1

Michelangelo's Finger: The Pope and the Atmosphere

There was no hush when Pope Francis entered the Sala Clementina in the private Apostolic Palace in Rome. Instead, we flew to our feet in a standing ovation—some even hooted and cheered as if for a baseball hero who had hit it out of the park. But if this was not the standard decorum for the occasion, the pope did not seem to mind. He broke into a broad smile, walked across the room to greet his cardinals, and then took his place.

The pope does not usually grant audiences in July, we were told, but he was making an exception because of his stirring commitment to the topic at hand: climate change and its deleterious impacts especially on the poor, the core theme of his landmark environmental encyclical, *Laudato Si,* issued in 2015 just before a pivotal UN Climate Change Conference to be held in Paris. The encyclical placed the pope at the forefront of leadership on insisting that governments address the care of our common home, planet earth. The encyclical was not static, and the pope seemed intent on keeping it topical and in the public eye.

This meeting with him marked the third anniversary of *Laudato Si,* and we had all been invited to the Vatican to make suggestions for advancing the statement's meaning and impact.

My trip to Rome began in London, where I had flown from New York so I could spend the night and continue on reasonably rested first thing the next morning. I left my hotel so early that the lone night porter had to let me out, lifting the heavy brass bar bolted across the antique wooden lobby door.

Nearly alone on the city streets, the taxi driver peppered the trip with curious chitchat.

"Where are you flying?" he asked.

"To Rome," I replied.

"And what's that for, dearie?" he probed. "Vacation?"

I could not resist. "Believe it or not, I have an audience with the pope."

"Well, that's a big one, isn't it?" he said. Then, speechless for barely a second, he let out the long tale of how he had happened to get married twice. We all have our priorities, I thought.

Gatwick Airport was wide awake, its serpentine gallery of duty-free shops chock-full of dallying passengers, as if planes were no longer the point of airports.

At last I got to my gate, the zigzag aluminum boarding ramp shaking like a portable dock on a summer lake—no carved marble masterpiece staircases leading into grand Vatican meeting rooms quite yet.

But in Rome, American Express was keen to let us know where we'd arrived. "Don't tackle tagliatelle without it," warned the billboard in the customs hall.

I entered the joyful state of listening to Italian, trotting out my basic version. I had chosen a hotel just outside the Vatican, thinking I had better be a stone's throw from the action.

The driver knew the street but not the specific address. "Is it on the right or the left side of Concilazione?" he wondered. "If we knew, I could avoid a lot of turns." I didn't know and neither did his GPS.

We pushed on. The driver took a second to point out the Castel'Sant Angelo in full view nearby, and then said, "So signora, let's take a guess. What do you think—left or right?"

Life is always some sort of gamble in Italy, some aspect of a pursuit of the artful. "What would Tosca say?" I teased him back, knowing he'd get the Puccini opera reference for sure as we passed 'Sant'Angelo, site of the opera's last scene. He burst out laughing.

"Let's try right," said I.

That was wrong, but the driver gave me a stately bow as he dropped me on the nearest corner. My hotel was just a few suitcase rolls away, and so was St. Peter's Cathedral, icon of multitudes but that day, off-season, standing alone in silent gleaming white marble perfection. I had only to raise my eyes to take it all in.

In the morning, I found a Daily Gospel under my door. It turned out that the hotel doubled as the home base of the Salvatorians, a monastic order founded in the 1880s. I left the gospel on my desk and headed out.

Above, a sky-diving unbroken blue sky, and Rome's summer heat was very present. At the vaulted entrance to the square, homeless men were still curled up inside their overnight cardboard boxes, and trash was tucked between bricks as if treasured possessions left for future generations to find. In the street, a woman draped in black bent herself into a right angle like a bracket holding up a shelf, whispering her misery in such a choked yet audible voice, she might have been cast by Shakespeare to play a pauper hag to break our hearts.

Security guards and carabinieri were everywhere, and I could feel the eyes of the police on my back as I bent to tie my shoe, heading for the private Uffizi gate entrance.

What was I doing here, I, who had left the practice of Catholicism years ago? For one thing, I had a lifelong fear of all things Church dating back to my First Communion days, when the nuns commanded that we keep our heads down while the priests did their magic on the altar, turning bread and wine into the body and blood of Christ. Ask no questions, we were told, and so I peeked often, widening my fingers just enough to see if I alone was sneaking a look, thinking I was flirting with going to hell. In this cradle of obedience where rigid authority ruled, popes were beyond us all, out of imagination and out of reach.

But this new pope, the former cardinal from Argentina named Jorge Mario Bergoglio, elected Pope Francis in 2013, was close to real life, venturing directly into the concerns of real people wrestling with complexities and ambiguities. After all, when he declared shortly after becoming pope, "Who am I to judge?" about gay people of goodwill seeking their god, he stunned the world with his thoughtful grasp of the boundaries between theory and practice, and I welcomed with relief and admiration his astonishing rejection of dogma.

The pope was also bringing his moral authority to knotty environmental and economic issues, such as climate change, which have festered for decades without resolution because they, like some social issues, have also been prisoners of dogma and preconception. The major environmental problems that plague us today have defied resolution mostly because they defy certainty and easy rules.

The sweeping *Laudato Si,* published to global acclaim in the buildup to the UN conference in Paris, was intended to add the weight of the pope's voice to the impending international negotiations and clearly stated that nature is a common inheritance of all people equally. The pope urged all nations to once and for all accept the science of climate change as irrefutable and all environmental problems as a universal responsibility.

Still, on the subject of tactics and what to actually do, I felt obliged to challenge a few misguided but influential paragraphs in the pope's encyclical that would not help the cause. Refreshingly flexible on social issues, the pope seemed stuck like many with a tired, rigid mantra when it came to climate change and environment—that money, capitalism, and markets were the root of environmental evils. Specifically, the pope had too roundly reproached carbon markets and "carbon credits" as false, mere reflections of commercialism and permitting what he termed "the guise of a certain commitment to the environment."

However, I believed that when properly designed, monitored, and implemented, carbon markets were vital to implementing the pope's best hopes for *Laudato Si*. They are integral to the vital idea of "putting a price on carbon," for one thing, and so may be one of the very few effective economic means to reckon with global environmental urgency.

Pricing carbon means attaching a clear financial cost to emitting deleterious carbon dioxide and other greenhouse gases (GHGs) into the atmosphere from the burning of fossil fuels, otherwise a cost-free act of pollution. "Pricing carbon," a goal of environmental advocacy for decades, has never quite established itself in the financial mainstream because carbon markets have been set up in fits and starts in a patchwork of inconsistent policies, nation to nation.

Then, just as carbon markets had a chance to be accepted and coalesce globally, scheduled to be a high-priority discussion at the impending Paris conference, the pope was condemning them. So, to try to avoid this setback, I wrote the pope a letter to seek a change in his view. The subject line was "Laudato Si and 'Carbon Credits'—observations and possibly useful advice."

> *Dear Holy Father, it is in the spirit of mutual dedication and belief that I humbly bring to your attention some references in the Laudato Si that may benefit from reflection and modification and which may have resulted in advice that did not have the benefit of complete information on the topic, namely, environmental markets . . . that have tended to*

undermine confidence in useful tools . . . and the policy relative to a "price on carbon," an unfortunate shorthand that oversimplifies a complex matter. . . .

First, I would like to provide some philosophical and moral context for my views. As you well know, all of time stands still in Michelangelo's "Creation of Adam" on the ceiling of the Sistine Chapel, perhaps one of the most famous paintings ever known. And, in the painting, all divine power sparks not as two fingers touch, but as they come only close to touching. The power seems to live rather in the space between Adam's finger and the finger of the god who is reaching out. That space between them is invisible, intangible, limited yet omnipotent and, of course, priceless. Earth's atmosphere is also as fragile, as limited as this space. Thus, we must protect it, by discouraging gluttonous use and abuse of this ineffable rarity. . . .

Carbon markets do not privatize or exonerate. They are simply accounting systems like any other that assign value where the failure to assign value to date has led to obscene denigration of that which we have considered ours to use freely, at no cost. . . . I put myself at your disposal. I would travel to Rome, if desired, to discuss the topic. With my gratitude and any blessing a humble searching soul such as I may convey from my being to yours,

Most sincerely,

To have a chance of the letter actually reaching the pope, I first ran it by a Vatican diplomat at the UN office of the Holy See, who read and cleared it, and even promised to put it in the diplomatic pouch he sent weekly to Rome. The letter found its way to the desk of Cardinal Peter Appiah Turkson of Ghana, then the pope's key advisor on *Laudato Si* and Prefect for the Dicastery for Promoting Integral Human Development, who sent me a polite thank-you note. But seeing the phone number next to the cardinal's name, I immediately called and, through the goodwill of the cardinal's personal secretary, booked a follow-up for some weeks later to flesh out the topic with Cardinal Turkson. At the appointed hour, the affable cardinal and I batted around the issue of carbon markets for a bit, and he acceded to my visiting him in Rome to speak further in person.

Perhaps he didn't expect me actually to do it, but I made the trip that fall. We met at the Palazzo San Callisto, an open hexagon of pink stucco with palm trees swaying in the garden. In the homey salon, the cardinal and his assistant Father Josh Kureethadam and I chatted about the paragraphs on carbon markets including "carbon credits" in *Laudato Si* I had questioned. I further made my case, understanding that the pope could not retract opinions expressed in his original *Laudato Si*, but suggesting that perhaps the pope could issue a clarifying addendum or editorial in *L'Osservatore Romano*, the Vatican newspaper.

I went so far as to suggest that the Vatican declare a plan for all its operations in Rome to become "carbon neutral," which would mean the Vatican could directly test out the workings of carbon markets, including buying "carbon credits," also known as "offsets." These are derived from environmental projects such as reforestation intended to neutralize a metric ton of greenhouse gas emitted in one setting by capturing it, or "offsetting" it elsewhere. Interpreted by some as relieving the burden on major emitters of greenhouse gases to directly reduce their own actual emissions, offsets courted controversy and what the pope himself had termed the "guise" of action. A carbon-neutral Vatican would require the Vatican to try to reduce the fossil fuels it burned and purchase carbon credits equal to the emissions it could not eliminate. I suggested that surely countless committed enterprises in the world would cover any associated costs, to spare the Vatican budget and support the demonstration. The Vatican would set a monumental example, I suggested, of how carbon pricing can work, including the constructive role of carbon credits, especially since critics of carbon credits tarnished them with comparison to indulgence letters once sold by clerical leaders, including popes, in return for forgiveness of sins. Cardinal Turkson said he would consider my views, and Father Josh gently saw me out.

That Christmas, I perched a tiny bright red feathery cardinal in the pine wreath on my door and sent a photo of it to Cardinal Turkson as a Christmas card. I heard nothing for several months. But the following spring when I checked in again with Father Josh, he let me know our discussion had not been forgotten. I was invited to a forthcoming special conference in Rome of environmental and theological leaders to discuss my points and several others that were being proposed to deepen and extend the reach of *Laudato Si*.

And so began my journey to the inner sanctums of the Vatican and beyond, tracking the radical transformation under way in finance, in which carbon markets are but one part.

Old ideas about money—what it's worth, how it operates, and what backs it up—are becoming useless and obsolete because of a gaping flaw in our financial systems no longer possible to ignore: failure to financially value and price the priceless, the ineffable elements of life, especially our atmosphere, on which our environmental and social stability now increasingly depend. The result? Intangible yet indispensable natural assets taken financially for granted, and therefore essentially laid waste.

Reversing this reality is neither fringe nor naïve, but a necessary seismic shift.

From the pope to mega-investor Larry Fink, who heads Blackrock, perennially the world's largest financial asset manager, to Swedish teenager Greta Thunberg, who squatted outside her school to protest climate change and triggered a global movement, to mainstream bankers and oil company barons in China, and everyday people everywhere, our world hears multiple unconnected voices coming together in the same global chorus proclaiming that our financial systems have fallen far short of protecting the planet and that capitalism needs to change its priorities to avoid catastrophic environmental and social detriment.

Though once fresh, these calls for what has been termed reimagined, more inclusive, or stakeholder-led capitalism have become their own drumbeat, stuck between wishful thinking and real-world practice. No matter how loud or widespread they become, they can never gain traction without the missing piece, the tool of pricing the priceless—experimental, at times controversial, but upending and inevitable.

It seemed to me that dismissing capitalism and the drive to make money as irredeemably in conflict with environmental stewardship is another rigid sweeping dogma whose time has gone. At the least, we cannot merely continue to complain about the excesses of the past. Suppose, instead, we could use money and its language—the language of price—to protect the priceless elements of living and social cohesion that we cherish, rather than sabotage them?

And what if a quiet revolution has occurred among the money changers and lenders, and the Wall Streets of the world—such distrusted entities—were evolving from dens of suspected villainy into incubators of noble ideas that can be used to advance the greater good, such as protecting the atmosphere?

Carbon markets, carbon pricing, and other financial innovations (including new forms of insurance, bonds, investment funds, and indices) are part of this revolution and a simultaneous reprogramming of the financial workings of the world so that inanimate black-red ink balance sheets no longer function in an isolated arena undefined and unscrutinized by the needs of people and the planet. At the heart of this rebooting process is price.

Capitalism and finance are nothing more than the motor systems of pricing and valuing—who pays for what and how much based on a perceived value, or, in simplistic terms, "The value of a thing is what it will bring."

Now though, as we face expanding environmental and social risks, there is a paramount need to use price to value and shield the assets that invisibly, for the most part, underpin our well-being. Pricing makes an asset visible, illuminating the value of saving and protecting it, and the cost of losing it. Either we come to terms with the actual chain of value of natural resources and other intangible essentials and account for them literally and figuratively in our economic system, or they will slip away because we undervalue them, allowing them to be spent by the lowest bidder for lack of appropriate financial recognition.

In short, we may have to accept that there is a financial price to be assigned to the so-called "nonfinancial goods" we love and need most, and that it is neither immoral nor shameful to do so. On the contrary, pricing the priceless may be the only practical solution to resolve increasingly unfathomable contradictions.

For example, why do our capital markets value companies such as Uber, which offer merely on-demand service we can live without, in the billions of dollars, but our atmosphere, on which all life depends, at zero?

Why do we place an unbridled financial premium on ocean-view property but treat the coral reefs that protect that property from catastrophic storms as financially worthless?

Why do we value our infinitely scarce freshwater so low that we are free to blast and contaminate it as we force it underground to release natural gas in the hydrofracking process, only to then burn the gas with scandalous energy inefficiency?

Only pricing the priceless can redress these destructive patterns by transferring bookable financial value away from what is mostly extractive or exploitative and toward what is vital, and irreplaceable. This move redefines the essence of profit and loss and brings to light what truly supports reliable and worthwhile economic investment: natural assets.

In turn, if capital markets reward coherent risk management and resource stewardship of those assets in higher credit ratings for public entities, for example, then those entities are in turn recognized as more financially and reputationally sound, able to perhaps borrow favorably to meet other pressing needs, or even reinvest in natural asset protection.

In this sequence, pricing the priceless translates the natural capital of clean water or standing forest into bankable collateral, as compared to short-term raw material. If clean water and other natural resources enter the financial ledgers of public budgets as vital assets, then by extension public funds can be commanded to care for and protect those assets commensurately. After all, assets are generally treated as prized and nonexpendable.

Once these assets have a notable value, protecting them becomes logical and better understood by taxpayers, who might otherwise think of environmental protection as dispensable, a costly frill that can be put off because its value comes tomorrow, not today. Pricing the priceless captures financial prominence for natural assets that are otherwise mere footnotes on the books.

Moreover, momentum is with us as disparate forces converge to confront and disrupt enshrined financial presumptions. First is the evolution in the global economy away from traditionally valued tangible goods, such as manufactured products, to the valuation of intangible goods, such as brands, apps, intellectual property, service industries, and basic research and development. This transition reset the econometric comfort level that intangibles can be expressed in tangible pricing and serve acceptably as wellsprings to economic growth.

Second is the intensifying skepticism that conventional economic practice works for the general good. There is heightening awareness of economic inequality with plenty of backup data, thrown into stark relief by the COVID-19 pandemic that exposed just how many people live at the economic precipice. Public yearning for justice and credible institutions feels ready to combust and increasingly does, typified by the "yellow vest" protestors who set fires to grand boulevard cafes in Paris in 2018 to vent anger at higher taxes, including carbon taxes. In 2022, according to the Carnegie Endowment for International Peace, economic protests "soared" worldwide, largely driven by inflation and recession worries.

Third, there is compounding evidence and increasing recognition that environmental problems are urgent, especially climate change. Numerous polls, surveys, and voting patterns worldwide confirm that people, especially those under 40, want action on climate change, clean energy, and social progress. The annual UN conference on climate change held in November 2021 in Glasgow, COP26, was nearly brought to a standstill by activist protestors pressing for governments to act more decisively. In November 2022, the host government of COP27, Egypt, cancelled some public programs due to security worries.

Meanwhile, extreme weather events continue, and communities are left alone to cope; for example, in the United States in 2021, the failure to prepare was so blatant that the whole city of New Orleans lost power after a single catastrophic storm, and extreme monsoons in Pakistan in 2022 left most of the low-lying country underwater with no rescue plan. Global anxiety mounts.

Fourth is the emergence of alternative ideas about what backs up money as legal tender. Seemingly overnight, there is expanding use and consideration of intangible, even libertarian, digital currencies such as Bitcoin, Ether, iWallet, Alipay, NFTs, digital yuan, maybe even digital US greenbacks, not quite dismissed by the sitting head of the US Federal Reserve in 2022, Lewis Powell. If transactions of once-esoteric homemade digital currencies are credible and acceptable, why not a water bond or carbon credit resting on the underlying value of lasting environmental health?

Fifth is a surprisingly broad wake-up among mainstream asset managers, bankers, and asset owners to environmental, social, and governance (ESG) risks as financial risks and, on the other hand, that money can be made, not lost, by investing to minimize them. Global uptake of ESG investing concepts proceeds rapidly, and new metrics and investment vehicles are being invented, tested, and applied.

Sixth, there is a tidal wave of money seeking purpose, accompanied by huge intergenerational turnover in wealth and attitude. By 2030, according to Wealth X, about $18 trillion will change hands, about 60% of that in North America alone. Research firm Cerulli estimates global transfer as high as $84 trillion by 2045. In 2020, research by Barclays Private Bank reported that "investing for both financial returns and with consideration for its impact on the world has been gaining momentum for some time. . . . This is led by the children who are positively influencing their parents on ethical and social investment matters . . . most of the patriarchs and matriarchs of high net worth families (59% of 40–60 year olds and 68% of over 60 year olds) say that their children have taken the lead on ethical and social investment matters for the family." In 2022, the Schwab Modern Wealth Survey found that 79% of millennials, 82% of Gen Z, and 70% of Gen X used "personal values" to guide their investment decisions. The 2022 Bank of America Private Bank Study of Wealthy Americans found that investment in ESG vehicles had doubled in 2018, with 73% growth among millennials.

Finally, these tendencies amount to major financial genre blur, to match so many other genre blurs rippling through society. For-profit and nonprofit financial motivation are gradually resembling each other, and stewards of capital can no longer be proud to brag about raw financial gain alone.

So, taken together, these trends will catalyze a significant financial disruption where outdated models and economic presumptions are wholly replaced. No longer just a matter of personal moral stance or choice, the need to examine why and how money is applied grows encompassing.

The social, environmental, and economic challenges are complex, with evident moral and even spiritual dimensions. Yet they have no chance of solution without fresh credible and productive new scrutiny of what we value as assets.

The stakes are vast and high. Estimates of the unbooked value of nature in conventional global economic ledgers have been as high as $125 trillion per year—more than global gross domestic product (GDP). In other words, unpriced priceless assets can lead to astronomical value squandered because we are blind to it.

Achieving the new dynamic of pricing the priceless taps both philosophical and practical concerns. But what does that mean?

Nature and natural resources do essential physical work for us but do not get paid a penny, like lowly free laborers. Trees and grasses hold the surface of the earth together but have been valued almost only when cut down as lumber for products and building. Crops are grown year after year and sold, but the soil that makes agriculture possible is paid nothing. Coral reefs slow down the waves of the sea to protect the coasts, but earn no direct value recognition themselves. Swampy wetlands filter poisons and dirt from our water, also for no fee.

Since nature provides these and myriad other services at no cost, we have become used to a take-what-you-can approach. Result? Pollution, degradation, climate change, and a false security that nature's services will never cease to function no matter how much insult we deliver.

Yet in the end, all financial profit depends on these priceless services, termed "ecosystem services," invisible, quiet, and now in trouble, because without these services, economies cannot function with predictability or foresight, and goods cannot be produced.

But how to pay nature, and who will pay?

The most cosmic free laborer of all is our delicate and exceedingly thin atmosphere, providing not only all our breathable air, but also hosting our weather patterns and deflecting the burning heat of the sun, overall making life on earth possible. Yet our financial systems place no value on atmospheric functions. As a result, we have indifferently crowded our atmosphere with greenhouse gas emissions, unavoidable by-products of burning the fossil fuels like oil, gas, and coal—themselves incomparable natural assets—that made modern industrialization possible. But, on the way, the buildup of fossil fuel emissions trapped solar heat and catalyzed major climate disruptions to wreak havoc.

To try to reverse this process and better value the atmosphere, carbon markets put a price on using increasingly rare space in the atmosphere for greenhouse gas pollution, The more space you occupy with pollutants, the more you pay, in theory, so the incentive develops to take up less space (i.e. pollute less). But this simple carbon market premise has been suspect because it treats the atmosphere like real estate and because of the long-prevailing view that capital and the methods of capitalism cannot have the greater good at heart. That is why Pope Francis found carbon markets distasteful.

Indeed, pricing the priceless can be morally risky, for it can also demean our most revered invaluables, labeling them as mere commodities, subject to fluctuation, speculation, gouging, or cheating.

Because there can never be sufficient money to buy back a priceless item once it is gone, any pricing system intended to protect the priceless can never truly set the price high enough. So how do we price what is beyond price?

Such is the vexing and inescapable paradox of our current economic lives. Addressing climate change is entwined in that paradox. It requires that we assign a tangible value to those intangibles that make up the aptly named global commons, the transcending intangible of our time. Reconciling these irreconcilables fairly for all people is perhaps the emerging purpose of the economy itself. Are we up to it?

Capitalism is a dogma, but anti-capitalism can be equally dogmatic. To stem climate change and other problems, we must perhaps suspend moral judgments even as we are compelled by moral commitment. At least until miracles happen.

We can keep faith with preconceptions, or we can throw them off.

I am no apologist for capitalism, for its ugly ills and ill results are as visible in human history as pricelessness is invisible. In some ways, contemporary capitalism has become a caricature of itself, spreading as much poverty as wealth, directing investment to the reckless extraction of minerals and fuels, rampant shearing of forests, paving over of wetlands, and countless other dubious projects. Yet it is also possible that capitalism can right its wrongs, and I am open to optimism instead of complaint and despair.

Also, finance should not be an exclusive province. Perhaps the fact that finance has been left only to financiers to interpret accounts for public doubt that finance serves other than to make the rich richer, all the more in the aftermath of the ostentatious and self-centered Trump era in the United States that left the idea of common good in shambles.

People across all social groups and ages are in a tailspin, wondering where they fit in the economic engine. Still, most do not realize that a main cause of our distress is that intangible priceless assets have had no champion in our economy. Greed is easy to blame for waste and inequities, but we can get beyond that fallback to the root and remediable causes—faulty measurement and valuation.

There are trillions of dollars sloshing around in our world looking for useful application, and we can capture them for the betterment of all. However, this requires a clean lens: a vigilant lowering of our doubts and raising our tolerance for ambiguity. The idea of pricing the priceless will influence where tides of money flow, with the potential to convert massive amounts of capital from "bad" uses to "good."

To price the priceless is to bridge the tangible and intangible and embark on a breakthrough that will dictate the prosperity and well-being of everyone, everywhere—a brand-new look at what we value and how.

The titanic battle is not merely between the politics of left and right, or free markets and their alternatives, but between private and public interest more broadly, a battle expressed in pricing.

Pricing the priceless answers a critical question of rising personal and social inspiration: in our tense and cherished world, what is money for?