



# FiRST Principles

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## Opening Message

I hope that this December finds you warm and cozy and preparing for an especially holy Christmas season. The theme I selected for this issue of *FiRST Principles* is “time.” I had expected that this theme would lead to an emphasis on scientific theories of time and their relationship to physics, astronomy, biology, etc., as well as philosophical or theological musings about eternity. As is typically the case, however, our content this month represents a much greater diversity of interests.

We begin with a “member spotlight” essay from teacher, parent, and ITEST Board Member Lauren Lester. You’ll want to read this and get to know Lauren, who writes “I like to think I’m giving my students the ability to be confident in the future when their faith is challenged by a materialist argument, or at the very least, confident that the answer exists even if they need to look it up.”

On the theme of “time,” we have two pertinent selections from Dr. Thomas P. Sheahen’s book *Everywhen: God, Symmetry, and Time*, the first of which has been edited further as a stand-alone essay. Dr. Sheahen creatively links his discussion of time to the topics of prayer and the plight of human embryos abandoned after IVF procedures. In “The Eschatology of Obligation: St. Thomas and the Moral Value of Money,” ITEST Director Dr. Sebastian Mahfood offers precious insight into the downward spiritual spiral known as monetary “credit,” drawing on three important authors’ recent works. Finally, we have Patrick Panozzo’s article “Science, the Unaffiliated, and History,” which originally appeared in the *ITEST Bulletin* in 2020, and which addresses historical and contemporary reasons for religious disaffection as well as students’ testimonies that contain “signs of hope.”

Just in the past few years, we appear to have launched into a radically different age, one that features both a continuity and an acceleration of our modern history with technology and the spiritual challenge of discerning just what – and who – the human person is. We look for renewed and further “signs of hope,” and we find them especially in God’s responses to our prayers, our deepening relationship with Him. In this Christmas season, may we all find the time to experience such joy.

Christopher Reilly, ThD  
Editor, *FiRST Principles*

### ITEST Membership Renewal

Membership renewal notices for 2026 have been mailed, and we thank those who have already renewed. As a paying ITEST Member, you receive monthly email newsletters, free entry to webinars, and opportunities to network with others who are attentive to faith/science issues. Members with current renewal status receive both printed and digital copies of the quarterly journal, *FiRST Principles*.

The first 100 members to renew will receive a copy of ***Wonder Worker: Saint Philomena, Virgin Martyr*** by Cecily Hallack, edited by Keith Berube. (See <https://enroutebooksandmedia.com/wonderworker/>.)

Renew at <https://faithscience.org/membership-information/>. Or mail a check to ITEST, 20 Archbishop May Drive, St. Louis, MO 63119.

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## Member Spotlight

Lauren Lester

I've always loved science and math; as a child, the only trophies I ever earned were from math competitions, not sports. I've also always loved my Catholic faith - the sounds of hymns, the scent of incense, the peacefulness of a prayerful church. I never questioned that these two things might be considered at odds by some. Only as a young adult did that start to become apparent.

I began work on a physics degree in 2002 at the University of Missouri, planning to finish bachelor's degrees in physics and math then move on to graduate school to study astrophysics. During my time there, our physics department outreach days made me quickly learn that I loved to teach students how the world worked. So instead of astrophysics, I finished those physics and math degrees and then completed graduate work in physics, earning a master's degree at the University of Missouri - St. Louis alongside a teaching certificate to foray into the world of secondary education.

It wasn't really until I first became a high school teacher at an urban all-girls Catholic school in St. Louis that I started getting challenged by questions the students had about the relationship between science and their Catholic faith (or sometimes their abandonment of the faith). I had never given much thought to how to address these questions because I never had struggled with them myself. In 2014, I received a flyer for a conference for high school science and theology teachers hosted by ITEST and featuring Fr. Robert Spitzer as the presenter. This was my first introduction to the faith-science conversation, and it was eye opening. Suddenly, I had real answers to the questions my students often asked. Not long after this conference, I joined the ITEST board of directors to provide high-school-teacher perspective to ITEST's various activities.

In my 12 years of teaching since then, I have used a variety of resources from Fr. Spitzer's Magis Center to more formally incorporate topics of faith into the physics, physical science, and astronomy classes I have taught. But even informally, I frequently find myself describing some awe-inspiring chemical or



physical phenomenon necessary for life to have developed on Earth and following it up with a "It's almost like someone important wanted us to exist!" This is usually met with eye rolls or weak laughs from the teenagers in front of me who have heard that for the tenth time, but yet I trust that I'm always planting seeds that the Holy Spirit will nurture. I like to think I'm giving my students the ability to be confident in the future when their faith is challenged by a materialist argument, or at the very least confident that the answer exists even if they need to look it up.

While at the same all-girls school in 2014, I found myself leading an initiative there to create a FIRST Robotics Competition (FRC) team. This is the highest and most intense level of high school robotics competition in which, in just several weeks, students create a complex 100-pound robot almost from scratch: machining raw metal, designing gear and motor systems, and coding programming to create a robot capable of playing that year's game against dozens of other schools at regional competition sites, all while also running business and outreach tasks that simulate all aspects of real-world engineering processes. We founded the first all-girls FRC team in the state of Missouri and the St. Louis metro area, aptly named "SistamatiK," a nod to the pride the team had in its girls-in-STEM status.

During my time as the coach of this robotics team, and through my ITEST connections, I was introduced to Dr. James Bornholdt, a then-in-formation deacon of the Archdiocese of St. Louis. Dr. Bornholdt was an engineer by trade and a professor of engineering and invention. He used our robotics team students to pilot a ministry idea for young people that he called "Theology of Inventiveness," a program that encourages students to explore their passions to invent solutions to real-world problems. This invention process is situated in conversations around the human ability to invent and the ways in which it reflects the creative nature of God; it is part of our nature as beings created in the image and likeness of God. I have carried many of these ideas with

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me as I moved through my teaching career and still incorporate them into a high school introduction to engineering class that I teach.

After another degree, this time in Catholic School Leadership, and a brief foray into high school administration, I have settled back into teaching at a different Catholic high school in the southern end of the St. Louis metro area where I continue to incorporate, both formally and informally, the complementarity of faith and science. I continue on the ITEST board,

most recently working to grow our social media presence in order to bring the faith-science conversation to more people. My own five children, who currently range in age from six to sixteen, now ask their own questions about faith and science. As any parent can attest, you always worry if you are doing enough to share your faith with your kids, but thanks to the many years I've now spent learning about the faith and science conversation, first spurred by my affiliation with ITEST, this is one part of my faith life that I know exactly how to share with them. ■

Read about other ITEST members in our **Member Spotlight** series highlighting the accomplishments of ITEST members at <https://faithscience.org/member-spotlight/>.

## Praying Outside of Time

By Thomas P. Sheahan, Ph.D.

Adapted from Ch.11 of *Everywhen: God, Symmetry, Time*  
(St. Louis: En Route Books and Media, 2021)

**If this year you pray for something, God--who is present to all time--can answer your prayer by putting something in motion in the past.**

Does it make sense to pray about something that has already happened — a disabling accident, a loved one's slide into addiction, a war? As a physicist, I see that, because God is not restricted by the time-sequence that humans are accustomed to, the answer is yes.

Most people will nod in agreement to the statement “God is everywhere,” referring to space; but God's quality of *omnipresence* means that God is present to all time, too. God is *Everywhen* as well as everywhere. God is *transcendent* to time. It is impossible for humans, with our very limited perception of time as just a one-way street, to grasp what that means. It means that God doesn't have to watch time pass by the way we do; but more than that, God can act outside of time, disregarding the distinction we make between past and future.

Suppose you pray for a relative about to undergo open-heart surgery. Today, that's a reasonably safe procedure, but a half-century ago it was very risky. Medical progress in the interim has changed the survival odds enormously. Where did that medical progress come from? One explanation is that God responded to people's prayers by having a baby born who grows up to be an innovative and creative doctor.

And here's the important point: there is no time restriction — no past/present/future and no “too late” — on the timing of either the prayers *or* God's answer to them. That is, God can receive a prayer of 2025 and answer it by taking action in 1970.

Such a capability boggles the human mind, but it comes with the territory when God transcends time and is *present* to every time.

You will say that it's more appropriate to offer a prayer of thanksgiving about the patient's recovery. Fair enough, but God has the ability to sort out such a distinction.

Medical history holds many examples: Two centuries ago, it was common to die from an infection contracted during surgery, but proper hygiene has eliminated that hazard. How did that medical wisdom come about?

Well into the early 20<sup>th</sup> century, children died regularly from pneumonia, but then penicillin was invented, and today pneumonia is a minor disease. Who remembers to thank God for inspiring the doctor who made the discovery ... or still less, for the pharmaceutical innovators who converted it from a laboratory curiosity into a practical treatment?

Similarly, it would be most unusual for a parent of a young child today to pray that the child not contract polio; but 80 years ago, that prayer was on every mother's mind. To this day, in countries that lack

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vaccines, the childhood disease measles poses such a threat. The prayer of a parent in Sudan might be answered by God (several years ago) inspiring a nurse to go to a mission.

A fair percentage of babies used to die in childbirth until the fetal monitor was invented, enabling doctors to take swift action to save the child's life. Who can explain how that creative idea originated?

Can anyone remember having "exploratory surgery"? That was made obsolete by the CT scan and the MRI. Did God inspire the computer programmers to figure out the algorithms to make those technologies happen? Would that be something that anybody prays for today, either in petition or in thanksgiving?

Medicine isn't the only field; countless other im-

provements in modern life are traceable to creative insights. Do we know what foresight God brought to those moments of inspiration?

When a senior couple celebrates their 50<sup>th</sup> anniversary, can any of the attending guests remember the prayers for a successful marriage offered two generations earlier by their parents and grandparents, now long gone? Not likely. But God, being present to all time, remembers perfectly well.

All this is extremely difficult for humans to comprehend — but failure to understand is a human deficiency, not a limitation upon God. The simple prayer that "God's will be done" may seem feeble and inadequate at times, but it expresses a basic confidence that God has our best interests in mind. ■

## The Eschatology of Obligation: St. Thomas and the Moral Value of Money

By Sebastian Mahfood, OP, PhD

"Poor people don't understand how credit works. Let me explain. Credit is debt. Rich people borrow money to buy things that make them more money. Poor people use credit to buy things that lose money over time. Debt is modern-day slavery. . . . Act your wage."

— Frank Underwood, *House of Cards*

Over the past decade, En Route Books and Media has published a number of books on the Catholic understanding of money. The eschatology of such is underscored by Dante Alighieri in his *Inferno* as the pilgrim traveler witnesses hoarders and wasters crashing boulders against one another, debtors racing through dark woods before being ripped apart by the mastiffs in pursuit of them, usurers crouching toward the circle of fraud, simoniacs encased upside down in perversions of baptismal fonts, grafters ripped apart by demons, and counterfeiters and liars abusing one another.

On the fifth cornice of the *Purgatorio*, those endeavoring to embrace the virtue of liberality, which entails spending the right amount on the right people for the right reasons and at the right time, cleave their faces to the dirt. They gradually come to an awareness of what Christ meant when he reordered the logic of wealth acquisition in saying, "store up for yourselves treasures in heaven, where neither moth nor rust destroys, and where thieves do not break in or steal. For where your treasure is, there your heart will be also" (Matthew 6:20-21).

Debtors are hard-pressed to engage the virtue of lib-

erality or curb their use of money heavenward, enslaved as they are by their, in Neal Flesher's terms, modern chains. Statius makes the point on Mount Purgatory when he explains that it was Virgil who taught him it was possible to spread one's hands too wide in spending. The eschatological nature of obligation, therefore, makes our treatment of money one of eternal concern, which, to paraphrase Aristotle, makes no small difference in our lives; rather, it makes all the difference.

### I. The Plastic Soul

Frank Underwood's sardonic monologue compresses into a few sentences what Catholic social philosophy has spent centuries untangling: the moral anatomy of credit. Behind the cynicism lies a metaphysical diagnosis, such that the use of money reveals the orientation of the soul. In an order rightly constituted, credit serves creation; in a disordered one, it serves enslavement. Debt, in that sense, is never simply financial. It is moral. It is spiritual. It is, as Thomas Aquinas would say, *actus voluntatis ordinatus vel inordinatus*, a voluntary act ordered toward the good, or the distorted mirror of that order.

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In *Money, Markets, and Morals* (En Route, 2024), Thomas Storck reminds us that every economic act participates in the moral order because it concerns the material means of human flourishing. The decision to borrow, to lend, or to advance credit is not morally indifferent; it shapes the relation between persons and therefore touches the eternal law. What Underwood calls “slavery” is the interior consequence of mis-ordering that relation, when acquisition supersedes stewardship and the sign of exchange usurps the substance of virtue.

## II. Ethics before Economics

Donald Boland, in *Economic Science and St. Thomas Aquinas* (En Route, 2016), rebuilds the scaffolding that modern economics dismantled. For St. Thomas, he argues, the economic realm is a *particular application of moral philosophy* governed by the same hierarchy of causes that orders all practical reasoning. Wealth, as an external good, serves the perfection of the person; therefore, economic science is subordinated to ethics just as ethics is subordinated to metaphysics.

When profit becomes the final cause — when accumulation becomes self-referential — the act degenerates into avarice, a sin against justice and charity alike.

In Aquinas’s vocabulary, every practical art has its own proximate end (*finis proximus*) and its ultimate end (*finis ultimus*). The merchant may seek profit (*lucrum*) as the proximate reward for labor and risk, yet that profit must remain ordered toward the common good. When profit becomes the final cause — when accumulation becomes self-referential — the act degenerates into avarice, a sin against justice and charity alike. The same distortion structures the modern credit economy. A Merchant Cash Advance (MCA), marketed as an exchange of future receivables, disguises its formal object: profit without productive contribution, gain detached from work. Aquinas would recognize this as *usura*, the taking of payment for the mere passage of time.

Boland insists that time, being created, cannot itself be sold; only goods or services with intrinsic utility may be traded justly. To sell the use of money as such is to sell what does not exist, to convert duration into commodity. Here we discern the metaphysical root of

Underwood’s cynical realism. *The powerful learn to rent the future; the poor are induced to mortgage it.* Either instance grates against the Catholic understanding of a universal destination of goods.

## III. Market Disorder

For Storck, the detachment of markets from moral law is not an economic evolution but a fall. The market, he explains, does not contain within itself the principles by which it should be governed. When it claims autonomy, it enthrones appetite. MCAs and credit cards exemplify this disordered autonomy: instruments originally designed to facilitate exchange now function as engines of extraction. The lender’s profit no longer arises from participation in production but from the borrower’s endurance, the monetization of dependence, and the foreclosure on the default.

This is the precise inversion Aquinas warned against when he distinguished *artes liberales* (arts ordered to truth) from *artes serviles* (arts ordered to utility). The liberal art of economics, properly understood, liberates;<sup>1</sup> it directs material order toward moral order. But the servile art of speculation enslaves, converting intellect to instrumentality. Storck thus echoes St. Thomas’s admonition that the human act is good when it accords with reason, for reason, not desire, defines man’s participation in divine order. A society that makes desire the measure of value replaces reason with *ratio calculandi*, mere calculation, and in doing so, loses its soul.

## IV. A Moral Taxonomy of Exchange

In *Economic Science and St. Thomas*, Boland delineates the *moral species* of exchange with the precision of a scholastic anatomist. There are, he explains, three principal forms of economic action:

1. Natural exchange, in which goods are traded for the satisfaction of need.
2. Political exchange, in which surplus goods serve the maintenance of the household or the state.
3. Artificial exchange, in which money becomes both means and end, producing gain from circulation itself.

The first two preserve order because they remain instruments of the *bonum commune*; the third perverts order because it severs acquisition from service. Artificial exchange is the birthplace of the credit card and the MCA. Both are structured to yield profit not from the thing sold but from the act of selling itself, the

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purest form of *mutuum* gone wrong. To take increase from what in its nature does not increase is, after all, to take where one has not sown.

Through this lens, Underwood's dictum reads like a secular gloss on the Thomistic critique of usury. The poor, he observes, borrow for consumption, for that which perishes, while the rich borrow for production, for that which yields fruit. The difference is not intelligence but orientation toward the final cause: whether the loan participates in decay or in creation. Thomistically speaking, only the latter can be justified, for it alone aligns *finis operis* (the end of the work) with *finis operantis* (the intention of the worker).

## V. Debt as Ontological Violence

Neal Flesher, in *Modern Chains* (En Route, 2025) gives existential flesh to this scholastic skeleton. "Slavery did not die," he writes, "it was redesigned." The instruments have changed, contracts instead of chains, balances instead of brands, yet the anthropology remains constant. To live on credit is to live under stewardship not one's own, to trade the sovereignty of the will for the security of deferral. Debt thus becomes not only an economic condition but a metaphysical one: man alienated from the fruit of his labor, paying tribute to abstractions that bear no sweat and shed no blood.

For Aquinas, injustice resides precisely in such alienation. The moral evil of usury is that it demands fruit without seed, effect without cause. It treats money as fertile in itself, denying the created order in which only living things generate life. Flesher's "modern chains" name this denial in contemporary form, the technological mediation of usury through digital systems that abstract the lender from responsibility and the borrower from reality. Here Boland's scholastic clarity and Flesher's prophetic imagery converge: both diagnose the same metaphysical disease — *creatio ex nihilo* claimed by the creature.

## VI. The Eschatology of Interest

In my own book *Radical Eschatologies* (Lambert, 2009), I show through teleological eschatology, which orients all history toward its consummation, how the meaning of economics cannot be separated from its end. Time is not neutral but sacramental; it is the field upon which grace unfolds. To charge interest, therefore, is to monetize the eschaton, to sell participation in a future that belongs to God alone.

Aquinas's metaphysics confirms this insight. The future, as potential being, cannot be possessed; to trade

in it is to usurp providence. "He who sells what he does not own," writes Boland paraphrasing Aquinas, "commits injustice." Interest is thus the practical blasphemy of the modern age: it exacts payment for a gift not yet given. In theological terms, it transforms hope, the theological virtue ordered toward divine promise, into a financial instrument ordered toward human control.

This is why Storck expresses that a truly Christian economy must be eschatological in orientation. It must anticipate not perpetual growth but ultimate fulfillment, not the infinity of accumulation but the perfection of sufficiency. Only when money serves that final cause does it regain moral value.

## VII. The Moral Value of Money

What, then, is the moral value of money? In Aquinas's order of goods, money is an *instrumental good*, valuable insofar as it facilitates justice in exchange and charity in community. Its worth is relational, not absolute. Boland interprets this to mean that money has its place in the hierarchy of being: it is the servant of life, not its lord. Storck extends the thought: money crystallizes cooperation, for it is the external sign of trust. Flesher brings the point home: when money ceases to symbolize trust and begins to command it, it becomes an idol.

The MCA and the credit card reveal the idol's face. Both promise liquidity, the ability to move freely, yet both achieve it by immobilizing the human person through perpetual obligation. They counterfeit communion by replacing mutual trust with algorithmic enforcement. The moral value of money is thus reversed: what should unite divides, what should liberate enslaves. Aquinas's dictum holds: *bonum ex integra causa, malum ex quocumque defectu*, a good act requires the harmony of all its causes; evil arises from a single distortion. The distortion here is the detachment of economic means from moral ends.

## VIII. Acting Our Wage: Thomistic Prudence in the Age of Credit

Underwood's parting counsel, "Act your wage," articulates the virtue of *Temperantia*, moderation in the use of temporal goods. Aquinas situates temperance as the guardian of freedom: it disciplines desire so that reason may rule. To act one's wage is to live within the measure of one's vocation, acknowledging the divine economy in which every gift carries responsibility. In Thomistic prudence, spending and

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saving are moral acts; they must be proportionate to one's state and directed toward the common good.

Boland translates this into a contemporary imperative, that economic maturity consists not in maximizing returns but in harmonizing means with ends. Credit may be licit when it serves production or sustenance, but it becomes illicit when it serves mere appetite. The moral question is not *can I pay?* but *should I borrow?* The answer depends on whether the act contributes to human flourishing or corrodes it.

Storck would add that communal structures must reflect the same prudence: local credit unions, cooperative enterprises, and wage policies oriented toward stability rather than speculation.

Flesher would radicalize the conclusion: a civilization cannot remain free while its citizens are owned by debt. To act our wage is therefore to reclaim agency, to refuse the metaphysics of endless deferral and to re-enter the moral present.

### IX. Toward a Redeemed Economy

If the disease is metaphysical, so must be the cure. The Thomistic path of redemption begins in the intellect, proceeds through the will, and culminates in grace. Intellect must recognize the truth: that wealth is stewardship. Will must consent to right order: that ownership implies obligation. Grace must elevate both, transforming commerce into communion.

The Thomistic path of redemption begins in the intellect, proceeds through the will, and culminates in grace. Intellect must recognize the truth: that wealth is stewardship.

In this redeemed order, the MCA and the credit card can be transfigured. They may still exist as instruments, but their logic would change from extraction to cooperation. Interest would give way to partnership; credit would become covenant once more. Such a transformation demands not merely reform of policy but conversion of hearts, a retrieval of the metaphysical humility that St. Thomas placed at the root of all virtue. "All created good," he teaches, "is limited; it must be ordered to an end beyond itself." The economy that forgets this becomes its own eschaton, a perpetual motion machine fueled through the consumption of souls.

### X. Toward a Transformation of Persons

If our true relationship to money is a spiritual rather than material phenomenon, then what's needed to right the ship is a spiritual rather than material transformation. Juan Pablo Stegmann, in his series *Leadership: A Journey toward World Peace* (En Route, 2023), shows that spirituality and leadership are the twin engines of a just economy.

Spiritual intelligence, he argues, unites reason and love, converting economic value creation into moral value creation. Leadership thus becomes a spiritual vocation that harmonizes intellect, empathy, and transcendence, aligning precisely with the Thomistic hierarchy of ends and with Boland's insistence that economics must serve ethics and metaphysics.

Where Frank Underwood's realism ends in cynicism, Stegmann's realism begins in grace: the recognition that genuine prosperity arises not from leverage or speculation, but from interior greatness, the cultivation of beauty, goodness, and truth within the human heart as the first treasury of any moral economy. In this sense, spiritual growth precedes economic growth in a way analogous to how ethics precedes economics, and metaphysics precedes ethics.

### XI. The Only Currency That Endures

I bring closure to this short essay by pointing out that while Frank Underwood's monologue begins in derision, it ends in confession. "Just because you can afford the monthly payment," he warns, "doesn't mean you can afford the item."

St. Thomas, through Boland's lens, would translate this into the language of final causality. Every economy, like every soul, moves toward an end: either the temporal infinity of debt or the eternal sufficiency of charity. In that final reckoning, balance sheets dissolve, and only virtue remains in the black.

The eschatology of obligation is nothing less, after all, than the eschatology of the human heart, a question of whom we choose to serve, God or Mammon. The market will pass away, but the measure of charity endures. And that, perhaps, is the last line Frank Underwood never got to deliver. ■

<sup>1</sup> The author is grateful to Thomas Storck and Donald Boland for pointing out that the art of economics is not classically among the liberal arts, so my analogy falls short on this point. See Donald Boland's *Economic Science and St. Thomas Aquinas* for a full discussion of the necessary distinctions between natural and unnatural exchange.

## Stopping Biological Time

By Thomas P. Sheahan, Ph.D.

An excerpt from Ch.11 of *Everywhen: God, Symmetry, Time*  
(St. Louis: En Route Books and Media, 2021)

It is possible to shut off, or stop, biological time, just by lowering the temperature of the biological entity. The notion of cryogenically freezing astronauts during very long space flights has been fashionable in science-fiction literature for years and promotes speculation about space travel.<sup>1</sup>

Here's some of the physics beneath biological processes: Whenever a biological entity is functioning normally, the biochemistry involves many small transfers of energy, and those proceed at a normal pace for that organism, thus establishing a rhythm or "biological time." Living systems on Earth generally maintain that rhythm across a temperature range spanning more than 100°C, which is roughly -50°C to +50°C. Outside that range, it's different. On the high side, water doesn't boil until 100°C, but other components of an organism fail. On the low side, greatly reducing the temperature slows down the rhythm or timing of biological processes. The viable human body temperature range is only between 30°C and 45°C.

Refrigerating something by cryogenic cooling<sup>2</sup> in liquid nitrogen is enough to bring all known biological processes to a complete halt. That means that no exchange of energy occurs, no chemical or biological processes take place. The "biological clock" stops, and "time stands still."

To the disappointment of science-fiction buffs, no full-sized person has ever been "thawed out," but speculation about it continues. Individual biological cells can be successfully frozen and thawed out. Transporting bull sperm in cryogenic containers has been done by cattle breeders for many decades.

As the process of *In-Vitro Fertilization* (IVF) is usually practiced, human sperm and eggs are combined, and after conception the extra embryos are frozen for later use. Those

miniscule human beings have their biological clock shut off for the duration of the time they remain frozen, regardless of how long that might be. As a result, there are instances of biological twins born years apart. The thawing process is not always successful; but when it is, the delayed baby has not suffered any harm during those years of zero biological activity. Sadly, there are some frozen embryos whose biological parents lose interest later on and discard them.

It is worth remembering that when the first *in vitro* fertilized baby was born in 1978, the Pope immediately issued a statement welcoming the newborn into the world. He acknowledged the intrinsic worth and sanctity of the life of this human being, without in any way endorsing the procedure.

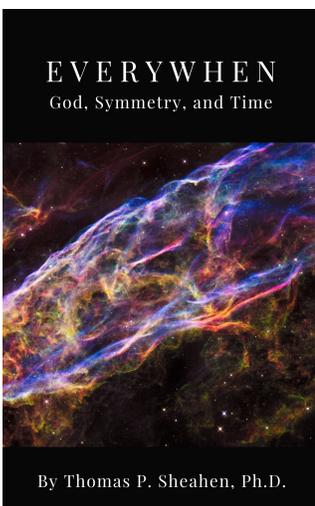
We also see the phenomenon of "snowflake babies," when a frozen embryo is implanted years later in another woman's uterus and born into an entirely different family. Those children, despite a long period with time shut off, are every bit as real as those born in an "ordinary" sequence of time. Upon meeting and interacting with such a person (detecting nothing unusual), to find out later that she vanished from time for a decade is memorable.

We have here a totally new effect breaking in upon our normal perception of time. It really *is* possible to make biological time discontinuous - for a small enough entity. Neither the science fiction writers, nor the philosophers, nor the theologians have caught up with the technology yet. We have to ask all over again, "What is the meaning of time?" In this case, we're not talking about relativity, but about actually turning off the clock of a living human being. We wish we could find one fundamental principle that would make sense of it all. ■

### Endnotes:

<sup>1</sup> See, for example, Arthur C. Clarke, 2001: A Space Odyssey (London: Penguin Books, 1968).

<sup>2</sup> Thomas P. Sheahan, Introduction to High Temperature Superconductivity, Ch. 3 (New York: Plenum Press, 1994).



## Science, the Unaffiliated, and History

By Patrick Panozzo

This is a reprint of an article from *ITEST Bulletin* Vol. 51 #1 (Winter 2020)

In the Spring 2019 General Assembly of the United States Conference of Catholic Bishops, the Chairman of the Committee on Evangelization and Catechesis, Los Angeles Auxiliary Bishop Robert Barron, gave an address to the entire assembly concerning the “nones.” His initial objective was to offer some explanation for the phenomenon of broad disaffiliation from religion in our culture generally, and away from the Catholic Church more specifically. For Catholics, particularly those born after 1980 (millennial generation and younger), leaving the Church is the most urgent crisis facing the Church, second only to the sex abuse scandals, according to Bishop Barron. His talk identified that one of the primary causes of religious disaffiliation and even loss of faith is the perception by many that faith is illogical or unscientific. In the November 2019 meeting of the USCCB, Bishop Barron was asked to follow-up on his presentation with ideas and suggestions for a way forward in addressing this cause and others that lead to abandoning religion. What follows here is a short review of each talk, followed by a brief analysis of the proposals made, particularly concerning science and its perceived opposition to religious faith.

### Bishop Barron’s June Presentation

A brief summary of Bishop Barron’s June presentation to the USCCB begins with his desire to answer three questions: Who are the religiously unaffiliated? Why are they leaving the Church? And how do we get them back? This first talk addressed the first two questions, and he returned in the November general assembly to address the third. Much research over the past ten or fifteen years has given us a pretty clear indication of who the unaffiliated or “nones” are, so Bishop Barron cited a few of the more sobering statistics to underscore the level of severity. Fifty percent of Catholic millennials no longer identify as Catholic, and one out of every six millennials in the United States is now a former Catholic. Half of those leaving the Church become religiously unaffiliated and no longer claim any religion at all. Another quarter of this cohort leave Catholicism in order to identify with an evangelical Christian church, and the final quarter begin to identify with an entirely different faith.

Having painted a fairly clear picture of who the unaffiliated are, Bishop Barron focused most of his talk in

June identifying why so many (especially the young) are leaving the Church. He provides five main reasons that appear consistently over more than a decade of time and in numerous surveys.

The first reason frequently given is the loss of belief. The dogmas, doctrines, and fundamental teachings of the faith are determined to not have any truth claim for those disaffiliating. Bishop Barron’s analysis argues that after Vatican II (not necessarily because of it) the faith was “dumbed down” by elevating feelings and emotion (Jesus loves you, and that is all that matters) over reasoning and inquiry in the presentation of the faith. Several generations of this emphasis have produced horrendous results, and the surveys reveal it. People who do not understand the faith can much more easily reject it or claim that it is found wanting in believability.

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The second reason for those leaving the Church is relativism, and not just in the area of morality. Young people today broadly respond to almost any strong statement of truth, particularly in religion, with great discomfort and suspicion.

The third reason cited by Bishop Barron he calls “the culture of self-invention.” By this he means an extreme individualism that only permits a person’s identity to be defined by himself through personal choice.

The fourth area is the persistent perception that science and reason are opposed to religion. Divine Revelation is perceived by those disaffiliating from religion to be more like irrational superstition, while the advocates of scientism successfully steer the culture into accepting that the truth can only be known through the modern sciences.

The fifth and final reason most given for leaving the Church is the Catholic teaching on sexuality and all the issues to which that is related.

Before concluding his presentation to the Bishop’s Conference in June, Bishop Barron did offer four “signs of hope.” The challenges facing the Church are

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great, and the battlefield is likely to worsen before it gets better, but there are some silver linings among the clouds.

The first hopeful sign is that most of the unaffiliated are not fiercely opposed to religion or the Church; they have simply drifted away. Breaking through indifference or malaise seems more the challenge than any kind of embedded atheism.

A second sign of hope is what Bishop Barron called the “Jordan Peterson effect.” By this he references the rather large and devout following acquired by the mostly mild-mannered Clinical Psychologist and Professor of Psychology from the University of Toronto. Peterson quotes Nietzsche and expounds on the archetypes within Bible narratives, relying more on intellectual meaning than charisma to find his audience. Bishop Barron proposes that this is due to a wide and deep desire for meaning among the youth unable to find it elsewhere.

A third sign of hope are some shining examples of campus missionary groups that evangelize with impressive success.

And the last sign is the level of online engagement to be found. Each forum that invites discussion of religion seems to find a rather quick and expansive audience eager and willing to talk about religion, religious meaning, and issues of theological pertinence.

### **Bishop Barron’s November Presentation**

The bishops responded with great interest to the presentation in June, so Bishop Barron was invited to present again at the annual meeting of the USCCB in November to further the discussion. In this second presentation he proposed five recommendations elevated by the Evangelization and Catechesis Committee most likely to help draw young people back into participation in the Church.

The first proposal is to recognize the appeal of the Church’s social teaching to younger generations and pursue more opportunities for getting young people involved in the works of justice.

The second is what each of the last three popes have called the *Via Pulchritudinis*, or the “Way of Beauty.” This is simply to acknowledge that in many cultures today, beauty should enjoy a privileged place in evangelization as an inroad to the good and the true. In this way we are not just telling others about the faith, but truly showing them, all while using a less threatening manner.

The third proposal is something Bishop Barron calls

the “intellectual path.” The “dumbing down” of the Sacred Tradition in education and catechesis is perhaps the area most responsible for the perceived fault line between science and faith.

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The fourth proposal is to turn every parish into a missionary society. The suggestion here is that the parish as traditionally understood cannot afford to simply maintain any longer. Young people are not and will not come to the parish; rather we must think in terms of mission work by going out to find them.

Finally, proposal number five is to creatively use the new media. Bishop Barron and the committee see the relatively recent invention of the internet along with the even more recent tool of social media as God’s Providence at work. The Church could never have devised a better or more effective set of circumstances to get the message out and find an audience willing to listen.

### **Analysis and Conclusion**

In this last section I wish to present some analysis of the suggestions presented by Bishop Barron and the Evangelization and Catechesis Committee of the USCCB, particularly applying some of my own experience teaching high school students and responses they have given me. The following survey results are more specific to the Catholic culture than those found elsewhere in this bulletin as most of my students grew up in and live in homes identifying as Catholic.

I surveyed 129 sophomores and juniors (ages 15-17) attending the Catholic high school in St. Louis where I teach. The school has a college prep curriculum and is all girls. 68% of my students identify as Catholic, while 15% chose the label of “no religion.” 94% were baptized. Only 7% denied any belief in the existence of God, while an additional 19% said they were “not sure” about God’s existence. Only 21% said they attend Mass weekly. 57% said they either never attend Mass or only attend on rare or special occasions. Despite this, a whopping 89% of my students either somewhat or strongly agreed with the statement “I can be a good Catholic without going to Mass every Sunday.”

The first of Bishop Barron’s “paths” toward bringing

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young people back into the Church would find fertile ground with my students. 72% said participation in the works of mercy and performing service for others inspires them toward greater faith. The challenge of presenting the faith as intellectually coherent and consistent with reason is also evident. 33% of my students said faith and science “sometimes” disagree, 16% said faith and science are opposed more often than not, and another 21% said they were “not sure.” Fewer than one-third (30%) answered that science and faith are “complementary.” When asked if science presents a “serious challenge to your faith” 40% agreed with another 33% responding “not sure.”

Hesitation, if not confusion, reigns judging by their response to whether “the great dogmas and doctrines of the Christian faith (the Resurrection, the Incarnation, the Trinity) are credible and not opposed to reason.” 43% of my students answered “not sure” while another 23% disagreed with the statement. Finally, I asked whether “truth can be revealed or discovered using methods other than the modern sciences.” To this statement 59% actually agreed, suggesting “scientism” is not as pervasive as imagined (at least in my sample), though 29% were not sure and 13% did disagree with the statement. More apprehension is found on the question of relativism. I asked whether they agreed that absolute truth can be known and that an objective right and wrong exist, and 43% answered “not sure” while another 21% disagreed with that statement.

Two responses surprised me and seem to indicate an opening that could bear fruit in promoting the complementarity of faith and reason. Despite recent polls of Catholics nationally (Pew) on the issue of the Real Presence of Christ in the Eucharist, among my Catholic students a remarkable 78% said they “believe that Christ is really and truly present in the Eucharist” (11% said it was “just symbolic,” another 11% answered “not sure”). On another matter requiring more than merely rational thought, 64% acknowledged a belief in the supernatural (angels, ghosts, the soul) with 31% saying “not sure” and only 5% denying a belief in such things. It is not clear how to interpret these numbers considering 40% agreed that “science and reason present a serious challenge” to faith, but I think it suggests there is more openness than opposition.

My final piece of analysis is something not particularly raised by Bishop Barron or the work of the Evangelization and Catechesis Committee. The negative presentation of religion and people of faith in the secular media today is surpassed only by the negative

presentation of the Church and religion in the teaching of history. Read almost any history textbook used in either Catholic or secular schools, and you are likely to find the scandalous and more negative influences of religion and the Church highlighted, while many of the heroic and saintly figures will be absent or downplayed. I was not surprised to see the results of my question concerning the Church and history. When asked “My view of Christianity’s (Catholic Church or otherwise) role in history is...” 41% answered the Church has been “at least as sinful as it has been holy” and another 18% said the Church has actually “contributed more suffering to the world than goodness.” Only 21% said the Church has “made the world a better place” (20% said “not sure”). Additionally, a more general attitude toward religion revealed that 24% of my students believe “organized religion causes more harm than good when it comes to understanding God” while only 25% disagreed and 50% answered “not sure.” One fascinating piece of evidence counter to this negativity toward the role of the Church in history is that 63% of all my students (not just those identifying as Catholic) said they believe “the Holy Spirit has guided the Church through its history and continues to dwell within the Church today.” 24% answered “not sure” to that description of the Holy Spirit in the Church while only 12% disagreed.

Whatever these numbers may portend, it is clear that the crisis of disaffiliation from the Church today is real and significant. There is much to consider from Bishop Barron’s work with the USCCB, but without the prioritization and focus of the bishops, this critical work of evangelization will struggle. Behind many of the suggestions lies a clearer and more vigorous engagement with the challenges and questions people bring to the Church. Whenever obscure, confused, or unsure responses are given by those representing the Church, they fail to meet the seriousness of the question. However, when drawing upon the illustrious history and Tradition of searching for God using the intellect as well as cultivating and promoting the natural sciences, the Catholic Church can face this crisis with a resounding faith and hope for the generations entrusted to us. ■

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