if the atmospheric pressure falls within a certain range.² If Earth's air pressure were three times greater or lesser than it is at sea level, respiration would be impossible for advanced, high-metabolism organisms.

water habitable zone and view this zone as relatively wide (see Figure) because the amount of carbon dioxide (a potent greenhouse gas) in a planet's atmosphere can take on different values to compensate for variations in stellar brightness. The Schwieterman paper explained how such zones are much narrower for complex aerobic creatures than they are for microbes.

While certain microbes can tolerate a wide variation in atmospheric carbon dioxide concentrations, complex aerobic life,

A just-right atmospheric pressure belongs to a long list of requirements for the existence of advanced life. A recent paper published by five planetary astronomers led by Edward Schwieterman of the University of California, Riverside (UCR), reveals two more additions to that list—requirements that astrobiologists had not previously considered in their quest to find habitable planets.³ This new set of findings indicates that aerobic (oxygen-consuming) life depends on just-right atmospheric abundances of carbon dioxide and carbon monoxide.

Atmospheric Carbon Dioxide Levels & Habitability

A habitable zone is the range of orbits around a star within which a planet can support life. Most astrobiologists only consider the liquid

and especially large animals, cannot. Photosynthesis ceases to operate when atmospheric carbon dioxide levels dip below 0.000153 bar (1 bar = 0.987 Earth's atmospheric pressure at sea level). At levels below 0.00018 bar, large-bodied mammals and birds would starve to death, due to the lack of photosynthetic food production. On the other hand, even brief exposure to levels above 0.0051 bar would prove deleterious for mammals.⁴ Elevated carbon dioxide levels would cause severe biological consequences, including ion buffering changes in internal body fluids, circulatory arrest, and respiratory acidosis.

Ecophysicologists Astrid Wittmann and Hans Pörtner have demonstrated that atmospheric carbon dioxide levels as low as 0.00095 bar would generate a level of ocean acidification sufficient to destroy many species of marine corals, echinoderms, mollusks, crustaceans, and fish.⁵ Such a scenario would upset the entire marine ecosystem and catastrophically impact the quantity of food that comes from Earth's oceans and lakes.

While most astrobiology research papers presume that atmospheric carbon dioxide levels can range from 0–15 bars, the range for an aerobic animal ecosystem is limited to 0.00018–0.00095 bars, meaning that for such life, the liquid water habitable zone must be extremely narrow. It would appear that for higher life-forms, several of the other known planetary habitable zones (see Table on next page) likewise must be narrower than what astrobiologists typically report.



Figure: The Liquid Water Habitable Zone

When astrobiologists write about habitable planets, most often the only planetary habitable zone they consider is the liquid water zone.

Atmospheric Carbon Monoxide Levels & Habitability

Complex aerobic life—specifically, life dependent on a circulatory system—requires an atmosphere with a minimum of 10 percent molecular oxygen. In a separate paper, the UCR team showed that on planets that have this much atmospheric oxygen and that orbit stars dimmer than the Sun, photochemical conditions will result in high levels of atmospheric carbon monoxide.⁶

Planets orbiting stars dimmer than the Sun receive less near-ultraviolet radiation. Even with low levels of carbon dioxide in their atmospheres and abundant surface liquid water, such planets would produce so little atmospheric hydroxide (OH⁻) as to greatly lengthen the lifetime of atmospheric carbon monoxide. That is, even for planets orbiting stars only slightly dimmer than the Sun, dangerously high levels of atmospheric carbon monoxide would be present.

Simpler life-forms belonging to the ecosystem of complex aerobic life also produce carbon monoxide. Known carbon monoxide producers include phytoplankton,⁷ biomass burning,⁸ and photolysis (decomposition or separation of molecules by light) in dissolved organic matter within the oceans' surface layers.⁹

Carbon monoxide is highly toxic for life-forms with circulatory systems because molecules such as hemoglobin have an affinity for carbon monoxide, an affinity 234 times greater than their affinity for molecular oxygen.¹⁰ For humans, 10 hours' exposure to carbon monoxide levels above 100 parts per million can lead to permanent organ impairment or death. Exposure to carbon monoxide levels of 10 or more parts per million for



::: Table :::

Known Planetary Habitable Zones

This list includes planetary habitable zones that have been discovered as of July 2019. In addition to the planetary habitable zones, scientists have identified galactic habitable

zones and extragalactic habitable zones—regions within a galaxy, galaxy cluster, and supergalaxy cluster where life could conceivably exist. (Primary literature citations and links to definitions for each of the first eleven zones, and details on how each one operates, may be found in this open-access online article: reasons.org/explore/blogs/todays-new-reason-to-believe/read/todays-new-reason-to-believe/2019/03/04/tiny-habitable-zones-for-complex-life.)

When combined with literally hundreds of other planetary features that must fall within precise ranges for the sake of our existence,* these research findings provide ever more abundant evidence that Earth is no mere cosmic accident. The weight of physical evidence testifies of a supernatural, super-intelligent Creator who shaped and crafted a home where billions of humans could exist and thrive, recognize the source and meaning of their existence, and ultimately accept the invitation to enter into an eternal, loving relationship with him. •

- **Water (in liquid form)**
- **Ultraviolet radiation**
- **Photosynthesis**
- **Tropospheric ozone**
- **Planetary rotation rate**
- **Rotation axis tilt**
- **Tidal force**
- **Astrosphere**
- **Atmospheric electric field**
- **Milankovitch cycle**
- **Stellar magnetic wind**
- **Carbon dioxide**
- **Carbon monoxide**

*Hugh Ross, "RTB Design Compendium (2009)," *Today's New Reason to Believe* (blog), *Reasons to Believe* (Nov. 16, 2010): <https://reasons.org/explore/publications/tnr/b/read/tnr/b/2010/11/16/rtb-design-compendium-2009>.

longer than 8 hours does serious damage to human health.¹¹ Medical researchers calculate that a decade or more of continuous exposure to carbon monoxide above 1 part per million may be sufficient to result in serious health impairment. However, research affirming this calculation remains incomplete as yet.

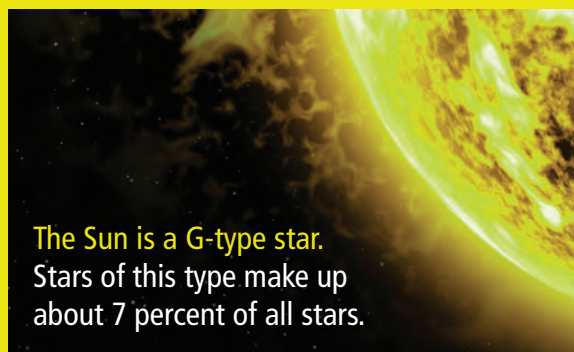
The UCR team calculated that any planet with tropospheric water vapor equal to or greater than Earth's while orbiting a cool M-type (low mass, low luminosity) star would possess too much atmospheric carbon monoxide to sustain aerobic complex life. Planets orbiting M-type stars but having significantly less tropospheric water vapor would also possess too much atmospheric carbon monoxide. Planets with less surface water than Earth that orbit larger, brighter, K-type stars would have not only too much carbon monoxide but also too much atmospheric carbon dioxide.

Habitability & Design Implications

M-type and K-type stars make up about 88 percent of all existing stars. Carbon monoxide production on planets orbiting these stars eliminates nearly all such planets as plausible hosts for complex aerobic life. O-type, B-type, A-type, and F-type stars make up about 5 percent of all stars. These stars are more massive and much brighter than the Sun. However, they burn up too quickly and their luminosities increase too rapidly to be candidates for hosting advanced aerobic life.

The Sun is a G-type star. Stars of this type make up about 7 percent of all stars. Planets drier than Earth orbiting G-type stars would likely possess too much atmospheric carbon monoxide for advanced life. Even planets equally wet or wetter, but without the many other fine-tuned conditions described previously, would likely possess either too much or too little carbon dioxide to be habitable by advanced life.

In the context of complex aerobic life, the latest research demonstrates that the potential habitability of planets beyond Earth is much lower than astrobiologists previously thought. Now, two more habitable zones—the carbon dioxide zone and the carbon monoxide zone—have been added to the still growing list of known planetary habitable zones—regions around a host star in which an orbiting



The Sun is a G-type star.
Stars of this type make up about 7 percent of all stars.

planet could conceivably host advanced life (see Table).

To date, astronomers have identified thirteen planetary habitable zones that must converge for any planet to serve as a possible host for advanced life. In other words, all thirteen zones must simultaneously overlap. As of July 11, 2019, astronomers had discovered and measured the properties of 4,106 planets.¹² Among these 4,106 planets, only one exists where all thirteen habitable zones “just happen” to come together in the same place and time. ☉

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Language Barrier

Why Scientists Can't Talk to the Animals

Do you remember when animals could talk? We were children then. And it made so much sense. It also made sense to many adults in the ancient world. Reasoning, talking animals powered countless myths, fables, and tales. As it happens, everyday animals have many types of intelligence, but reason and the language it generates are not among them.

The dawn of naturalism (the belief that nature is all there is) as science orthodoxy fostered a new conviction: if nature is all there is, then humans are just animals in nature, and reason and making moral choices are not unique and do not signify anything unique about humans (perhaps they are even illusions).

This intuition formed two branches of ideas. One branch recasts human activity in animal terms. That perspective has become obligatory in the sciences and has infiltrated popular culture, where hundreds of books like *The Naked Ape* (1967), *Dinosaur Brains* (1989), and *The Ape That Understood the Universe* (2018) have spread the new way of seeing ourselves.

The other branch recasts animal activity in human terms. That is, if human intelligence is an accidental outcropping of the animal

world, a sufficiently diligent researcher may expect to find the same intelligence in many other animals. But, so the argument runs, we are too prejudiced to see it. It follows that, with some effort on our part by way of reparation, some animals can be taught to communicate with us as intellectual equals.

Such a conviction cannot be refuted by mere absence of evidence. But, for the record, let's briefly look at three such research enterprises: the dolphins, the apes, and a proposed experiment with the elephants.

The Dolphins

A seminal year for the dolphins was 1961.¹ American physician and neuroscientist John C. Lilly (1915–2001) had long been convinced that dolphins might be “just as intelligent as humans.” His bestseller *Man and Dolphin*, published that year, attracted the attention of Frank Drake, an ET enthusiast and force behind SETI. Drake is best known for the Drake Equation (estimating the probability of ET by plugging in key numbers). He saw Lilly's point that, if we could communicate with intelligent dolphins, we could communicate with ET.

The idea was introduced at an elite science meeting that year, the Green Bank Conference, where the legendary skeptical astronomer Carl Sagan (1934–1996) acknowledged that he was a believer. So, we are told, was evolutionary biologist J. B. S. Haldane: “As the Princeton historian D. Graham Burnett has noted, they wore insignia shaped like bottlenose dolphins and sent each other coded messages to hone their dolphinese and alien-language-decoding skills.”² “The Order of the Dolphin” was born.



Meanwhile, in 1960, Lilly had founded the Communication Research Institute on St. Thomas (Virgin Islands) to facilitate conversations with dolphins, and Frank Drake arranged NASA funding for the project. Lilly also published a paper in *Science* in 1961: "Vocal Exchanges Between Dolphins: Bottlenose dolphins 'talk' to each other with whistles, clicks, and a variety of other noises." Everything seemed to be going swimmingly, except for Dolphinese.

In 1965, Lilly arranged for his research assistant, Margaret Howe Lovatt, to live in a tank with a dolphin named Peter for ten weeks, to see if that would help break the communication barrier. It didn't. Neither did feeding the dolphins LSD. The fact that Lilly had started to use the drug himself became a source of contention, along with charges of cruelty to the dolphins, which had included vivisection.

In 1966, the experiment lost its funding, and Peter was sent to live in a small tank in Florida, where he died a few weeks later, under circumstances that the researchers think of as suicide. Certainly, the conditions were unsuited to a dolphin.

The Apes

A similar fate befell primate apes during roughly the same period. Apes have long attracted attention, in the hope that they might be taught language and/or signing skills. There was limited success, but it was made to sound like *Planet of the Apes*. Indeed, we were reassured in *Smithsonian Magazine* in 2011 that "'talking' apes are not just the stuff of science fiction; scientists have taught many apes to use some

The problem with Egnor's traditional Aristotelian approach is hardly that it is deficient. It gets the behavior exactly right. But **it crushes the idea that we are just beasts among the beasts.** Human life has not been and never will be as simple as that.



semblance of language."³ Well, sort of. Looking more closely, careful observers found that the apes' linguistic skills were over-interpreted by researchers whose testimony was gladly accepted by media that *needed* the story even if it wasn't accurate.⁴

The belief that "Chimps R Us" did not always result in humane treatment of some of the famous animals. For example, the renowned Nim Chimpsky (1972–2000), raised like a human until he became dangerous, met a grim fate. As a reviewer of the film *Project Nim* recounts:

Nim is sold into medical experimentation, from which he's improbably rescued only to wind up at a convalescent home for psychologically damaged equine animals run by a well-meaning but clueless animal rights activist who has no idea how to care for a chimp—a single chimp, alone: a hellish experience for a highly social primate like a chimpanzee or a human.⁵

And today? "Not only did signing apes never become common, the number of research programs studying ape signing has gone from a few to even fewer."⁶ The idea is now kept alive by claims that we haven't tried hard enough to communicate with apes on their own terms: "Rather than force apes to learn our language, we should be learning theirs."⁷ But, of course, the researchers' challenge was never learning chimpanzee; rather, it was teaching chimpanzees to converse like humans.



The Elephants

Never mind. Recently, we were told about another project: talking with elephants. Philosopher and elephant researcher Don Ross explains:

Don't get me wrong, I don't think that elephants currently express the full range of personal and creative capacities that humans do. But I suspect all that's missing are certain informational and institutional structures, along with the motivations to innovate upon them. In humans, we know what those structures look like: they are the books, movies, museums and laws that manifest in the world what otherwise exists only in our heads. It might be that there's a lot going on in the heads of elephants, but they just haven't been moved to externalize and store it in the environment the way we have.⁸

Ross has faith in the convergent evolution of humans and elephants and hopes to begin a research project shortly.⁹ But as so often happens in this field, fundamental realities are ignored. Convergence is real in nature, of course: insects and birds both fly. But the insect did not teach the bird to fly. Why should humans need to teach elephants to reason? And why should we believe it possible?

We must trust no harm comes to the elephants.

Only Humans

Philosophically inclined neurosurgeon Michael Egnor observed earlier this year that orthodox science has lost touch with a fundamental fact that accounts for why humans are the only animals who can speak. Humans are the only animals who can process abstractions:

Animals can only think concretely. Their thought is of particulars—the particular bowl of food, thrown stick, or warm bed. They don't contemplate nutrition, exercise, or rest. Humans can think abstractly, without any particular physical object in mind. For example, a vet might tell her client during an office visit, "Tuffy here needs to lose about 1.5 kg. I suggest a lower calorie kibble and more exercise—if possible, before bedtime." She can explain it to her client but not to the dog because it's all abstractions about times, places, things, and concepts. Of course, he might recognize his name, "Tuffy," and raise his ears slightly to see if he is being told to do something concrete.

Concrete thought needs no language because the concrete thinker focuses on a perceived object. Tuffy thinks of his bowl of food. If he were to think of nutrition, an abstract concept, he would need abstract designators as objects, not only to express his thought but even to think it. In short, animals don't have language because they don't have abstract thought and thus have neither the capacity nor the need for abstract designators—words as language.¹⁰

The problem with Egnor's traditional Aristotelian approach is hardly that it is deficient. It gets the behavior exactly right. But it crushes the idea that we are just beasts among the beasts. Human life has not been and never will be as simple as that. A science for which such a view is orthodoxy is destined to suffer many more frustrations and disappointments in its efforts to humanize animals. ☹

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A close-up photograph of a woman's face, her eyes closed in a serene expression. She wears a crown of white flowers and holds a clear, faceted glass perfume bottle with a gold cap near her nose. The background is a soft-focus garden scene with white blossoms and green leaves.

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Mom Genes

My Investigation into the Possibility of Adam & Eve—the First Human Pair

I have come to a conclusion. Perhaps if I had thought about it more carefully I would not be surprised. But it has only recently occurred to me that a great deal of the disturbance about evolution—yes, no, theistic, atheistic, guided, unguided, young earth, old earth, Darwinist, near-neutralist, whatever—is about human origins. Where did we come from? Are we descended from primates or not? And what did God have to do with it?

Nobody except specialist scientists would care whether the little tree frog turned out to be descended from a lobe-finned fish or, instead, was specially created with its special poison glands—*unless it also had implications with regard to our origin.*

Not many people besides evolutionary biologists and entomologists would care one way or the other about the claim that butterflies were descended from a hybridization between onychophorans and insects (an idea that has been refuted, by the way!). Most people wouldn't even know what that meant. They don't think about where butterflies came from at all.

However, people really do care about *our* origin, and specifically, about whether or not we share common ancestry with apes. They may not put it in so many words, but that's what their concern with evolution amounts to. People care about their own identity and origin, and many harbor a deep aversion to the idea of monkeys as their ancestors.

In 2011, when I first got involved in this question, I didn't quite see this. For me, the prior question was whether or not neo-Darwinism was true, whether it could explain the development and diversity of living things.

I had no fixed opinion about human origins. All I knew was that Darwinian evolution was insufficient to explain life, but I was hazy on the details



of what that meant. I believed that God must have guided evolution, *if* evolution was the explanation for the grand diversity of life. I knew there were arguments for common descent based on DNA similarity between groups. Not that I had ever looked at any sequences, mind you.

Or at arguments against.

I had never considered the question of whether we came from two first parents or from thousands of ape-like primates, because it was not an issue for me. I accepted the old age of the earth (I still do)

and was prepared to accept that we came from a population of hominins that somehow became human. I had never thought deeply about it at all. And I can say with reasonable confidence that the statements in this paragraph would be true for the majority of scientists. But they are no longer true for me.

What follows is a description of how my mind has been changed since then. It began

by doubting that Darwinian evolution was a sufficient explanation for life. What followed was a surprising journey prompted by a seemingly simple question—a journey that led me to think that an original first human pair, AKA Adam and Eve, might be possible.

A Simple Question

An email hit my inbox: "A philosopher I know is looking for a geneticist who can tell him how strong the evidence against Adam and Eve is. Contact him at. . ."

So I wrote back, saying I didn't really know, but if I had to speculate . . . I would go look.

It started with a simple question. How strong is the evidence against Adam and Eve? Not as strong as they thought, it turns out.

The philosopher's response to me was ecstatic beyond all proportion. He said he had been looking for years for a geneticist who would answer his question. "My word!" I thought. "What have I gotten involved in now?"

I emailed my friend Jay Richards and asked for his advice. "Sounds like destiny," was his laconic and slightly unnerving response.

So look I did. The first paper I found seemed to me to present a strong challenge. It was based on the observation that there is a great deal of diversity in some genes, too much diversity to have started from just two people and then increased to its current level in the time available. I found this paper first because of its title: *The Myth of Eve: Molecular Biology and Human Origins*.² Now that was a direct statement of intent, like the slap of a dueler's glove across the face.

The author, Francisco Ayala, was a former priest and an eminent evolutionary biologist. He claimed that population genetics analysis of an immune system gene called HLA-DRB1 indicated that we came from a starting population of at least 100,000 individuals, who between them carried 32 different versions of HLA-DRB1 at the time of our supposed split from chimps. According to his calculations, the effective population could never have been smaller than 4,000.

If Ayala was correct, that would be the end of Adam and Eve. Thirty-two copies of any gene are too many for just two people to have generated or carried. Each person has only one or two copies of every gene, so the maximum number of copies a couple like Adam and Eve could have had is four.

But then I discovered that the way Ayala did his calculations depended on the DNA he worked with having a background level of mutation, a background level of recombination, and a background level of selection. Otherwise, his estimates for the amount of evolutionary time passed would be off. Unfortunately, the small part of the gene he chose to study violated all of those requirements. This inflated his estimate for the number of variants, as was pointed out by Tomas Bergström and his colleagues a few years after Ayala's work was published.³ Their own study, using a nearby part of the gene not subject to the same flaws, dropped the estimate of the number of HLA-DRB1 variants at the beginning of humanity down to seven. Just seven. But still too many.

This story, plus Douglas Axe's and my protein

studies and Casey Luskin's work on fossils and chromosome fusion, became the book *Science and Human Origins*, published in 2012.⁴



A Collaboration Begins

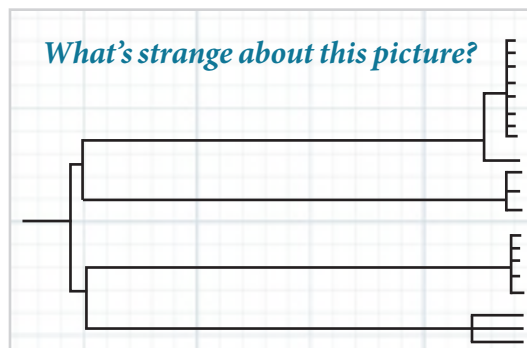
That same year, I began a collaboration with a Swedish population geneticist named Ola Hössjer that was aimed at making a population genetics model for testing the possibility of a first-couple origin. Ola and I met one December evening in the lobby of a Copenhagen hotel, he with his notepad and pencil and I with a head full of half-formed ideas. I described what I wanted: a mathematical model that could be used to generate and track genetic

diversity over time in a population of humans, starting from two. We needed to be able to look for the effects on population statistics of various kinds of things, like the number of children born per women, mortality at various ages, migration, tribes, and so forth. I thought I was throwing an enormous, impossible pile on this gentle Swede.

In 2013, I discovered that Bergström's lab had gone on to sequence a number of full-length variants of HLA-DRB1. His team reported a coalescence to four lineages, just four, though which lineages they meant was ambiguous.⁵ That number *four* caught my eye, though, because that is the number of lineages Adam and Eve could have carried if they were both heterozygous for the gene HLA-DRB1.

A Revealing Tree

Swedish biologist Jenny von Salomé and her colleagues produced a graph that I stared at for a long time. It showed the tree of relatedness for variants of the gene HLA-DRB1 in humans. I have drawn an exaggerated, cartoon version here.



When you look from left to right, you are looking from the deep past to the present. The data is on the

right. The individual little lines like teeth in a comb represent individual gene variants here in the present. I have drawn 21. We know their DNA sequences, so we can compare them and figure out which are most like each other and which are most different—how they are related. We group them according to family, and then if necessary, group them again.

This is a vastly oversimplified gene tree, but it captures three things. The length of the branches corresponds to time *or* to genetic distance. What geneticists actually measure is how different DNA sequences are—the genetic distance between them—and then they convert that to evolutionary time by using a factor based on fossil evidence from elsewhere. So when you see really long branches like the ones in this tree, that means the DNA in each branch is distinctive, different from the others. The question is, *Why?*

Is it because they diverged over a long time period, or is it because they were *made* to be different—that there was primordial diversity from the beginning? This is the *key question*.

The other thing to notice is that all the diversity happened really recently. On the real graph, the average age is about 450,000 years. On a scale of 50 million years, that's lightning fast. A veritable DRB1 explosion. *Note the age.*

The last thing to notice is that there are four lineages, four long branches for a very long time (30 million years). Or one could say, four distinct genes with distinct sequences. *Sound familiar?*

When I saw these things, I knew I had something potentially very important. It might be a signal of our origin from the distant past—not from a population of thousands, as Ayala had proposed, but from a population of two, perhaps 500,000 years ago, the origin of two, followed by the steady increase and diversification going forward of their offspring.

I was excited!

Getting It Done

But still we needed a catalyst. And that catalyst came in the form a new book to be written that had to address “the Adam and Eve question.” A loose coalition came together to brainstorm about the best way forward. We needed genetics, fossils, and an answer to the population genetics challenge. Ola's model rapidly came together (he's a wonder!). From that collaboration came two papers, published in 2016, that described Ola's magnificent model,⁶ and three chapters for a book.⁷ At that stage, the model had yet to be programmed.

The next phase required someone with programming expertise. In 2017, Andrew Jones

appeared and showed considerable talent for population genetics. I watched things happen with amazing speed, offering comments and suggestions as they occurred, but the work was in Ola's and Andrew's hands now.

By the end of 2018 the job was done. All that was left was to see the paper published.

The Result?

It's very simple. The tree was right. We *could* have come from a first pair with primordial diversity 500,000 years ago. We can start from two individuals with initial diversity in their chromosomes, then let the population grow at a reasonable rate to a steady state of 16,000. Using standard mutation rates and so forth, and no special assumptions—in other words, a parsimonious model—we can duplicate current population statistics like allele frequency spectra (AFS) and linkage disequilibria (LD).

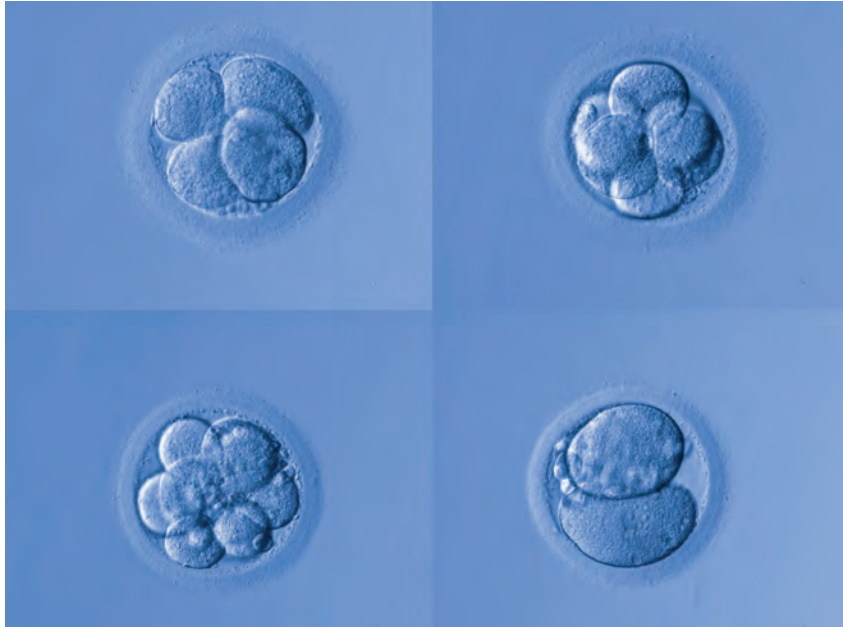
AFS has to do with how many rare and how many common variants there are in the population, and how they are distributed. In the graph, the rare ones are bunched up as a sharp peak to the left because, while each variant is rare, there are many rare variants. The LD graphs are more complex. They are measures of recombination—how DNA shuffles itself into new combinations in each generation. The graphs are a beautiful sight—the alignment between actual genomic data and the data Ola's program generates is amazing.

It started with a simple question. How strong is the evidence against Adam and Eve? Not as strong as they thought, it turns out. ☺

Postscript: The paper has now been published and can be viewed and downloaded at <https://bio-complexity.org/ojs/index.php/main/article/view/BIO-C.2019.1/BIO-C.2019.1>. A more reader-friendly description of the model is available at <https://evolutionnews.org/2019/10/new-bio-complexity-paper-we-could-have-come-from-two>. Are all questions answered? No. But it seems we could have come from two!

Notes

1. pnas.org/content/106/47/19906.
2. Francisco J. Ayala, “The Myth of Eve: Molecular Biology and Human Origins,” *Science* 270 (1995): 1930–1936.
3. Tomas F. Bergström, et al., “Recent Origin of HLA-DRB1 Alleles and Implications for Human Evolution,” *Nature Genetics* 18 (1998): 237–242.
4. Ann Gauger, Douglas Axe, and Casey Luskin, *Science and Human Origins* (Discovery Institute Press, 2012).
5. Jenny von Salomé et al., “Full-length sequence analysis of the HLA-DRB1 locus suggests a recent origin of alleles,” *Immunogenetics* 59 (2007): 261–271.
6. Ola Hössjer, Ann Gauger, and Colin Reeves, “Genetic Modeling of Human History”: “Part 1: Comparison of Common Descent and Unique Origin Approaches,” *BIO-Complexity* 2016(3), 1–15: doi:10.5048/BIO-C.2016.3; “Part 2: A Unique Origin Algorithm,” *BIO-Complexity* 2016(4), 1–36: doi:10.5048/BIO-C.2016.4.
7. J. P. Moreland, Stephen Meyer, Wayne Grudem, Christopher Shaw, and Ann Gauger, eds., *Theistic Evolution: A Scientific, Philosophical and Theological Critique* (Crossway Books, 2017).



14 Days to Live

A True Tale of Human Waste

by D. Joy Riley

Imagine that you have 14 days to live—only 14 days total. You will be fed a proper diet for your age, and you will be kept warm. During that time, you will be a passive participant in your life, observed by men and women in white coats. No one will talk to you or call you by name, but they will dutifully record observations of your functioning. A “sample” of up to 12.5 percent of your body may be removed for testing.

A decision will be made about your future. If the decision is made to freeze you in liquid nitrogen, you will be properly prepared and then placed inside the freezer. You may stay there for days, weeks, months, or even more than a decade. You will not grow while in the freezer. All of your physiological functions will be arrested at –321 degrees Fahrenheit.¹ Time will stand still while you are in the freezer. The 14-day clock is stopped during that time, and will be restarted only if and when you are thawed.

Thawing will bring you back to physiological functioning—if you survive the thaw, that is. Then the

observations begin again. You are not given a name. No one speaks to you. You may undergo any number of tests, but there is a limit on them. They will only be performed up to a total of 14 days from the start of your life (not counting freezer time). After that, you will no longer be fed a proper diet for your age. You will no longer be kept warm. You will be tossed into the red bag of human waste and discarded. At least, that is the situation as it now exists.

Pushing the Limit

In the United States, 14 days is a guideline for the maximum

number of days one should use embryos as human research subjects. (In some other countries, the 14-day limit is the law.) Researchers can freely experiment on embryos for up to 14 days; after that, if they have not been destroyed in the process of the research, they will be disposed of as human waste. They will not be transferred to human wombs for gestation. After all, who would want an embryo that has been experimented upon? And who would be responsible for any disabilities the resulting child might suffer?

But the 14-day rule, as it is called, may be obsolete soon if some researchers get their way. The rule was put in place when embryos could not be grown in the lab much beyond the blastocyst stage—that is, beyond five to seven days. Now scientists have the capability to support embryos in the lab for more than 14 days. And some researchers want to peer into older embryos to see what has heretofore been hidden in the womb. That means the guideline or rule will have to be changed—so that scientists will not be charged with breaking the law, and so they can solicit funding from taxpayers via the government.

In September 2017, there were an estimated one million frozen embryos in the United States alone.² Not all of them are research embryos, but we should not deceive ourselves into thinking that all or even most of those embryos will be transferred into wombs and brought to term. If the 14-day rule is struck down, and the time limit for research is expanded, many more vulnerable human embryos will languish in the freezer, or be expended in experimentation, only to end up in a red disposal bag.

Is this what civilization looks like? ☹

Notes

1. Southern California Reproductive Center: scrcivf.com/treatment-options/embryo-freezing.

2. *Elle* (Sept. 29, 2017): elle.com/culture/a12445676/the-leftover-embryo-crisis.



Sexual Dissonance

LGBT Suicide: Where the Conflict Really Lies

by Mike Mitchell

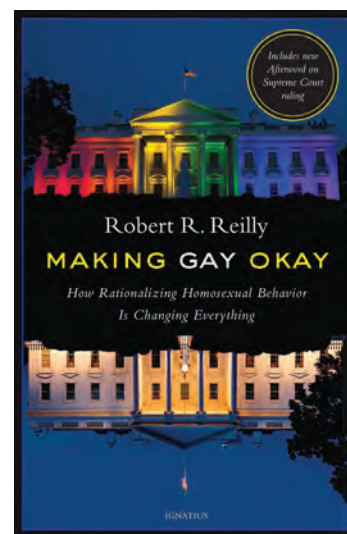
In Chapter 1 of his excellent book, *Making Gay Okay, How Rationalizing Homosexuality Is Changing Everything* (Ignatius Press, 2014), Robert Reilly cites the following quote from gay rights advocates Marshall Kirk and Hunter Madsen: "In any campaign to win over the public, gays must be portrayed as victims in need of protection so that straights will be inclined by reflex to adopt the role of protector." This has been an extremely effective strategy. But the victim status is not what some might assume it to be.

Perhaps because HIV is no longer synonymous with a short-term death sentence, LGBT suicide, particularly among teenagers, seems to have replaced AIDS as the chief marker of homosexuals as victims. This is reflected in the Loveloud Festival held in Salt Lake City each summer. Led by Imagine Dragons frontman Dan Reynolds, the festival drew around 35,000 people to Rice-Eccles Stadium at the University of Utah in 2018. Among Reynolds's goals for the event was raising one million dollars for LGBT youth suicide prevention.

People of all religious beliefs or lack thereof should feel the weight of this issue. No matter what one may think about the morality of homosexual behavior, suicide is an awful thing that every decent person should hope to see eradicated, and it is especially tragic among teenagers.

Why So Many?

But aside from the sheer tragedy of it, LGBT activists and sympathizers are facing a real conundrum with respect to its causes; current data show that the suicide rate of LGBT youth is significantly higher than that of straight kids (though I suspect a similar disproportion is true of adult populations as well), and this disparity hasn't changed



in forty years. Despite the rainbow tsunami that has swept over the collective consciousness of the West during the past half-century, people with homosexual tendencies apparently still experience as much internal conflict as they did when the majority of people believed their behavior to be as perverse as incest or open marriage.

This situation has left some activists scratching their heads. Consider, for example, the comments of Dr. Ann Haas, senior consultant for the American Foundation for Suicide Prevention, about a CDC report showing LGBT youth to be disproportionately prone to suicide:



[The CDC report] paints a picture of marginalization in every aspect of LGBT high school students' lives. It's a question of being marginalized, really, both in terms of young people's inner sense of who they are and how they're treated by others. There's a psychological and emotional component that we see when looking at suicide among all other groups, and it's even more prevalent here.

Even setting aside the fact that psychological and emotional problems are the *only* components (and thus not actually "components") of a suicidal disposition, Dr. Haas's words betray some confusion. Though she tries, she can't really blame the psychological dissonance in LGBT people on the oppressiveness of the ambient religious culture, when that culture is neither religious nor oppressive to them, and she admits this:

For a while, [researchers] thought that the cultural climate improved and LGBT people weren't

The religious-bullying explanation has always been based on a false premise, but in the midst of the current surge of gay affirmation, it now comes across as straw-grasping. Maybe there is another explanation.

facing the same overt limitations and discrimination. We'd expect to see this sort of disturbing trend [of suicide] decline. It's striking that it hasn't—it seems just as likely to occur today as it did in the 1970s, from what we can tell—but we can't be totally sure at the moment.¹

If improvement in the cultural climate means the acceptance of homosexuality, there's not a lot of room for improvement left. The Supreme Court of the United States ruled in 2015 that same-sex "marriages" are legitimate in the eyes of the law. To celebrate this ruling, then-President Obama had the White House illuminated with rainbow lights. Rainbow flags and equality stickers can be seen everywhere, especially in June, which has been designated as "pride month" and is capped off with boisterous "pride parades" in numerous cities. In many social circles in the Western world, few things will evoke more sympathy, more applause, and more adamant affirmation than coming out as gay. Athletes, actresses, musicians, and whole sports franchises and corporations are falling over themselves in their efforts to ensure that everyone knows they think gay is okay!

And yet, the CDC tells us that in 2015, LGBT students attempted suicide at five times the rate that straight students did.

Try Again, CNN

Of course, many pundits still try to get more mileage out of the bullying explanation, especially when they can blame

Those who stridently preach that hell awaits those who indulge their perverse sexual urges are typically on the fringes of Evangelical Christianity. Far from warning about damnation, many Christians are reluctant even to suggest that any sexual behavior could be immoral, out of fear of being labeled haters and bigots.

conservatives and religious believers for the bullying. This excerpt from a 2017 CNN article is typical:

What's driving [troubled LGBT teens to suicide] . . . is that not all teens live in a supportive culture, even with the advances in same-sex marriage, inclusive anti-bullying programs and non-discrimination protection. Many evangelical Christians, for instance, still preach that LGBTQ kids are going to hell.²

It's true that some people need to realize that they have not been endowed with foreknowledge of others' eternal destination. (There is only one Judge, and he has not made us privy to his judgments on individual people.) But those who stridently preach that hell awaits those who indulge their perverse sexual urges are typically on the fringes of Evangelical Christianity. Far from warning about damnation, many Christians are reluctant even to suggest that any sexual behavior could be immoral, out of fear of being labeled haters and

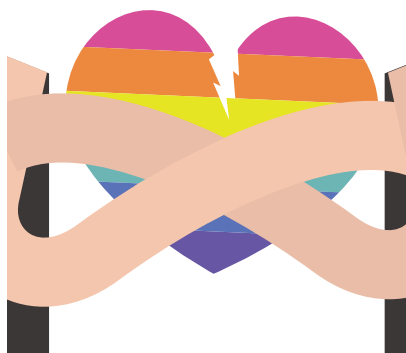
bigots. As with the ritual of the "Two Minutes Hate" described in George Orwell's *1984*, people risk censure not only for speaking out against homosexual behavior but even for remaining silent and failing to positively affirm the gay agenda.

Thus, labeling Evangelicals as sanctimonious nemeses of benevolent-but-victimized LGBT individuals just isn't tenable anymore. There aren't many Evangelical Christians in my neighborhood, but I did count four rainbow flags in a ten-block walk from my house last week, and I don't live anywhere near San Francisco. The religious-bullying explanation has always been based on a false premise, but in the midst of the current surge of gay affirmation, it now comes across as whiny straw-grasping.

The Real Conflict

Maybe there is another explanation. Maybe the reason why LGBT people of all ages are still so deeply conflicted and so prone to suicide despite living in an affirming culture is that, way down deep in that place where conscience is still impervious to culture, they know that they're behaving in a way that violates their essence as human beings. To find out why this is so, we first must have a clear understanding of what our essence as human beings is.

No one can develop into a morally strong, and thus truly fulfilled, person until he or she realizes that we humans are hybrid creatures—we have transcendent, rational souls as well as material, animal bodies. If our physical appetites are not governed by the will to do what is right, then indulging them, and attempting to rationalize our indulgence, can eventually cause us to lose our capacity to know the difference between right and wrong altogether. If one gets to that point, he or she is no longer a hybrid, but just an animal doing what animals do by instinct.



My neighbors have two dogs. A couple of weeks ago they were being true to their natural orientation by mating on the front porch, in full view of all who happened to walk by. I wouldn't expect dogs to be ashamed of themselves for doing this, but people are supposed to live a higher kind of life.

Most people have heard some version of the fairytale in which a human is turned into a frog and then feels disgusted at himself for eating flies and indulging in other froggy behaviors. Yet we are all frogs in the sense that we all have animal urges that another part of us finds disgusting. The part of us that finds eating flies and copulating in public repugnant goes by various names, including modesty, reason, and moral sensibility. This is the part of us that is supposed to control the purely physical appetites and urges. The process of controlling them is the process of moral development, and we cannot grow to be morally strong without it.

A virtuous and ultimately fulfilling life is one in which the rightly formed human will, or conscience, controls and governs the animal urges. To be increasingly guided by a well-formed conscience is to learn to live up to one's full humanity, and this is why one of the worst insults one person can hurl at another is to say, "You're behaving like an animal." As G. K. Chesterton said, "If you wanted to dissuade a man from drinking his tenth whisky you would slap him on the back

and say, 'Be a man.' No one who wished to dissuade a crocodile from eating his tenth explorer would slap it on the back and say, 'Be a crocodile.'"³

In ironic contrast to the idea that gratifying sexual desire is the way to fulfill one's "identity," experiencing our robust identity as fully human persons requires us to subject our desires to the objective, transcendent standards of morality and virtue. According to Plato, that standard is set by

the universal author of all things beautiful and right, parent of light and of the lord of light in this visible world, and the immediate source of reason and truth in the intellectual; and this is the power upon which he who would act rationally either in public or private life must have his eye fixed.⁴

The message LGBT youth (and everyone else) need to hear is, "I know you have bad sexual urges. Many people do in one way or another. That doesn't mean you're any worse or better than anyone else. It means you're a human being. I care about you, and I want you to learn self-control so that you can grow into a well-adjusted, morally upright adult and help others do the same."

If, instead, adults encourage young people to indulge their corrupt animal urges and teach them to embrace those urges as the basis of their identity, then those youthful victims are being encouraged to live like frogs or dogs by adults who are behaving more like crocodiles. ☹

Notes

1. [vice.com/en_us/article/jmkrmvd/the-scariest-part-about-americas-lgbtq-suicide-epidemic-is-what-we-dont-know-about-it](https://www.vice.com/en_us/article/jmkrmvd/the-scariest-part-about-americas-lgbtq-suicide-epidemic-is-what-we-dont-know-about-it).
2. [cnn.com/2017/12/19/health/lgbq-teens-suicide-risk-study/index.html](https://www.cnn.com/2017/12/19/health/lgbq-teens-suicide-risk-study/index.html).
3. G. K. Chesterton, *The Blatchford Controversies*, ch. 2.
4. *The Republic*, Book 7.

'F' for Fraud: A Radical's Tale & a Scholar's Reproach

A Review of Debunking Howard Zinn: Exposing the Fake History That Turned a Generation Against America

by Mary Grabar

by Terrell Clemmons

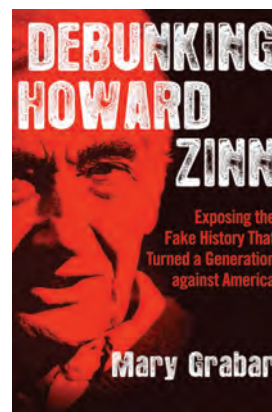
As a teen growing up in Brooklyn in the 1930s, Howard Zinn was invited to a political demonstration in Times Square. He found himself agreeing with the protestors, and from that moment on, he was, in his own words, "no longer a liberal [but] a radical, believing that something was fundamentally wrong in this country." After serving as a bombardier in World War II, he studied history and politics on the GI Bill and then taught history at Spelman College in Atlanta, from which he was fired, and Boston University, where he remained until he retired in 1988.

In 1980, he published his magnum opus, *A People's History of the United States*. The hefty 700-plus-page tome was to be a "new kind of history," a "bottom up" telling of the story of America from the perspective of the oppressed—the Indian, the slave, the factory worker, and so forth. *A People's History* has since sold more than 2.5 million copies, and it's widely used in U.S. education. It's also appeared in such pop culture backdrops as *The Sopranos*, *The Simpsons*, and the History Channel documentary *The People Speak*.

A People's History has clearly made its way to the people, but is it a fair and honest telling of the American story? Not even close, according to Mary Grabar. In *Debunking Howard Zinn: Exposing the Fake History That Turned a Generation Against America*, the history professor and daugh-

ter of escapees from Communism meticulously consults historical documents contemporaneous with the eras Zinn covers, along with many of Zinn's own cited references, and judges his accounts by the historiographical standards of the American Historical Association. In the court of scholarly opinion, she concludes, Zinn's work is more of a fraud than a work of scholarship.

Grabar shows how *A People's History* is shot through with deceitful rhetorical tricks—selective quotations that twist the original meaning to its exact opposite, explicit rejection of historical balance, misuse of ellipses such that quotations are grossly distorted, and outright falsification. Was Columbus a genocidal maniac, as Zinn accused him of being? *No*, says Grabar. *He defended Indians*. Was the U.S. founded to protect white privilege and wealth? *No*, *it was founded to protect liberty*.



Were the Viet Cong well-meaning community leaders advocating for Vietnamese self-rule? *No*, they were committed Communists backed by the Soviet Union. And so on for World War II, the Cold War, "America the Racist," and more.

Attempted Takedown

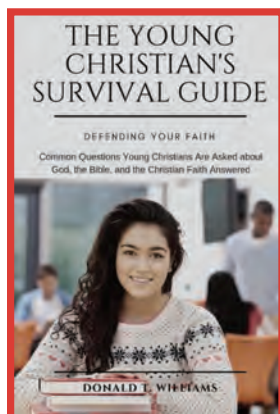
Oddly for a historian (though not for an ideologue), Zinn read his own ideology backward in time. For example, the English who came to America were driven by their depraved appetite for private property, while the peaceful Indians had perfected the art of living in "egalitarian communes." The upshot of it all is that *A People's History* is an attempted takedown of America from the pen of a hard-left Communist sympathizer.

To his credit (sort of), Zinn made no pretense of objectivity, but rather openly espoused the use of history as a tool to effect a revolution. There would have been nothing wrong with chronicling a history from the perspective of the underdogs, but there is something infernally wrong about falsifying a people's backstory to advance a political agenda antithetical to their founding identity. *Debunking Howard Zinn* is a long-overdue counter to Zinn's ideological weaponization of history, and fair-minded Americans would do well to brush up on actual history and set about recovering a sense of that identity before it's too late. ☉

Foresight: How the Chemistry of Life Reveals Planning and Purpose

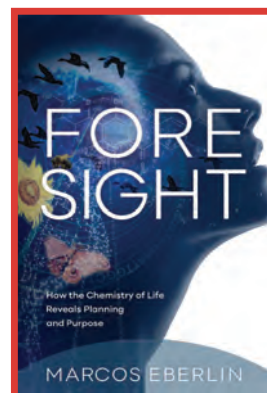
by Marcos Eberlin

With the advent of powerful microscopes, we can see in even the simplest of organisms mind-boggling integrated complexities. Eberlin, a world-renowned chemist, looks at several fascinating examples of systems—mostly from biology, but also from physics, cosmology, and geology—that appear to be the work of an ingenious engineer whose foresight anticipated potentially dead-end problems and provided solutions for them *in advance*.

**The Young Christian's Survival Guide: Common Questions Young Christians Are Asked about God, the Bible, and the Christian Faith Answered**

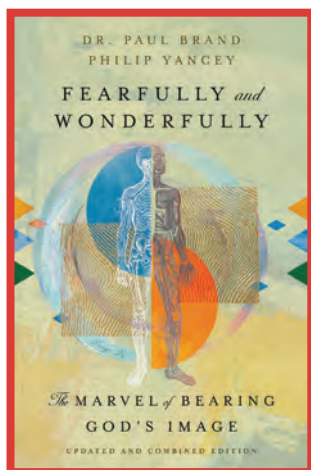
by Donald T. Williams

Professing Christians face a profusion of challenges today: "Why should anyone believe the Bible?" "Hasn't science proved we evolved?" "Christianity may be true for you, but why should it be true for me?" This little handbook addresses the most common ones in a way that will help Christian students and those who love them grow intellectually. And in so doing, it demonstrates that "intelligent Christian" is not an oxymoron.

**Sex in a Broken World: How Christ Redeems What Sin Distorts**

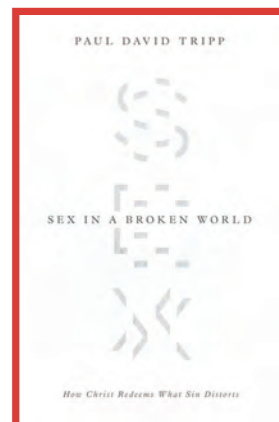
by Paul David Tripp

The sexual insanity of our day runs deeper than sex, says Pastor Tripp. The drive for self-rule, the cultural heresy that says we own our bodies, the summary individualization of sex—all these are rooted in the rejection of God's authority over every area of life. In one section, Tripp writes about sex in a weird way, but overall, this book sketches out a much-needed theology of sex that upholds it as a good element of created reality.

**Fearfully and Wonderfully: The Marvel of Bearing God's Image**

by Dr. Paul Brand & Philip Yancey

Dr. Paul Brand (d. 2003) discovered that silenced nerve cells lay behind leprosy, and he spent his entire medical career serving leprosy patients. This profoundly beautiful set of his reflections—an updated and combined edition of two books he coauthored with Philip Yancey—is part medical memoir and part meditation on the parallels between the integrated complexities of the human body and the New Testament understanding of Christians as the body of Christ on earth. Discussion guide included.

**The Story of the Cosmos: How the Heavens Declare the Glory of God**

General editors: Daniel Ray and Paul Gould

The Bible offers us a sacramental view of all things, but the post-Copernican, materialistic-mechanistic conception of the world empties it of all witness to its Maker. This compendium of essays, mostly on science but also touching on literature and the arts, aims to recover the discarded image of the universe as "a well-ordered harmony," intentionally created to speak of its Creator's glory. Each essay is a thread; together they form a cord connecting the natural world to the sacred order.



One Child Nation: The Truth Behind the Propaganda

Nanfu Wang, a Chinese filmmaker now living in America, courageously returned to China to ask difficult questions about China's one-child policy, which was in effect from 1979 to 2015. She interviews relatives, village officials, midwife-abortionists, human traffickers, and more. Everyone should see this film, both to learn of the

massive injustices the policy bred and to reflect on the passive complicity of everyday people who shrugged them off with, "It's the government. What can you do?"



The Pilgrim's Progress

John Bunyan wrote *The Pilgrim's Progress* in the 1600s while imprisoned for his faith, and it has become one of the most-read Christian books of all time. This feature-length, animated film version stays true to the original story of Christian's arduous trek from the City of Destruction to the Celestial City. Although it is animated, adults should keep in mind that some themes may be disturbing for small children.



and while the public safety net is well-intended, some aspects of the now complicated system can dehumanize people and turn the net into a web of entrapment. This is a compassionate look at the current state of affairs and a hopeful call to revamp it in a way that dignifies people in need and best fosters their created potential.

Work & Happiness: The Human Cost of Welfare

Millions of Americans live in poverty and survive with the aid of public assistance,



Three Identical Strangers

Identical triplets Eddy, Bobby, and David were adopted as infants by three separate families. Each knew he had been adopted but did not know he had brothers; they found one another through chance circumstances at age nineteen. This fascinating documentary tells the story of their joyful reunion, which was followed by the disturbing discovery that they had been part of a human experiment overseen by psychiatrists and a prestigious adoption agency.

The Redemption Project with Van Jones

CNN political commentator Van Jones hosts this TV series highlighting the restorative justice process. Each episode features one carefully structured dialogue between a convicted criminal and the victim or surviving members of the victim's family. The meetings can be intense, but most are helpfully transformative for everyone involved. Some result in genuine forgiveness and reconciliation, and all of them are deeply human and very much worth watching.





InterVarsity & Religious Freedom Prevail

The University of Iowa Learns a Lesson

by John Stonestreet & Roberto Rivera

Back in February, federal judge Stephanie M. Rose ruled that the University of Iowa could not strip recognition from Business Leaders in Christ for requiring leaders to follow traditional Christian teaching on sexual morality.

Rose, an appointee of President Obama, didn't find a problem with the university's "Human Rights Policy," which the university claimed the Christian group had violated. But she did think it a problem that the university applied the policy inconsistently, in a way that violated students' free-speech rights.

Did the University of Iowa learn its lesson? Ummm . . . no. In early October, university officials found themselves back in Rose's courtroom. Despite the very clear ruling from February, university officials de-registered InterVarsity Christian Fellowship in June, for the same reason.

I'm not sure what the university expected, but in the last seven months Judge Rose had *not* changed her opinion about what the Constitution requires.

In fact, this time she let them have it. Since the February ruling, she wrote in her opinion, university officials

proceeded to broaden enforcement of the Human Rights Policy in the name of uniformity, applying extra scrutiny to religious groups in the process—while at the same time continuing to allow some groups to operate in violation of the policy and formalizing an exemption for

fraternities and sororities. The court does not know how a reasonable person could have concluded this was acceptable.

Back in her February ruling, Rose pointed out how "the Chinese Students and Scholars Association limits membership to Chinese students, and the Iowa Hawkapellas, an *a capella* group, only accepts women." Yet neither of these groups was de-recognized for violating the Human Rights Policy.

Nor were fraternities and sororities or LGBTQ student groups required to open their leadership policies. Just about the only groups the policy applied to, according to university officials, were Christian groups that uphold traditional Christian teaching about sexuality.

Rose made her opinion about that quite clear: "The Constitution does not tolerate the way defendants chose to enforce the human rights policy." She correctly identified the double standard clearly at work, which can be summed up as, "some freedom of speech and association is freer than others."

Hitting Their Wallets

Frustrated with their stubbornness and determined to not have them re-visit her court for the same reason, Rose decided to hit officials



where it really hurts: their wallets.

In her February ruling, Rose said that university officials were not personally liable for any potential damages awarded to the group Business Leaders in Christ. But that will not be true regarding any damages awarded to InterVarsity, since the officials ignored her February ruling.

Becket's Daniel Blomberg, who represented InterVarsity, said it was "too bad it took twice for the university to learn its lesson." He added that "university officials nationwide should now take note that religious discrimination will hit them in the pocketbook."

Even if InterVarsity never collects a nickel from these hostile university officials, the ruling is still a big win for religious freedom on college campuses. And it's another chapter in what's becoming quite a long story of why believers ought to actively defend their religious freedom. InterVarsity's win is a win for every campus group in America.

To ensure that religious freedom has a future, more groups will be forced to take action like InterVarsity did. And we'll all have to learn to make the case for religious freedom and why it matters. ☉

—Adapted from a BreakPoint broadcast (breakpoint.org), October 7, 2019. Used with permission.

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TOMORROW**

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DREAM**

**CREATE YOUR
OWN FUTURE**

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