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PEGASUS

A NEWSLETTER FOR THE CAUX ROUND TABLE FOR MORAL CAPITALISM
NETWORK LOOKING AT BUSINESS ABOVE THE CLUTTER AND CONFETTI



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Introduction

This issue of *Pegasus* is a long one. It also contains innovative content – big picture stuff to think about and act on.

One current heartfelt critique of capitalism is its alleged “short-sightedness.” Concerns for global warming, ESG ideals and sustainability all put the future ahead of today. They ask for long-term thinking, for assuming burdens and costs today in order to have a better tomorrow or next year or next decade or next century.

Critics of capitalism see its short-termism resulting from human selfishness, intellectual myopia and lack of concern for others all packaged together in striving to make a “profit.”

I would agree that selfishness, “me-ism” and the resulting short-term thinking of what is best is the bane of humanity and always has been. So, what is to be done?

How should we think about the future?

The famous and very capable American baseball player Yogi Berra is famous for saying, “It’s tough to make predictions, especially about the future.” The future ain’t what it used to be.

I also like his advice: “When you come to a fork in the road, take it.” “If you don’t know where you are going, you’ll end up someplace else.” “You can observe a lot just by watching.” “It ain’t over ‘til it’s over.”

In this issue, Michael Wright, one of our Fellows, links our ability to move beyond self and short-sightedness to creating trust – a human capability often abused.

Then, Michael Hartoonian, Associate Editor, poses the question of whether or not our proclivity to invent and devise technology has gown exponentially to the point where it may start de-humanizing us and eroding the medium of trust, in which we live for the best.

Thirdly, Tom Abeles, one of our local participants, asks us to really think about the future far out there – in space. Is such travel beyond earth’s atmospheric cocoon in our future?

Lastly, retired Professor John Mauriel reminds us of one real world example – the creation of the business school – of us developing new ways of analysis, some with short-term focus on realities and others on longer term results. John puts the intellectual, I suggest, at the service of action and betterment.

I hope you find this issue of *Pegasus* giving you optimism and renewed commitment to the journey of your life into the future.

Stephen B. Young
Global Executive Director
Caux Round Table for Moral Capitalism



No Trust, No Future

Michael W. Wright

“The supreme goal of all theory is to make the irreducible basic elements as simple and as few as possible without having to surrender the adequate representation of a single datum of experience.”

-Albert Einstein, 1934

“We cannot change the scale of the world, but we can change the scale of our thinking about it. We should remember that Hell comes from small-minded responses to big problems; Paradise, from thinking as broadly as the problem itself.”

-Tom Fisher from Veneer

We live in a complex, interconnected, interdependent and interrelated world. To survive, we must deal with this rapidly expanding complexity, utilizing a thread that connects us all. That thread is our margin of truth.

Imagine that in addition to the ozone layer protecting the Earth, there is a “trust veneer” made up of layers of truth. The layers are made up of facts, which exist when there are no more questions. Factual truth is the material that makes up the trust veneer and it’s what keeps us from reverting to a primal/tribal/cannibalistic world. The margin of truth [the thickness of the trust veneer] is what keeps us civilized, buffering our DNA wiring that has the set point of omnivorous predator. The very existence of the trust veneer is what enables civilization to meet personal, social, civil and existential challenges. It protects the social fabric holding us all together, which is loosely woven on top of the sea of chaos that we become when the veneer protecting that gossamer-like fabric tears.

The flow of truth follows the laws of physics and can be enabled or retarded. Once truth slows, trust invariably slows. As trust slows, relationships, families, companies, organizations, institutions and governments slow and the promise of a better future is at risk. But when the truth is protected, respected and enabled, it flows, the trust veneer thickens and human potential accelerates.

Without the luxury of time and thoughtfulness, the only thing we can do is focus on preserving and building the trust veneer that unites and protects us all. That veneer is made of truth.

When I first devised the theory that underlies this thought, my thinking was it might make sense to people in 10 to 15 years. But things are changing so fast that it's relevant now. To return to the ozone layer analogy, unless we increased awareness of the trust veneer's deterioration and take steps to protect it, our very survival is at risk. This is not hyperbole. This is a fact.

The erosion of a veneer most often happens over time and in a variety of ways. The thinning usually takes place naturally, as wear over the ages. The repeated exposure to children's touches on grandma's beautifully veneered antique coffee table or the weight of a plate on it, ever so slightly moved, but moved often over decades, creates the dulling and the creases and cracks the makeup visible wear. Sometimes it's too much time in the sun, where the heat blisters the surface and cracks begin to appear, slowly at first and then spreading until a spot peels up. Most often, under normal conditions, these worn surfaces aren't permanently damaged. The primary material underneath or even the overall veneer, if it remains glued to the foundational material, can be repaired. If patiently and purposely cared for, the veneer can often age and become more resilient, with a patina that is unique and beautiful.

There are circumstances, however, that can lift the veneer away from its foundational material. Sometimes, as a secondary effect takes hold on the surface, like water leaking into the cracks or more aggressive wear pushing through or blunt trauma from fire, flood or impact, the veneer can become completely separated and fragment. If the rupture and disengagement are contained, they can often be repaired with additional veneer. Unfortunately, in the case of a rapidly spreading wear-force, such as the unrelenting banging of a toy hammer by a child or a devastating blow from an adult with a real hammer or liquid spills that aren't removed, can cause the veneer to lift off completely and disintegrate, leaving the foundational material unprotected from rot.

What keeps the veneer in good shape, protecting the foundation, is the care of its delicate surface and the glue that holds it in place. Without the constant vigilance of its stewards against damage, whether slight or traumatic, the veneer will erode and expose the primal foundation underneath.

Building up a layered, robust and resilient veneer takes time, patience and persistence. Our civilizations are like a veneer, built up with trust over time. In its best light, it shows purpose, patience and persistence, made possible by the flow of truth across its surface, depositing evermore protective layers of knowledge and wisdom and penetrating deep – all the way to the glue that holds it tightly to the foundational and primal human behaviors that come apart without it. Truth prevents **rot** from developing and rising to the surface and eroding the veneer.

We describe risk as a margin of error... In our best analysis and judgment, how much operating room do we have to achieve our desired outcome? The greater the margin, the more likely everything works toward improving the odds of success. The smaller the margin, the greater the risk of failure.

Truth can be biased, distorted, polluted, diminished, become virtually nonexistent or worse, be shaped into a saleable absurdity to enhance, enable or restrict and retard the flow of the healing, which nourishes the veneer that is keeping it robust, resilient and repairable.

We live in an interconnected, interdependent, interactive network of networks. Without a margin of truth, the veneer of trust that connects these networks erodes. Everything either halts, warps or fragments accordingly in proportion to the flow of truth, constantly delivering, depositing and distributing useful, trustworthy information worthy of accumulation, reflection, understanding and care.

Michael Hartoonian suggested a powerful idea called “generational covenant” – meaning a responsibility we have to our ancestors and to our children. I believe that we now live in a “one generation world.” Situations are no longer selective; they impact everyone. Experiences that were once reserved for a period of life are now shared across all generations. We are all linked regardless of age, gender, location or belief system. Examples include climate, artificial intelligence and other technologies.

Trust is built on non-retractable shared elements for verifying truth. Trust is built up by the flow of truth. Truth being deposited is the foundation of the trust veneer. Truth builds up layers of trust. The trust veneer is layers of truth being deposited over time. The margin of truth, the uncorrupted amount that is flowing, determines how much the veneer grows or is peeled away.

ABSOLUTE truth does not exist. There will always be YOUR truth and MY truth. But at the same time, there are elements of the truth that, while contested, can be agreed on and shared. This is the truth margin that can flow to build the trust veneer.

The question is how much we can allow the margin or veneer to erode – how far can truth be reduced from its pure state to some corrupted flow? The margin of truth acts as a veneer against total distrust, which is what throws us into primal mode. “I don’t trust anything or anybody. I’m out for myself and I’m just going to take the biggest club I can, hit my neighbor over the head, grab his wife and food and leave. Because I don’t trust him anymore. I don’t trust him to act in my best interest or to cooperate. When the veneer crumbles, you’re left with the core. And at the core of humans is an omnivorous predator.”

If we stop the flow of truth, we stop building trust.

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Our Evolution from Organic Toward Inorganic Beings

Michael Hartoonian

*The machine which at first blush
seems of isolating man from the great problems
of nature, actually plunges him more deeply into them.*

— Antoine de Saint-Exupery

A man is a star's way of finding out about stars.

— Carl Sagan

Introduction

Are we evolving into machines? Do we understand “virtual reality” as a contradiction in terms or a redundancy? Do we know the difference between data and knowledge? How have our tools changed, our perceptions of self and the world? Can we really explore truth through the magic of the holy ghost living in our machines?

The benefits from technology have been beyond our understanding, beyond our ability to measure, beyond our self-awareness and beyond our rationality. Since the 18th century, we have witnessed longer life spans, higher living standards across the world, access to more goods and public health and increases in travel and communication. Today, however, we have embraced our tools with mythical exuberance and power that we have traditionally reserved for God. Like a church or temple, technology has its priests, accolades, rituals and mysteries. It's majestic and magical. We believe it can fix all that troubles us. It is also changing our identity and truncating our (virtue). It is an existential extension of the “man.” I use the word man with intention because technology has been controlled by a gender-specific intention. Men talk about “my baby” when describing an aircraft or computer or even AI, without embracing the attending responsibilities of childcare, thus, creating human, as well as cultural orphans in the process. We should not be surprised. After all, women have picked-up cultural responsibilities for men most of their lives. As an example, one might look to nuclear waste. The men who built the first A-bomb never thought about nuclear waste. It was not a part of their conscientiousness and still isn't.

Being Human

History has taught us that human survival carries the attribute of adaptation – to the environment, to culture and to technology. For good or bad, there is a synergy among these elements that needs attention. From fire to the wheel, from the clock to the radio, from electronic computing and media to AI, we have evolved to the point where it is becoming more difficult to personally tell where human or the biological ends and mechanical devices begin, to say nothing of the impact of this interaction on our planet. Our tools have altered our identities and our ability to feel or understand the world with grace and beauty. We use eyeglasses to see, have artificial hearts and hips and sleep with the help of drugs. However, these technologies still allow us to keep our humanity. To be sure, technologies that help us travel, for example, do change our relationships with each other and the land. When we take a walk, we are close to the earth and if we fall, it is no big deal to get up and continue. On a bicycle, a fall might be a bit more dangerous. On the other hand, think of an auto crash. Speed has its costs and benefits, but as speed increases, the environment becomes less important in our consciousness. In an airplane, we are in an enclosed space, moving at a faster speed, while the environment outside becomes irrelevant. We become fixed on destination and “out of touch” with nature and others. Of course, you can’t stop the aircraft at your whim and get off the plane – that first step would be self-annihilating. Of course, that doesn’t stop people from getting off; that is, committing suicide. They want to get off because as natural relationships atrophy, so too does life. It’s not dying that brings tears to our eyes, but the realization that we are not living.

In most cases, technologies have changed our conceptions of time, place and identity, but we’ve only just begun. Our technologies are starting to redefine the meaning of being human; that is, we are becoming part flesh and part machine. As James Lovelock observed in his book *Novacene*, cyborgs will be products of Darwinian selection and this they share with organic life, but that will be all we share with the cyborgs. We may be their parents, but they will not be our children. They will be the parents of new generations of machines. Some may argue that that’s a good thing. Whatever it is, we should try to better understand the melancholy burden of the technology we carry with us into the future. Of course, I wonder if it is possible for someone to understand anything that’s outside the beliefs they hold about others, as well as the earth.

Captured by Our Tools

How is a mind commandeered?

Technology? Environment? Genetics? What’s your guess? All of the above?
Before we continue, let’s consider the brain/mind of a newborn human.

We know from psychological evolution and studies of the brain that the mind is not a tabula rasa. This is no longer in dispute. So, what mental tendencies come with birth? What we now believe is that we are all born with certain moral, spatial and temporal frameworks that are altered simply by living in particular social/economic/political surroundings. This learning

process is the natural attempt to find out who we are and how to survive. In a benevolent environment, we design and shape our morality through seeing the importance of caring; justice; reciprocal duty; loyalty; respect; authority; sanctity; and aesthetics. Missing these models, we develop other, less beneficial beliefs and behaviors within these same frameworks.

This history of human learning and the quantitative increasing interactions between humans and ever newer, more mysterious technologies create what might be called “benign ignorance.” That ignorance often mutates into an unwavering and unassailable belief system...a closed mind. Ignorance can quickly be turned into notions of victimhood when demigods and mobs start attacking people, often violently, for not seeing the world the way they do. Few periods of history exemplify this phenomenon as powerfully as the time we are living through today, due in large part to the technologies of social media. I’m suggesting that a deep ignorance of technology will always cause harm in ways that confuse what we can do, with what we should do. More importantly, we confuse the lived life with the fiat or made-up world. Never in history has the world been more “made-up.” We are slipping farther away from disciplined inquiry and toward a reality created by the new electronic technologies. AI, metaverse and the crippling abnormalities of media-driven post-modernists who believe that reality is anything you would like it to be. I wonder if they ever read Lewis Carroll?



Now we have the vehicles in place to isolate ourselves, fit ourselves into clans based on shared anxiety, mythology and intellectual laziness. Most importantly, we can and have made monsters out of the ones we separate, but it doesn't seem to bother us. Why not? Because we have our made-up world in which to live. The capture of minds is nearing completion and we seem to embrace it.

Where is Our Moral Leadership?

Michael Wright, a Fellow of the Caux Round Table, has beautifully articulated what a contemporary leader must know and do:

“The difference between an opportunity and a threat is the time horizon in which we see it.”

A good manager will be able to do the right thing in the moment of a decision, but to better

anticipate that decision's consequences in the future, a leader must be able to rearrange structural elements of the institution according to contextual and temporal projections. Time changes everything and a leader will be more fluid in structural designs, like organizational responsibilities and position departments and personnel in anticipation of those future projections. Are we aware of time and its technological acceleration? We are living with Moore's law on steroids:

"Pulling the future into the present where it becomes visible is no longer a vague leap of faith, but a leadership skill that can be understood and practiced."

Seeing the future more clearly is, of course, possible with the computing power we have today, but we have to know what we're doing. Computing power is a necessary condition for future projections. However, it is not sufficient. Vision of the future is an achievable skill if and only if we understand that vision and virtue have the same epistemological roots. Seeing with perspective, as understood in philosophy and religion, for example, incorporates many of the same attributes as the concept virtue. We may have the data for a journey into the future, but do we have the knowledge and wisdom to resolve and prepare for what we can now see, if only dimly, coming at us tomorrow? This is what moral leadership does. This is what moral leadership is.

It's the Heat, Stupid

You may hold any opinion you want about climate change. Just know that our home is getting hotter every day. Storms are increasing, droughts are ubiquitous, water is becoming like hens teeth and many still have their heads somewhere else. Perhaps if we didn't allocate so much of our precious time being "used" by social media and just look around us with virtue, we might wake-up before it's too late, if not for ourselves, at least for our children. Look around. We have dictators destroying lives and treasure in the name of ignorance. We are so locked into our destructive behaviors – like becoming obese, using drugs, cheating (writ large), disrespecting the aesthetics and care of our own homes, our own bodies and other people – that we can't or won't see what's happening.



What is happening is heat. We don't see the disruptions in global climate patterns, worldwide starvation, poverty and disease. Our lack of vision will kill the earth and all upon it, but this is to be expected when most people think of meaning as embracing amusement and personal greed. At the rate that our ignorance is growing and given the lack of moral leadership in business, government, education and even within families, I would say that life on earth has a short time horizon. UNLESS we wake-up. To be sure, there could be life that might survive, but that life would be more machine than human. Right now, the projections for even machines living on a dead earth are not statistically encouraging. Not when we know that our oceans, which make-up three-quarters of the earth's surface, are struggling to keep us breathing. They are warming and the other quarter of the earth is also warming. You may hold any opinion you care to, but the fact is that once the oceans reach a surface temperature of 15 degrees Celsius, they become deserts without life. With the oceans' death, life on earth ends, simply because life depends on the elements supplied by the oceans, such as selenium, sulfur, iodine and many more. These are supplied by ocean surface life as gases like methyl iodide and dimethyl sulfide. At +15 C, all ocean surface life dies. I realize that we are far from that temperature, but not that far.

Also, it is certainly possible that some "black swan" event could destroy life on earth at any moment – asteroids, volcanic events or nuclear war. But we can do something to save ourselves by learning to think and understand Michael Wright's concept of the law of diminishing marginal truth. The only thing that can save us is to do the work needed to increase the margins of truth between healthy cultures and the disasters created by the corrupt mind – the commandeered mind.

A Discrepancy Theory

Getting through the next 20 years with any sense of grace will demand personal, community and global strategies that peruse what is true about our present moment, as well as an achievable future. In order to reach a livable, safe and healthy future, we will have to become problem solvers, the likes of which we have never seen before. The clock is ticking. Here are a few issues in need of immediate attention: the Russia/Ukraine war; tensions among nations regarding past national perceptions that are clouding a vision of a better world community; the weak responses to global health crises; our addiction to fossil fuel; our inability to incorporate technology into human culture and not the other way around; and the financial interpretation given to all human dilemmas. Knowledge of the contemporary world tells us that these are issues that must be solved soon, for we will not get another chance. This is the contested truth of the present moment. Now, how do we achieve a more lasting future? How do we build a bridge to that future?

The answer is simple, yet profound. Solve these problems by making their solution the ideal. To do this, politics must be replaced with the realization and idealism that we (the world) are all in this together. We need intelligent bravery. We need adults who understand the danger in self certainty.

Our future is based on the understanding that the premise upon which all life depends is a truthful and ongoing debate (Appendix A). Our survival depends on this understanding. To accomplish this, leaders and citizens of all nations must participate in conversations across institutions with civility and skill. We can no longer tolerate demigods and people without conscience. We can no longer tolerate immoral acts perpetrated against each other and the earth. We must increase the margins of truth around the world so our children have a chance of life and liberty. What is required?

A Quick Look Back

We could start in England and Europe at the beginning of the 18th century or with the U.S. at the end of the 19th century, Japan at the beginning of the 20th century or China at the beginning of the 21st century. Throughout the arch of the Industrial Revolution, freedom simply worked better to enrich people – some more than others. This is, no doubt, due to the fact that the parents of capitalism and democratic governance were people of the Enlightenment – people like Adam Smith, Thomas Jefferson and Alexander Hamilton. On the other hand, communism was created by Karl Marx, an angry individual who rightly saw the problems of capitalism, but had little idea of what caused them or what to do about them, except to tear everything down. The former followed the ideals of the Athenians. The latter, the way of the Visigoths. One loved learning, while the other relished burning books. The cultural DNA of democracy and communism is very different indeed.



The contested truth is that capitalism and democracy added health and wealth to most of the people of the world. Communism, just the opposite. The reason, clear to anyone not blinded by ideology, is rooted in a better understanding of human nature and higher purposes, like beauty, justice, peace and a stewardship for earth, which, of course, were not practiced with the appropriate vigor. Now, moving into the second quarter of the 21st century, we have come to the end of “Industrial Revolutions.” Capitalism, communism, socialism and all the different configurations of markets have missed the point. Socialism and communism remind me of Christianity without Christ. There is no there there. The only way we can make it into the future is to act on a clear historic and philosophical redefining of capitalism. First,

it's not about finance, profit or incentives. Capitalism is about production, market allocations and reciprocal duty. It's about understanding that wealth (excellence) can only be created by people who are healthy, educated and engaged in communities. Without people, we can, of course, create capital and profits, but NOT wealth. To the degree that you disregard people within the definition of capitalism, to that same degree you destroy capitalism, leaving the world ripe for any demigod to destroy what's left of the earth. We have been eating our seed corn for some time now. I fear we will have nothing left to plant for next year's harvest.

The Moral Sentiment of Love

The glue of life is love. Let us quickly explore the theme of love as applied to living in community. Montesquieu, writing in *The Spirit of Laws*, stated, "A government is like everything else; to preserve it, we must love it." Within Western thought, the ancient Greeks provided us with language that exercised great influence on the modes of expression and discourse associated with the concept of love. The role of love, if we can think of the concept as playing a role, is one of unifying the parts from the reconciliation of singular and dyad. We can refer here to the concept of "Out of many, one" (E pluribus unum). Love is necessary in keeping a union a union. Understanding the attributes of love can be traced back to Deuteronomy (6:5; K J V): "You shall love your God with all your heart." Israel is to have one unifying force. In Leviticus (19:18), this idea is extended to one's neighbor: "Thou shalt love thy neighbor as thyself." (Also see Matthew 22:37-40 and Luke 10:27-28.). The individual was to be loyal and love God and her neighbors.

The concept of love and its application to the state or country (other citizens) and even the land has been made explicit over time:

"It is also true that the victorious man's conduct is often guided by the *love* of his friends and of his country and that he will, if necessary, lay down his life in their behalf."

-Aristotle, *Nicomachean Ethics* (p. 121)

"These are the times that try men's souls. The summer soldier and the sunshine patriot will, in this crisis, shrink from the service of their country: but he that stands it now deserves the *love* and thanks of men and women."

-Thomas Paine, *Crisis* (1777, P. 23)

"That land is a commodity is the basic concept of ecology, but that land is to be *loved* and respected is an extension of ethics."

-Aldo Leopold, *Sand County Almanac* (1966, p. xix)

While love and loyalty to one's soul, oneself, one's neighbors and one's environment are necessary attributes of the good citizen and society, it is also the case that the whole business of civic loyalty or what Weber (1917) called the "ethic of conviction," must be viewed with skepticism. Great injustices can be perpetrated in the name, if not the fact, of love. So, if citizens are to pursue justice and truth, to say nothing of friendship, it is absolutely necessary that the enlightened citizenship invoke – **criticism!** One must always be a loving critic. In fact, unconditional love in the civil realm is not love at all, but an excuse for mischief.

Moving Forward with Vision

Using our atmosphere and oceans as dumps is a universal problem. It does little good for one household, one nation or city to do all they can to clean-up their act if others simply don't care. We think that we are using our waste as a comparative economic advantage, but at the disadvantage, of course, of everyone on earth. Many political and economic leaders of nations express their immorality under the banner of freedom, absent equality. Dictators are masters of disguise, tearing down the world with the claim of self-defense or victimhood. They rob everyone to enrich themselves. It's never enough for these people. We make the argument for a level economic playing field. We should be arguing for a level moral playing field. For example, let's say that a diesel truck, manufactured in country A with rigorous laws of no emissions, can be built for \$40,000. Country B, who has no interest in the environment, builds a dirty engine for \$20,000. The economic advantage is clear. **HOWEVER**, if country B keeps producing dirty trucks, it puts moral actors at risk. What to do? Pass a law? Boycott goods? What? Many in the world won't or can't stay economically viable in this situation. The race to the bottom continues because leaders are oblivious to the harm caused by their arrogance and ignorance.

Each of us, within our institutions, should start today to do everything we can to address the issues discussed above. Above all, this means a new synergy between our tools and our cultures. The synergy is defined by relationships and needs, where need is understood as a dependent variable. It's all about relationships. We have it within our reach to combine culture with technology to create the relationships that could prevent the disasters coming right at us – all of us. We can continue to be intellectually lazy or we can engage the moral high ground of culture and truthfully ask:

- What in my life and in the institutions that I can affect do I need to throw away?
- What do I need to keep?
- What do I need to build anew?

We need a house cleaning. The beginning of wisdom is the ability to put first things first. Cultures seem to know that survival and prosperity depend upon the motive values of art (aesthetics), justice (with sanctions) and love (proper relationships with people and the earth). And what about our machines? We just need to go back to our ability to engage cultural wisdom with the reality of the good and harm that machines do. We have often

that guns don't kill people; people kill people. Those that say that know little of guns and less about people. Of course, people kill, but outside a just war, killing or stealing or lying are all examples of broken relationships. So, too, is our connection with the earth, broken. These broken relationships we once called sin. If we weren't so busy amusing ourselves to death (see Neil Postman's book by that name), we might come to understand that even gaining the whole world, without moral relationships, destroys happiness, as well as your soul. Technological amusement is a hollow act, indeed.

Do we know how to bring technology into the motive values of culture? Of course, we do. Do we have enough rightful purpose to work for art, justice and love? Not so much. The dilemma, as well as purpose, of every leader and citizen is to assess the individual and social cost and benefits of embracing love, justice, beauty over hate, injustice and ugliness. Being human simply means that we grasp and hold to the former. We do have a choice. We can do nothing and assure that our children will become orphans, more machine than human or we can resolve to solve the problems outlined above. The choices we make and the work we do will determine our biological future.

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Appendix A

Becoming problem solvers for the common good.

Qualities of problem solving require fundamental literacy to engage in debate. This includes:

- Listening
- Speaking
- Reading, including vocabulary analysis (comprehension)
- Writing
- Observing
- Time and space orientation
- Quantitative skills

In addition to these basic skills, effective problem solvers are also comfortable using the following advanced and interrelated processes:

A. Classify Issues and Information

There is the need to identify different ways of sorting main ideas and disagreements and distinguish between fact and opinion.

Can we classify issues, claims and distinguish facts from opinion?

Level one – is unclear about what constitutes an issue.

Level two – can find information and ask relevant questions about the issue.

Level three – can state the issue and the claims made about the issue.

Level four – can analyze claims made and separate facts from opinion.

Level five – can restate issue and relevant claims and analyze those claims regarding their factual, definition, value and policy integrity.

B. Evaluate Evidence, Bias and Assumptions

Debaters and problem solvers can determine the relevance of evidence, understand the power of bias and worldview and identify underlying assumption in arguments.

Level one – cannot distinguish between evidence based on fact from evidence based on bias and assumption.

Level two – can understand and explain that evidence must be scrutinized for bias.

Level three – can question individuals about the sources of evidence.

Level four – can isolate and reproduce hidden assumptions in a debater's claims.

Level five – can explain the importance of bias in debating and point out patterns of bias in claims.

C. Avoid Fallacies

We need to explain and avoid the most commonly used fallacies and distractors, such as bandwagons, straw man and guilt by association.

Further, we must be able to spot logical fallacies when conclusions are not supported by premises.

Level one – unable to recognize the links between premises and conclusion.

Level two – can explain why certain processes, like “guilt by association,” which may be used in debate, are illogical.

Level three – can explain that events have multiple causes and this multiplicity often invites faulty reasoning.

Level four – can produce examples of logical fallacies in the arguments of historical and contemporary speeches.

Level five – can construct an argument with no logical fallacies.

D. Detect Thought Patterns

We need to assess the patterns of thought and argument used in conversations; able to detect anomalies in cause and effect relationships and logical connections between premises and conclusion.

Level one – unable to identify patterns in the arguments of others.

Level two – can map own thought patterns as an argument is constructed.

Level three – can map the thought patterns of a debater's argument.

Level four – can recognize inconsistent patterns in the arguments of others, as well as in oneself.

Level five – can raise issues of illogical patterns of relationships between premises and conclusions in debates.

Michael Hartoonian is Associate Editor of Pegasus.



Ad Astra Per Aspera

Tom Abeles

Introduction

Visions of future technology are fed by the imagination of science fiction, where the travelers are not limited by resources and technologies yet to be actualized. There are no oases or road service along inter stellar or even interplanetary highways. As with wilderness travel, mountain climbing expeditions or even the sailing ships exploring the planet, the vessels are heavily committed to carrying resources “on board.”

Over hundreds of years, experiencing both success and failure, humans have incrementally lifted themselves off the planet and into space. Gazing at the stars and neighboring planets has presented a puzzle as to how to go, as a species, from being locked on planet Earth to sending robots on missions to Mars and then beyond. These small steps are speed and distance bound, limited by energy and on-board resources. They are tethered to the home planet with hopes of finding resources at “way stations” at points along the path for the vehicles, intelligent machines and humans on board.

A key issue is time to get from one “oasis” to another for the survival of the mission, a function of the accessible energy for propulsion. As with the sailing ships of the past, it also impacts on the treasure that can be captured and returned to points of origin. That is currently energy dependent. There is no technology on the horizon to affect the rapid transfer of treasure, other than the creative pen of the science fiction community, though Michio Kaku and others see such possibilities within the next century.

It is anticipated that these explorations will have human crews, which requires food and related support. This area has been of concern in designing the missions. Food “replicators” and concomitant support were “line items” in science fiction, whereas actual systems for food production have been an ongoing concern for actual missions. Storage is not reasonable and “growing” is problematic. The current advances in alternative protein technologies present near- term solutions through a combination of precision fermentation and cellular agriculture (PF/CA). Two early entries, air protein and solar food, when perfected, present circular systems for production and waste management. Both enterprises use air (oxygen, nitrogen, hydrogen) and catalytic conversion to a feedstock into food.

In the Solar Foods blog, the founder lays out the conceptual process for their process to create the intermediate feedstock, solein, a powder, through microorganism fermentation, which needs inputs, such as nitrogen from the Haber-Bosch process and direct air capture, which simplify the process stream. The major focus in the alternative protein industry is reducing

land and other resources by replacing the animal production industry, a significant step.

The claim for solein is the further reduction through replacing plants and economically by creating food from processing solein. The Finnish government has committed to building a full-scale facility for solein production, while all hands are still covering the economics and technical issues – a significant issue for alternative protein products, whether produced on planet or in space. From a food perspective, optimism for humans in space, as well as the perils, are still in the realm of science fiction, Star Trek and the movie *2001: A Space Odyssey*.

The Lessons from Time, Distance and Space

Manned space travel within planetary bounds is time/resource limited, which means that human lifespans need consideration. Interest in developing robotic systems for extended mission travel and execution still involves humans, but those connect virtually and thus, maybe interchangeable, since they do not have the same mission dependence of on-board individuals. Interplanetary conditions are substantively different, given current technologies as penned by science fiction writers, including near lightspeed travel or some form of teleportation of humans and materials, outbound and back.

Lessons from birds and the monarch butterfly are informative. There are estimated to be 5,000 species of birds who are migratory and complete an annual round trip. On the other hand, the monarch butterfly heads south in winter, but 3 or 4 generations are needed to complete the trip, out and back. Certain mammals have an intermediate pattern, where females return great distances to breeding ground, where offspring head to the sea only to repeat the cycle.

How this navigational information and other “data” is stored has yet to be teased out. Humans,

on the other hand, can “store off site,” retrieve, analyze and edit. Thus, until travel out of the solar system by humans starts to approach the domain of science fiction, this points to the use of robotic systems and artificial intelligence on-board of interplanetary travel. In the

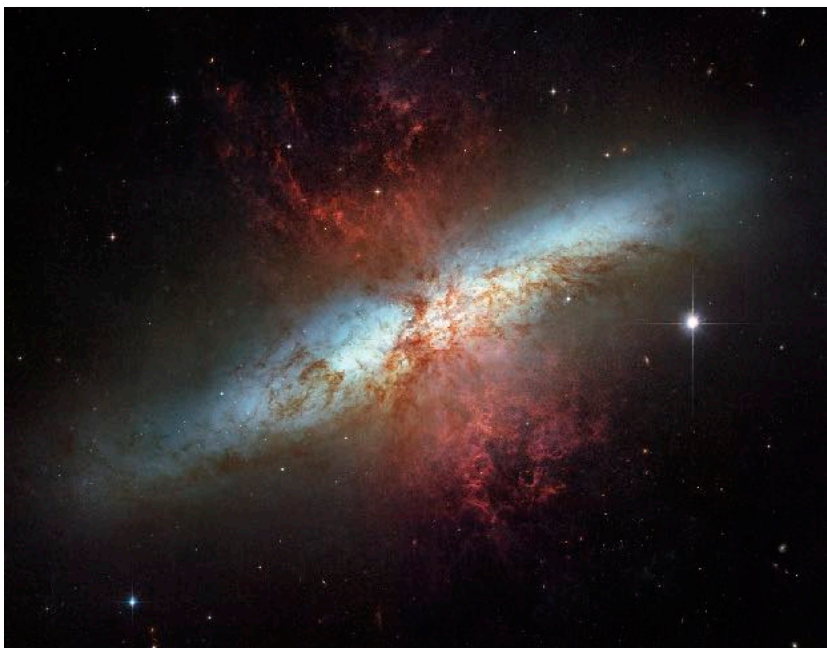


near-term, robotics eliminates many of the problems in designing, constructing and using vehicles with humans on board. It does suggest the need to consider the ability to bring resources back to Earth from beyond the solar system, extending the idea of mining the moon or Mars. It also creates a yet untested domain, artificial intelligent systems, with increasingly sophisticated capabilities.

Reflecting on the explorations of those who navigated the oceans to discover the “new world” and expand the worlds of Asia and Africa is important when considering the exploration of the solar system and beyond. From that time to the present, governments then and more so today are partners, with the expectations that all parties will benefit from the mutual participation. The expectations during that early period were material, treasures of precious metals and eventually a slave trade. What the return for the investments from space exploration is not clear. It is even more complex with multiple countries involved, from satellite launch, space stations and occupation and development from the Earth’s moon and beyond.

More importantly, the literature is thin as to what the impact of going “off planet” means for Earth and all its inhabitants, from immigration, to penal colonies in Australia. The impact of such efforts on the newly explored and occupied lands from the early period to the present is clear. That outward migration beyond Earth, today, is anticipated to be substantively different today, but the impact across the planet and its inhabitants has been given little consideration.

Today, the concerns regarding the rising problems with global warming and resource extraction still do not claim full attention, particularly the human issues of increasing wealth concentration and rights of various cultures for equal participation at the “table.” Artisanal miners in the Democratic Republic of the Congo compared to those parties in the developed countries strike a stark contrast. They serve as a set of paradigmatic issues facing the participation in the development of the planet, whether as individuals or countries.



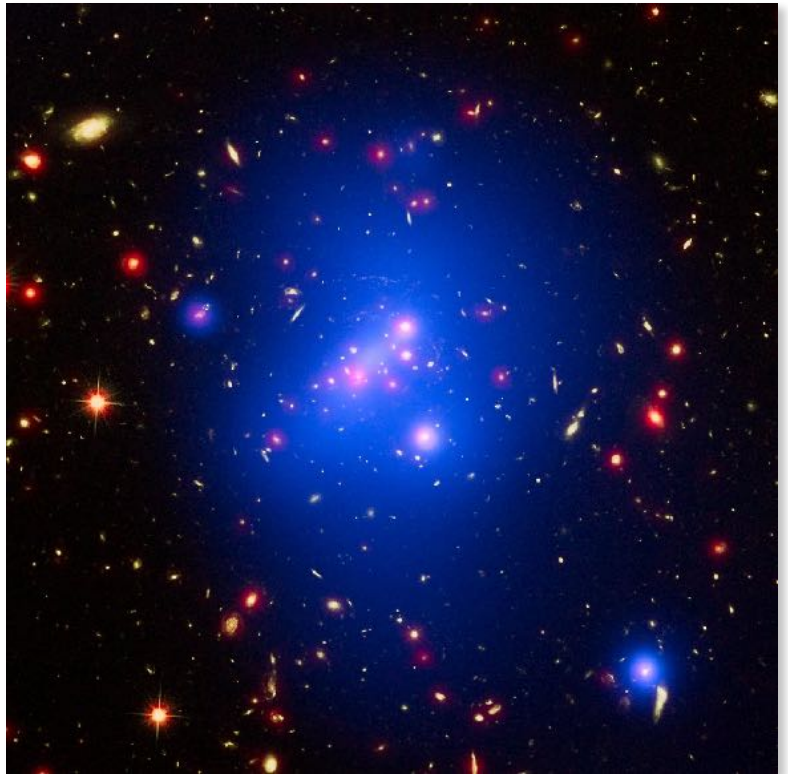
What might be the bio/physical and socio/economic impact if or when resources from the moon, Mars and beyond are imported to this planet that is imperiled today? In the future, off planet returns, beyond new knowledge or additional resources, have received faint consideration, other than the excitement of “discovery” and a heightened concern with biological contamination of the unseen or unknown.

Whether the exploration by ships in the past or today with the development focused on space beyond the planet's boundaries, there has been and more so, today, a capitalist model which encompasses capital, labor and government, with the influence adjusted as more private sector participants seek to enter the exploration and development.

This has become imperative when artificial intelligence systems transcend technical management, both on and off planet. Weizenbaum's 1964 natural language program, Eliza, alerted us to the possibilities. Today, Google's Language Model for Dialogue Applications (LaMDA) and other large learning models show the possibilities that computers can engage with humans to arrive at complex solutions that appear to give the semblance of consciousness and sentience for these artificial intelligence systems. In fact, a former employee of Google has asserted that LaMDA is sentient. In the movie *2001: A Space Odyssey*, the computer, HAL, does suffer what might be called a mental breakdown. Today, modern military weapons like aircraft have computers that can take over decisions when in combat because their speed and analytic tools are beyond that of the pilot.

John Perkins' writings of his past career as an "economic hitman," where sovereign debt is used as a lever to force countries to make socio/economic concessions, is but one example that governments can't escape from ethical considerations. This issue is being played out today, as the U.S. competes with China's Belt and Road Initiative, as it expands internationally.

Michael Hudson's volume, *and forgive them their debts*, and the late David Graeber's iconic volume, *Debt: The First 5000 Years*, point out the legal, ethical and moral practices of governments in relation to each other, as well as with citizens. The situation with Greece, facing pressure from the U.S., is an example. More importantly is a series of meetings to determine how to resolve the debt which is being incurred by the Ukraine, where proposals like that with Greece are being explored. These point to the potential that such resolutions will materialize when off-planet development, such as on the moon or Mars, are manifest. There are legal agreements in place, but the execution, based on past experiences, raises concerns, given recent efforts around planetary agreements around efforts to execute the practice needed to respond to the current planetary crises.



In his article, “If Humanity Is to Succeed in Space, Our Ethics Must Evolve,” Daniel Munro questions, by inference, that the ethics on and off-planet needs serious reconsideration. Munro states, “Academic space ethicists have independence and insights to ask the big question, but they lack institutional influence.” This is evidence from the official report from the U.N.’s climate change conference, COP26, where the reports from the researchers and analysts were “tempered” by the governments who had to sign off.

Indeed, the survival of life on Earth and the future off-planet depends on serious agreement by all parties. Divya Kolli’s thesis, “Motivation, Feasibility and Ethics of Colonizing Mars,” is one such exploration. The potential of large artificial intelligence models and robotics are untested. Will explorations from science fiction be prescient?

References/Notes

Noema Magazine has had and continues to have discussions on “whether and how human ways of apprehending the world around us can become a quality of machines through general artificial intelligence.” Noema has published three papers (2-4):

- 1) Lacun, Yann and Jacob Browning, “Technology and the Human: What AI Can Tell Us About Intelligence,” June 16, 2022
- 2) Bratton, Benjamin and Blaise, Aguera y Arcas, “Technology and the Human: The Model is the Message,” July 12, 2022
- 3) Marcus, Gary, “Technology, and the Human: Deep Learning Alone Isn’t Getting Us to Human-Like AI,” August 11, 2022

In 1964, Joseph Weizenbaum created the first chatter box, “chatbot,” on a 36-bit 7094 IBM mainframe computer. It acted as a psychological therapist which captured many users, as if it were an actual person. Today, Google, with its LaMDA chatbot based on a large language model and Meta, with similar efforts, represent almost 50 years of evolution, raising both technical and philosophical questions around intelligence, “consciousness” and a restricted definition of sentience.

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History of the Study of Business Management (Administration): From a Discipline to a Potential Profession

John Mauriel

The University of Pennsylvania in Philadelphia established the first collegiate business discipline in 1881. Named the Wharton School, it played an important role in transforming the study of business from a trade to a rigorous and respected academic discipline. It only offered undergraduate majors in this field at that time (no separate collegiate level school). From 1895 to 1915, the Wharton faculty created new undergraduate business disciplines in accounting, business law, finance and industrial management.

The first university level business school was established at the University of Chicago in 1898, when a faculty member there, James Laurence Laughlin, launched the College of Commerce and Politics. The school was renamed the School of Commerce and Administration in 1916 and began to offer a doctorate program in 1920 and its first Master of Business Administration degree in 1935. In 1942, the school decided to phase out its undergraduate program and focus exclusively on graduate programs, resulting in the nation's first Executive MBA program, which launched in 1943. As the second oldest business school in the U.S., the University of Chicago's Graduate School of Business, as it was known from 1959 until 2008, was renamed the University of Chicago Booth School of Business after a \$300 million endowment gift.

The first graduate school of management was launched at Harvard University in 1917 by Harvey H. Lamm, then a Professor of Economic History at the University. At that time, it was generally believed that graduate schools were established in order to develop advanced professional skills, while undergraduate programs were to liberally educate people in the arts and science disciplines and to the development of critical thinking skills. Exceptions were made for undergraduate degrees in engineering, accounting and teaching. But engineering was often a 5-year degree, with broad liberal arts in the first two years and then the more specific study of the mechanics of engineering or in the case of accounting, toward the preparation for passing a state CPA exam and in public school teaching for passing certification exams given by each state's governing unit for education.

Wallace Brett Donham, then Dean of the Harvard Law School and professor, came to the Harvard Business School in 1921 as its first Dean. The introduction of the case method by Dean Donham was intended as a first step in the development of a Ph.D. program in Management. Donham altered the purpose of case discussions, which in law school, were studied as a way of understanding important precedents for making legal decisions. His initial intent for their use in the business (or management) school was to develop a series of cases to develop hypotheses and theories that could then be tested in applied research activities – and ultimately leading to a more rigorous research tradition that could handle the complexity that exists in the social sciences. The instructor's role was to ask questions, point

out inconsistencies in interpretation or action proposals that were implied in the students' answers, and to help students understand and assess the variety of views and approaches that existed among students and practitioners when management decisions that affected the future of a business entity.

All MBA students at Harvard were required to complete a 2-year program of studies before being granted an MBA degree. A few other universities, notably Stanford, Dartmouth, Virginia and Northwestern, offered a combined 3-2 program, where 3 years of chiefly liberal arts studies, usually including basic accounting and economics in their distribution requirements, followed by 2 years of chiefly business-related subjects – thus leading to both a BA and MBA in 5 years. The second year at Harvard consisted of chiefly elective courses in each major management function – marketing; operations; finance; accounting; human relations; logistics; etc. The second year included only one required second year course called business policy or general management.

So, what happened to Donham's vision? Donham's plan or hope was that after studying enough cases, they could develop hypotheses and then take the next step toward establishing long-term research studies to understand what actions led to what kinds of results.

Finally, in the late 1950s, a group of faculty members in the Department of General Management at Harvard Business School began the development of a conceptual framework for the study of corporate strategy (after a term used in the military, but with a different meaning that often confused students and managers in industry).

The framework developed and taught in this business policy course at Harvard in the late 1950s and early 60s was summarized in a book by Kenneth R. Andrews, *The Concept of Corporate Strategy*. In the cases and curriculum guides used in teaching second year MBA students, who were asked to look at a firm from the point of view of its top executives (now called the C-Suite), the curriculum and case preparation questions asked students to examine the relevant social, political, technological and legal trends in the U.S. and world environment potentially affecting the competitive advantage of a given firm or industry and then using the insights gained from that analysis to develop a coordinated set of marketing, financial and personnel policies to benefit the firm's long run growth and development. Students were also asked to consider their personal values and ethical responsibilities and were evaluated on how well they articulated and supported answers to policy and action-taking issues raised by the instructor and fellow students.

However, when these same students subsequently entered their first jobs in management and business, they found a different world than depicted in Andrews' book or in other similar books written at the time. Any idealism or any academic theories about what led to success in the business world were overwhelmed by what they experienced about the reality of competition and success in the corporate world.

At the same time, powerful cultural and social changes in the U.S., especially in the business environment during the last part of the 20th century, seemed to affect all work and human activities and reshaped the thinking and actions of top executives in private businesses, from the stakeholder management approach taught in the 1960s at Harvard, to a much more pragmatic earnings and stockholder primacy approach.

These changes had many underlying causes: rapidly increasing speed of globalization (a phenomenon that was not new, since it began in Greek and Roman times and probably earlier); transportation and logistics innovation, such as the shipping container; tax and government policy changes favoring the wealthy; campaign financing; increased use of gerrymandering; with its impact on democratic elections; birth of the corporate takeover movement, coupled with looser restrictions on monopoly power; the merger and acquisition flurry that led to huge income and wealth gaps and led to an extreme focus and growth at any cost for both private, public and non-profit organizations; the rise of the corporate takeover movement; the way corporations were benefitted by moving operations overseas and using international transfer prices to exploit the new tax preferences; and how companies were incentivized to pay their executives such high payments, based partly on stock option loopholes, often used to get around laws limiting executive salaries.

The root causes of the breakdown of moral capitalism hit a hot firewall in today's political and cultural environment.

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