Systematic Innovation

e–zine

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In this month's issue:

The Systematic Innovation e–zine is a monthly, subscription only, publication. Each month will feature articles and features aimed at advancing the state of the art in TRIZ and related problem–solving methodologies.

Our guarantee to the subscriber is that the material featured in the e–zine will not be published elsewhere for a period of at least 6 months after a new issue is released.

Readers' comments and inputs are always welcome.
Send them to **darrell.mann@systematic–innovation.com**

Contradiction Blindness Index

Over the course of the past few months, we've taken it upon ourselves to investigate some of the main 'rulebooks' of life – Universal Declaration Of Human Rights (Issue 279), the Nolan Principles (Issue 281) and Asimov's Laws (Issue 283) – to see what effect they might be having on the current panoply of global crises. Strictly speaking, Asimov's Laws shouldn't count as any kind of 'rulebook of life' since they were written as a throwaway series of thoughts in a couple of short stories, but somehow the AI and robotics community keeps referring to them as some kind of standard. I guess it's easier than actually thinking about the problem. Anyway, that's another topic for another day, the topic for this article concerns the thought that these 'rulebooks' are a contributing factor to the omni–crisis because they are for the most part 'contradiction blind'. Meaning that the are built around a number of important ideas and ideologies that, while they might make sense as individual ideas, don't help in the overall sense because they fail to recognise the possibility that some of the ideas and ideologies might conflict with other ones. They try and help, in other words, but too often end up leaving people confused and uncertain what to do: if a declaration tells us that A is important and that B is also important, but A and B are in conflict with one another, how does one decide which of them is the 'right' one to adhere to?

The first job seemed to be working out just how serious and widespread the contradiction blindness issue is. A Contradiction Blindness Index (CBI) was needed. Some way of measuring how practically un–usable a declaration or set of Laws might be. We arbitrarily opted for a 1 to 100 scale. A scale where a CBI score of 0 meant zero blindness – i.e. good – and a score of 100 meant complete blindness – i.e. bad.

Before we examine how we set about making the calculation, here's some of the initial output and a formative 'Bottom Ten' list of the most Blind documents:

Rank	System / Document	CBI Score	Why So High
1	Asimov's Laws	96	Mutually incompatible absolutes
2	UN SDGs	94	Seventeen conflicting goals, no trade-off design
3	UDHR	92	Absolute rights, no hierarchy
4	Corporate Value Statements	90	Feel-good contradictions
5	ESG Frameworks	88	Competing imperatives
6	Climate Agreements	86	Growth vs climate contradictions
7	AI Ethics Principles	85	Idealised goals, no mechanisms
8	Bill of Rights (text alone)	82	Absolutist rights
9	Religious Scriptures	80–95	Absolutes with no conflict resolution
10	Overgrown Safety Protocols	78-90	Accidental contradiction accumulation
	US Constitution	70	(Bottlenecked by rigidity of amendments)

Perhaps not surprising why Asimov's Laws and the UDHR were top of our list when it came to selecting things to highlight and in a bid to suggest ways of editing to make them less blind. And also why we've included criticism of the UNESCO Strategic Development

Goals (SDGs) in our recent workshops – this terrible trio uncannily came out as the most contradiction–blind documents in existence.

CBI Calculation
Here's how the 5–part, 0–100 scoring rubric has been structured so far:

1. Contradiction Acknowledgement (0–20)
Does the document *explicitly* recognise that principles may conflict?
0 = explicit contradiction recognition
20 = principles expressed as unconditional absolutes

2. Mechanisms for Resolving Conflicts (0–20)
Are there processes or institutions built to arbitrate or (better) transcend trade–offs?
0 = clear, flexible transcendence mechanisms
(10 = notional advice on how to balance and optimise trade–offs)
20 = none

3. Adaptability Over Time (0–20)
Is the document easy to update when contradictions emerge?
0 = easy, routine updates
20 = nearly impossible or frozen

4. Contextual Flexibility (0–20)
Do principles apply uniformly without regard to context?
0 = strong contextualisation
20 = rigid universalism

5. Operational Tools for Resolution (0–20)
Are there guidance systems, criteria, or procedures to manage/transcend contradictions in practice?
0 = rich toolkit
(10 = tools for contextualising/optimising trade–offs)
20 = none

Total Score = sum of all five dimensions (0–100)

As we tried to demonstrate in the UDHR and Asimov's Laws articles, it is actually quite easy to reduce blindness to almost zero through the addition of a single additional clause or Law – an 'Article 31' in the case of the UDHR and a meaningful 'Zero'th Law' in the Asimov case.

Not many people, of course, get to be responsible for the creation, maintenance and update of these kinds of documents. What is far more likely is a leadership team or task–force responsible for the periodic re–invention of company mission/vision and values statements. You know the type: "integrity, speed, teamwork, customer–first, quality, innovation." All correct; all none reconcilable. No hint of what to do when they collide. These produce organisational gridlock as a rule. So, at a more practical level – given the almost universally high CBI score for these kinds of documents – here's a more detailed process for not just assessing the CBI score, but then doing something about it. Something that will hopefully them more usable in real–life situations when people encounter the inevitable right–versus–right conflicts they contain. In other words, how to identify contradictions embedded in principle–based documents, evaluate how well they're handled, and outline pathways for adaptive, resilient redesign using TRIZ–style thinking.

Phase 1: Surface The Ideals
Every high–level document makes claims about what the system *values* or *prioritises*. First task is to extract them.
Method:

1. Collect all explicit values and principles.
2. Rewrite them in a standardised form:
    - "The document asserts the system should maximise X."
    - "The document asserts the system should minimise Y."

Output: a clean list of 10–50 ideals, depending on document size.
Example: UDHR yields: dignity, liberty, equality, security, cultural expression, privacy, freedom of movement, etc.

Phase 2: Map The Contradictions
Now stress–test the ideals against each other.
Method:

1. Compare each ideal with every other ideal (matrix style).
2. Pose the question: "If we maximise this one, does it reduce, compromise or collide with that one?"
3. Record contradictions explicitly.

(This exercise is not about mathematical precision, rather, an attempt to identify conflict vectors where improving ideal A tends to worsen ideal B.)
Output: a contradiction matrix for the document.
Example (US Constitution):
• Free speech vs national security
• States' rights vs federal cohesion
• Individual liberty vs collective welfare

Phase 3: Evaluate Contradiction Blindness (CBI)
The key diagnostic moment.
Ask: "Does the document acknowledge these contradictions or provide mechanisms to resolve them?"
Look for the things identified in the above scoring rubric:

1. Explicit recognition: does the text admit trade–offs? (Rare.)
2. Implicit mechanisms: does it include balancing institutions? (checks and balances, judicial review, committees.) Do they actually work?
3. Resolution quality: do contradictions produce synthesis or deadlock?

Scoring:
• High blindness: pure idealism, no balancing mechanisms.
• Medium blindness: mechanisms exist, but focus only on trade–offs and compromises.
• Low blindness: explicit conflict–transcending sur/logic (almost never seen).
Output: a contradiction–blindness score.

Phase 4: Diagnose System Vulnerabilities
This is where the framework becomes extremely useful.
Contradictions that are unacknowledged or poorly handled produce predictable failure modes. Examples:
• Deadlock (US federal–state conflicts)
• Drift / hypocrisy (ESG frameworks, corporate values)
• Paralysis (global climate treaties)
• Fragility (UNESCO 17 SDGs)

• Over–complexity (safety–regulation creep)
• De-legitimisation (constitutions that can't be updated)
Each contradiction becomes a known point of systemic brittleness.
Output: a list of "structural fragilities" tied to specific contradictions.

Phase 5: Apply TRIZ–Style Resolution Patterns
Now we bring in the real intellectual leverage: the 40 Inventive Principles, separation strategies, and trimming logic.
Each identified contradiction becomes a design challenge: "How could this contradiction be resolved without compromise?"
A few examples:
• Privacy vs transparency → *Segmentation*, *Other Way Around*, *Preliminary Action*
• Equality vs cultural identity → *Nested Doll, Universality*, *Dynamisation*
• Growth vs sustainability → *Local Quality*, *Beforehand Cushioning*, *Feedback*
• Safety vs autonomy → *Self–service*, *Parameter changes*, *Counterweight*
Output: a menu of resolution pathways for each contradiction.

Phase 6: Design A Contradiction-Aware Update
The final step is creative and policy–oriented.
We redesign either:
• the text itself (principles rewritten with contradiction–resilience – e.g. as we did with our previous case studies, adding a specific 'what to do when conflicts arise' meta–protocol)
• the operational mechanisms (committees, processes, arbitration)
• the measurement frameworks (e.g., dual metrics instead of single absolute ones)
Output: a contradiction–aware blueprint that transforms brittle principles into adaptive ones.

What makes this framework powerful?

1. It reveals hidden failure points: Most documents fall apart for structural reasons that the authors never anticipated.
2. It's diagnosable and teachable: It maps beautifully onto workshop formats and gives people a new way of reading principle–based texts.
3. It integrates seamlessly with TRIZ: This is essentially "institutional TRIZ".
4. It explains why noble documents decay over time: Contradictions evolve; documents that ignore them can't.
5. It turns idealism into engineering: Most global frameworks fail because they're written like poetry, not systems architecture. This makes them fixable.

If you don't get a chance to practice on these kinds of document, here are a few other (mostly contradiction–blind) candidates to consider experimenting with:

ESG Frameworks (Environmental, Social, Governance)
Three giant buckets of competing duties.
No weighting scheme. No trade–off process.
Everything turns into a loophole or a paradox.

Climate Agreements (Paris, Kyoto, etc.)
Ambition is high, but contradictions are ignored. For example, "cut emissions vs grow GDP" or, my favourite, "stop using coal" edicts in the developed world versus "build as many coal–fired power stations as you like" allowances in the developing world.
Mechanisms for resolution are political, not structural.
Result: recurring deadlock.

Modern AI Ethics Guidelines
Lists of principles like fairness, transparency, privacy, accountability, performance, safety. Clear conflicts, zero operational guidance.

Fun time: Religious Doctrines (generalised category)
Sacred texts have almost without exception been written as universal absolutes, with multiple overlapping obligations and no explicit trade–off or resolution mechanisms. Partly, one suspects, because they've created an industry of 'interpreters' whose job largely depends on *not* solving contradictions.

And, finally, if you're looking for what is one of the most contradiction–aware systems on the planet, you might take a counterintuitive look at the (unratified – naturally) UK 'Constitution' (https://www.parliament.uk/globalassets/documents/commons–committees/political–and–constitutional–reform/The–UK–Constitution.pdf), which, by our reckoning has a CBI of around 28:

1. Acknowledgement: 6/20
Not explicit, but contradictions are expected and managed.
2. Resolving Mechanisms: 12/20
Parliamentary sovereignty, conventions, courts, and evolving norms.
3. Adaptability: 2/20
Extremely easy to update. Sometimes too easy.
4. Contextual Flexibility: 2/20
Nearly everything can be context–dependent.
5. Tools for Resolution: 6/20
Mixed quality but highly flexible.

Who would've thought that… literally all it needs is one more contradiction–solving–mandate Article and the UK could be back at the top of at least one global league table…

27 Windows (For Better Decisions)

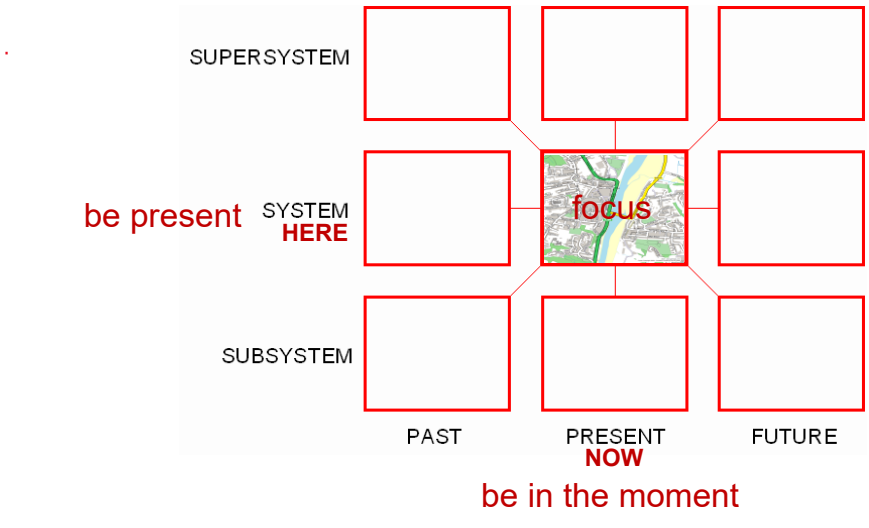
The new David Marquet book, Distancing (Reference 1), makes the point that leaders – and by extension, all of us – make better decisions when we're able to step-back and see a situation from different perspectives. It is, in effect, another in the growing series of 'more right brain, please' books appearing in the management literature these days. Our left-hemisphere's primary task is to zoom-in and focus on the task at hand to the exclusion of everything else, and, following Frederick Winslow Taylor's principles of scientific management, we've all been taught and rewarded for this kind of focus. Similarly, leaders have been taught and rewarded for designing tasks that also demand focus from those tasked with carrying them out. This is where efficiency comes from. Or rather, it does when it is possible to close-out any potential effects of the bigger, wider world. It works well (for a while at least) in the closed world of a mass-manufacture production line. It works far less well in complex environments like captaining a submarine through hostile situations. Captaining submarines, of course, was how Marquet came to fame – working out how to transform the worst performing boat in the US Navy into the best. Distancing was a key piece in this journey. Good leadership means being able to see the 'big picture'. Which in turn means using the fundamental capabilities of the brain's right hemisphere.

The Distancing book contains three strategies designed to help leaders (or rather 'all of us') to make better – more resilient – decisions by stepping back to see that big picture. Not a surprise to anyone with TRIZ knowledge, these strategies have a lot in common with the 9-Windows tool (Reference 2). Two of them very specifically, and the third a little more obliquely. The crux of the strategies lies in Marquet's critique of the norm that is 'Focus, Be Present, Be In The Moment' – now one of the Seven Veils in our new 1%ers book. In Operational Excellence world, all three of these desires are de facto reality. What manager wouldn't want these three traits in the people working on the line?

Distancing is all about better decisions arising through *not* focusing, *not* being present and *not* being in the moment.

Or rather, focusing on *other* things, *other* places and *other* times.

The latter two relate specifically to the Space and Time dimensions in the traditional 9-Windows tool:

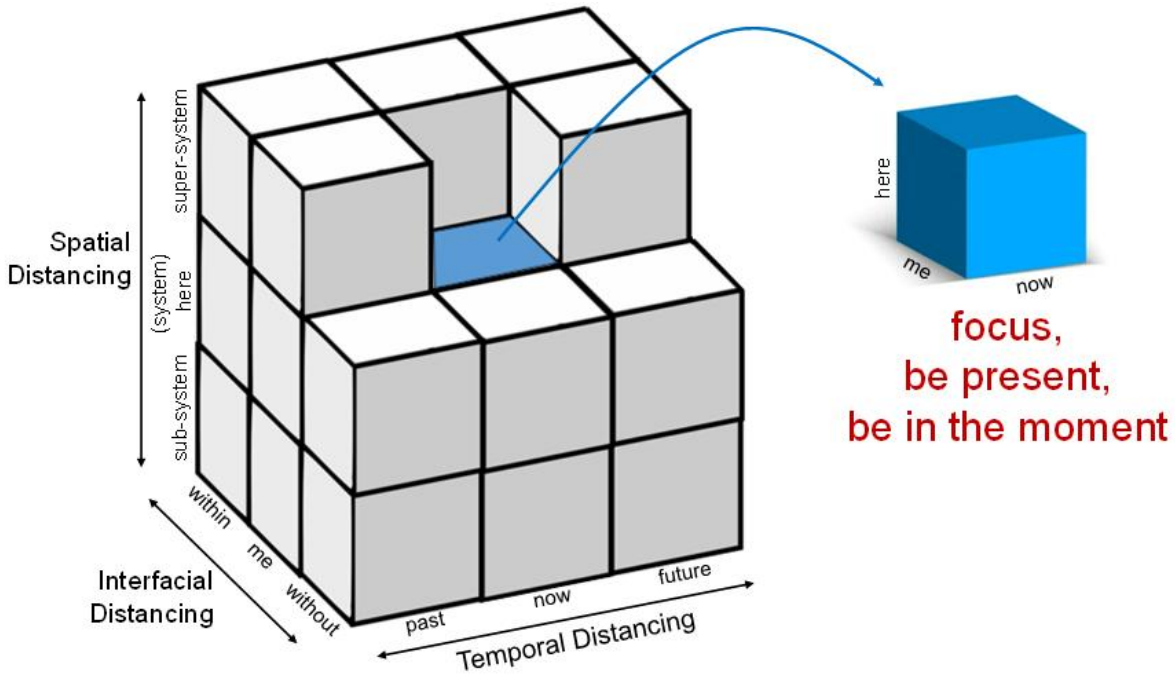


Marquet is rarely specific about what kind of ‘other’ a leader should shift their distancing thoughts towards. I suspect that if he’d known about the 9-Windows tool he might have been able to offer up some advice that would be simultaneously more specific and more universal – look backwards; look into the future; look at the super-system; look into the sub-system. But then again, maybe he was also right in thinking that if people have spent their whole careers being rewarded for *not* doing any of those things giving us three strategies to start overcoming what is in effect our societal psychological inertia problem is as much as we might be able to cope with. While still being universally coherent. And useful.

Interesting, too, that the third of his distancing strategies isn’t one of the 9-Windows. Or indeed even in the same plane as any of the nine. That third dimension has always been present in at least the SI evolution of TRIZ in that one of the ‘five pillars’ (or ‘’seven’ in ‘Business TRIZ’) is the clunkily labelled ‘Space, Time, Interface’. The third dimension here being ‘interface’ – a word that keeps cropping up across every part of TRIZ, and is present in the Space-Time-Interface trio because it has always been about helping to recognise and overcome the various different forms of psychological inertia. The Reference 2 article includes the interface dimension in its ’27 Windows’ model as ‘intra-inter-extra’. The intention being to offer the most generic description of how we need to shift our default thinking about the interfaces between things.

Marquet manages the feat of making things rather simpler than we managed back in the Reference 2 article in 2016. He doesn’t use the word ‘interface’ but rather encourages distancing-capable leaders of being able to place themselves in the shoes of other stakeholders and to look at the problem from their perspective. Again, he doesn’t try to be specific about what kinds of other shoes to slip into, but rather deploys the familiar ‘other shoes’ meme to give all his readers a clear adjacent possible as far as teaching a strategy that we’re all similar to some extent with.

Here's an updated version of our 27-Windows model showing the three fundamental dimensions and segmenting the interfacial dimension into ‘within’, ‘me’ and ‘’without’ windows.



The default (psychological-inertia-bound) human interface perspective is represented with the middle window: what we're good at focusing on is ourselves. What the other two windows along the interface dimension remind us is that it's also sometimes useful to look at the world through the eyes of others ('without'), and that it's also – less obvious – to sometimes look at the world through a more granular internal lens – 'what does my heart tell me about this situation?' 'what does my head tell me?' 'what does my gut tell me?'

The problem with ending up with 27 Windows, of course, is that no-one is (willingly) going to systematically look at a decision from each of the 27 different perspectives. If the decision to be made is a big one with life changing consequences, we perhaps ought to, but at the same time if we examine how most people behave when it comes to precisely those big, life-changing decisions – getting married, moving to a new house, getting a new job, buying a new guitar – we tend to make less effort to analyse the decision than when we're in a supermarket trying to decide which of the overwhelming array of different types of coffee we're going to put in the basket.

Maybe that's why Marquet essentially leaves the distancing story with essentially just the three options. Humans love three options. Three looks like Autonomy. And Competence. More than three looks like even more Autonomy, but an increasing feeling of Incompetence. The problem with the three-option approach is that the advice tends to be too generic. The problem with 27 is that it sounds overwhelming.

Sounds like a contradiction. Autonomy-versus-Competence perhaps? I wonder if anyone managed to solve that one before? (Reference 3!)

We don't need to go down that rabbit-hole here or now. Partly because knowing which of the 27 distancing options are more relevant than others is massively context dependent. And mainly because genuinely resolving the contradiction brings us right to the heart of the fundamental limits of the human brain and the increasing awareness that the only way to deal with situations that require more than the capabilities of one person's brain, is to supplement that brain (or 'those brains') with AI agents capable of adopting the 26 other perspectives that the left-brain dominated individual human finds it difficult to access. Twenty-six 'Elephant' agent-perspectives in 1%er language… that's what I think I'd like for Christmas…

… that plus a way of working out how to choose between the 27 different decision options that I've now potentially got to deal with…

…or is that just a Perception-Mapping agent??

References

1) Marquet, L.D., Gillespie, M., 'Distancing: How Great Leaders Reframe to Make Better Decisions', Penguin Business, August 2025.
2) SIEZ, 'Physical Contradictions & 27 Windows', Issue 175, October 2016.

Vaguely Funny – Lundy Sparrows

I spent a week on Lundy Island in the Bristol Channel at the end of November. Nothing changes on Lundy, but this year, something did. Specifically, the sparrows. Who had worked out that Lundy is cold in November and that inside the Marisco Tavern it is warm. And usually full of cold, grumpy, lunch-eating tourists that leave food crumbs everywhere. Traditionally, the problem was that the sparrows were outside and the heat and food were on the inside. On the other side of the door.

A door that, the 2025 sparrows realised opened and closed periodically, and that the opening and closing was mainly done by cold, grumpy, lunch-eating tourists. Enter the strategy of waiting just outside the door, waiting for one of said tourists to walk towards the door, waiting for them to open it, and then flying past them to get in. Level 1 genius.

2025 had obviously been a good year, because having discovered the basic unwitting-human-door-opening-patsy strategy, it didn't take long to realise that they could double their chances of entering by keeping a look-out not just for arriving tourists, but also those that were about to depart the tavern:

Level 2 genius, didn't take long to evolve into Level 3 genius. Having entered the Tavern, despite the cold outside, sometimes being outside was also occasionally useful. And so it didn't take long to reverse the entry trick and, once they'd rested in front of the fire and finished off the end of my sausage sandwich and associated crisp-debris, they needed to keep a look out for human door-operatives. Here's one of the smarter sparrows on the inside of the Tavern keeping an eye out for prospective entering or exiting tourists:

As we all know, of course, it doesn't take long before the next contradiction arrives to mess up the best of systems. And for the sparrows, that contradiction has fairly swiftly arrived in the form of the Tavern staff. While I'm sure that on one level, they were quite happy that the sparrows were doing a fairly good job of cleaning up the food detritus of annoying tourists, they were somewhat less good at going outside to use the restrooms.

Wiping the tell-tale white spots off of tables, chairs and dinner plates was just about acceptable, but leaving white spots on difficult to reach roof-beams was the final straw…

Something would have to be done. The problem now was that the staff were in possession of only Level 1 genius and the sparrows had evolved to Level 3. The more the blue-shirted

staff tried to shoo the sparrows out of the Tavern, the more the sparrows realised they needed to fly up to the roof-beams whenever they saw a human wearing a blue-shirt and wait until they went back behind the bar. I'm not sure I've ever seen sparrows laugh, but watching them on those roof-beams felt like they weren't that far away from outright mocking behaviour.

The blue-shirted humans needed a plan. An attempt to attain Level 2 genius status.

This involved a little bit of research. 'What repels sparrows?' type research.

I'm not sure generative-AI played any role, but the answer being trialled halfway through the week of my stay was a vinegar and chilli liquid spray. Apparently, sparrows don't like the smell or taste of either. So every sparrow-perchable surface in the Tavern received a coating of the spray. Almost genius.

At this point, a quick diversion is necessary. One probably more relevant to males than females, involving food preparation and then needing to use the little-boy's room. If said food preparation has involved chopping up chillis, then, no matter how much hand-washing is performed prior to heading into the boy's room, there is still going to be some chilli residue on said hands. And for some bizarre quirk of physics, even though the soap and water failed to budge the chilli residue from those hands, the moment they make even the slightest contact with, ahem, more delicately textured flesh, the chillis magically leap from the harder skin to the softer skin. And, voila, there's me spending the next ten minutes, trousers around my ankles, kneeling in the bath frantically waving said softer skin under the tap hoping in vain that the pain will eventually go away.

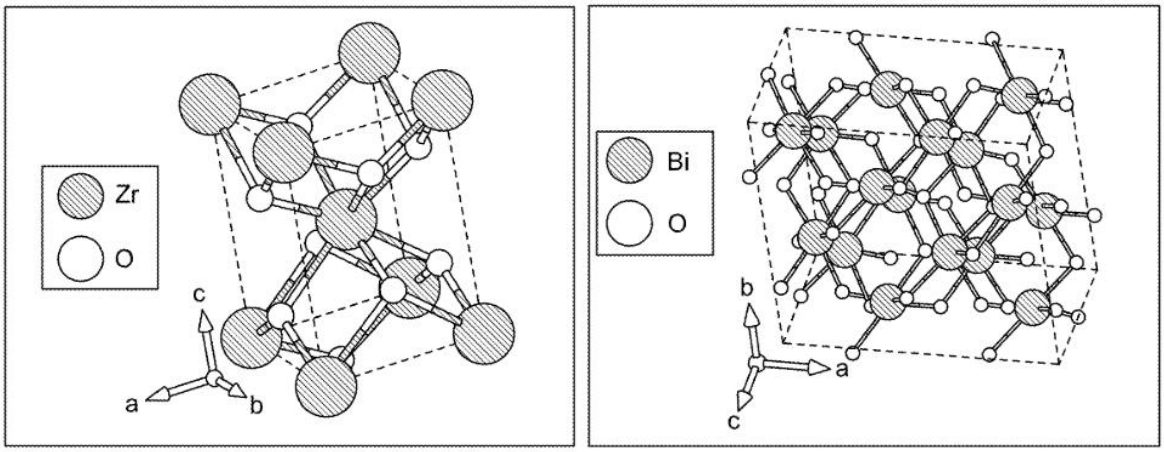
The point being that, now I'm sat in the Tavern unwittingly touching vinegar-and-chilli sprayed tables and chairs, I'm facing the distinct hidden possibility that the sparrows now really have something to laugh about. Well, provided they follow me to the restroom. Which, come to think of it, the Marisco Tavern having built in a different age, is outside.

Damn. Maybe that was the Tavern staff plan all along. Maybe this was genuine Level 2 genius on their part after all. Knowing that the tourists were still stuck at Level 1 genius. And the Level 3 genius mocking-sparrows wouldn't be able to resist following them outside.

Such is life.

My only wish is that someone had shot some video of sparrows following male-tourists as they exited through the door and walked towards the urinals. Each sparrow nudging the one next to it, 'watch what happens in the next few seconds… these humans try flapping their little wings, jumping up and down, but still no idea how to fly'.

Patent of the Month – Radiation Shielding Nanocomposite



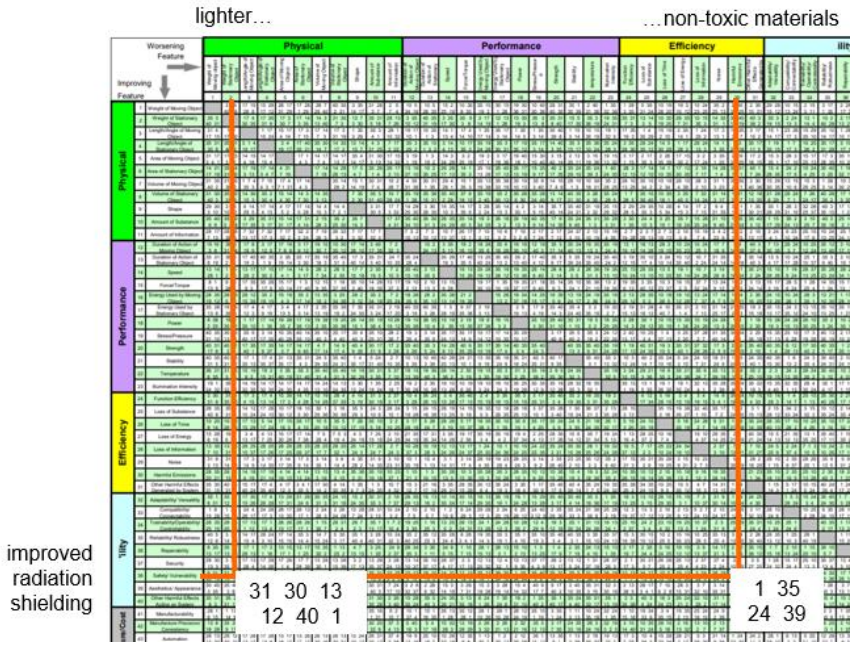
We head in the direction of Riyadh for the patent of the month this month, specifically the Imam Mohammad Ibn Saud Islamic University, where a quartet of inventors had US12,491,486 granted to them on December 9. Something interesting in the world of nanocomposites seems to be happening in that part of the world right now, with several what seem to be very impressive patents being published just this month. This, we think, is the best of the bunch. In no small part because it's easy to describe what the problem the invention solves is. Here's what the inventors have to say about that problem:

Radiation is a type of energy that travels in the form of waves and/or particles and is part of our everyday environment. People are exposed to radiation from cosmic rays, as well as from radioactive materials found in the soil, water, food, air and also inside the body. Radiation releases energy in a variety of forms, such as waves or particles. Ionizing radiation is a form of radiation that is worrisome because it has sufficient energy to dislodge tightly bound electrons from atoms, resulting in substantial harm to biological tissues. Gamma rays are a type of ionizing radiation that is very dangerous because of their capacity to deeply permeate materials, presenting a significant health hazard by inducing DNA harm, radiation illness, and potentially cancer in living beings.

It is critical to understand the rationale for applying shielding measures to protect against radiation. Utilizing high-density and thick materials for shielding significantly reduces radiation penetration, thereby limiting its negative impacts. High-density shielding materials are widely used in numerous applications because they are effective in blocking or reducing radiation and other hazardous particles. Lead is a metal that possesses beneficial characteristics such as exceptional shielding qualities and low cost. However, conventional lead-based radiation shielding materials pose significant health and environmental risks due to their inherent toxicity. Lead exposure can lead to various adverse effects, including neurological damage, reproductive issues, and environmental contamination. Additionally, the high density and weight of lead-based materials make them cumbersome and challenging to transport and install, particularly in applications where weight considerations are crucial, such as aerospace or medical facilities. In order to reduce adverse effects, disposal and management pose challenges. Medical patients and workers often wear radiation-shielding garments to safeguard themselves from direct and secondary radiation during diagnostic imaging.

Thus, there is a need to provide a non-toxic, lightweight alternative to lead-based shielding materials while offering superior radiation shielding capabilities.

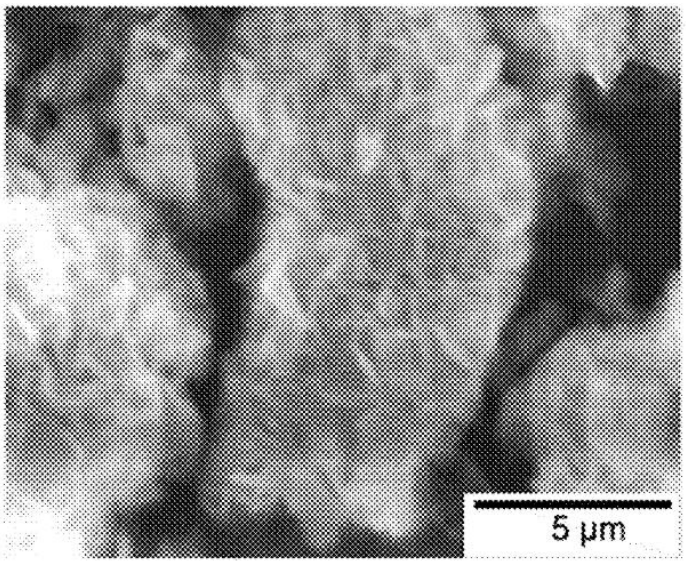
The last sentence describes the conflict to be solved succinctly: the world needs improved radiation shielding with lighter, non-toxic shielding materials. Here's what that problem looks like when mapped onto the Contradiction Matrix:



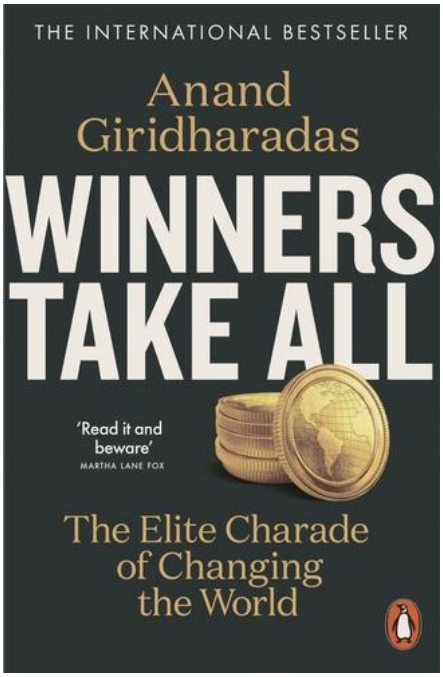
And here's how the inventors have made a step-change advance from traditional lead-based solutions to something a lot closer to an ideal final result:

A [Principle 1]*nano* [Principle 40]*composite, comprising: a* [Principle 35] *zirconia matrix; and bismuth oxide dispersed in the zirconia matrix, wherein the nanocomposite is in the form of nanoparticles having an average size of 10-16 nm, the nanoparticles form aggregates that include* [Principle 30] *needle-shaped structures disposed on outer surfaces of the aggregates, the aggregates have an average size of 2-20 μm, the needle-shaped structures have an average aspect ratio of 3-10, the needle-shaped structures have an average length of 0.5-2.0 μm, the needle-shaped structures have an average width of 50-600 nm, a linear attenuation coefficient of the nanocomposite is higher than a linear attenuation coefficient of pure zirconia for gamma-rays having energies of 0.059 MeV to 0.662 MeV, and the nanocomposite comprises, based on a total weight of the nanocomposite, 40-60 wt. % of Zr, 20-30 wt. % of O, and 20-30 wt. % of Bi.*

Simple when you know how.



Best of the Month – Winner Takes All



A Six-Year-Old Warning That Has Only Grown Louder
We head back six years for our Book of the Month choice this month, not because we missed Anand Giridharadas' *Winners Take All* when it first appeared, but because the global problem he placed under his spotlight in 2019 has both spread and intensified. The phenomenon he named – the seductive ecosystem of "MarketWorld," in which elites claim to change the world while structurally preserving the conditions that made them elites in the first place – was already visible then. Today it has become a dominant mode of "problem solving" in business, philanthropy, government and even academia.
And because the pages of this ezine are full of TRIZ practitioners, systems thinkers and innovation leaders, the relevance of that diagnosis has never been sharper.

The Book in a Nutshell: The Charade of Win-Win Solutions
Winners Take All argues that the global elite has perfected a model of benevolent problem-solving – a philanthropic, tech-friendly, market-compatible approach to inequality, climate, poverty and social dysfunction – that goes by the reassuring label "win-win." These are solutions that claim simultaneously to help the poor *and* preserve the interests, profits and reputations of the wealthy.

But as Giridharadas shows, many of these "solutions" are not merely insufficient: they operate as buffers that allow the core systems of inequality and extraction to continue unchallenged. He calls it "changing the world *without changing anything important*," a slogan that in 2025 could serve as the mission statement of dozens of sustainability conferences, ESG reports and billionaires' foundations.

The TRIZ Twist: Not All Win-Wins Are Created Equal
The book becomes particularly interesting when read through a TRIZ lens. TRIZ readers know 'win-win' as the outcome of contradiction elimination – the Ideal Final Result in miniature, the moment when opposing parameters improve simultaneously.
But the 'win-win' Giridharadas critiques is of a completely different species.
It is:

- *not* the reconciliation of contradictions
- *not* the supersystem transformation required to achieve IFR
- *not* root-cause elimination

Instead, it is a *constraints-preserving win-win* – one that optimises within the existing business model, political structure or economic paradigm. It finds the zone of comfort in which the powerful can feel virtuous *without threatening the internal contradictions of the system itself*.

In the language of TRIZ, this is not resolution of contradiction but containment of contradiction. And containment, as we all know, eventually leads to explosive system failure.

Philanthrocapitalism's Sleight of Hand: Protecting the Business Models That Are the Problem

Perhaps the sharpest insight of Giridharadas' work – and one that has only deepened since 2019 – is that elite philanthropy has become a means of protecting the very business models that generate the problems being "solved."

It is an extraordinary sleight of hand:

1. Create value using a business model that externalises costs onto the environment, workers, public services or the commons.
2. Extract wealth into private hands.
3. Reinvest a fraction of that wealth into philanthropic "innovation," "impact" or "ESG" initiatives.
4. Use those initiatives to stabilise, legitimise or expand the original business model.

The result? Root causes remain untouched, public institutions weaken, dependency increases, and – crucially – society becomes more fragile. Not only is this contradiction-sustaining, even worse, it creates *new* contradictions. New contradictions that add whole new layers of dysfunction that innovators must later confront.

Ten Case Studies: When Elite Solutions Added Dysfunction

Across sectors, the pattern repeats. Looking beyond Giridharadas' 2019 warning, here are ten emblematic examples from the past two decades:

1. Google / Facebook "Free Basics" (Internet.org)
Sector: Digital access
Backers: Facebook (Meta), Google, various tech philanthropies
The promise: Give free internet to poor populations in India, Africa, Southeast Asia.
What went wrong:

- "Free internet" was actually a *walled garden* – Facebook and partner-approved websites only.
- Undermined net neutrality, local tech ecosystems, and democratic information flows.
- Increased dependency on Big Tech platforms.
- Indian regulators ultimately banned it for violating digital rights.

This is a clear example of *adding a new layer of dependency, not solving the digital divide.*

2. Bill and Melinda Gates Foundation – US Public School Reforms (Common Core, Teacher Evaluation Systems)
Sector: Education
Backers: Gates Foundation (largest education donor in U.S. history)
The promise:
Data-driven standards and teacher metrics would improve outcomes nationwide.

What went wrong:

- Billions spent without meaningful improvement in student performance.
- Intensified teaching-to-the-test and administrative burden.
- Increased teacher attrition and burnout.
- Local communities lost control of curricula.

Even the Gates Foundation publicly admitted the programme largely failed – yet it reshaped the entire system, often harmfully.

3. Big Philanthropy's Backing of Charter Schools
Sector: Education
Backers: Walton Family Foundation, Broad Foundation, Gates Foundation
The dysfunction:

- Charter schools siphoned funding from public schools.
- Created a two-tier system: well-funded "selective" schools vs underfunded public ones.
- Increased segregation in some districts.
- Produced uneven educational outcomes at population scale.

A market-friendly attempt at "school choice" that often weakened system-wide resilience.

4. Microfinance Boom (from Grameen to Silicon Valley–style scaling)
Sector: Development finance
Backers: Major foundations, impact investors, global NGOs
The dysfunction:

- Initially hailed as a miracle for female empowerment.
- Later research shows:
    - No measurable reduction in poverty at scale.
    - In some regions (India, Bangladesh), predatory lending → suicides.
    - Entrenched micro-debt as a business model.

A classic case where *"empowerment capitalism"* created new forms of financial fragility.

5. Bono & RED Product Philanthropy (cause-based consumerism)
Sector: Global health
The dysfunction:

- Marketing costs for brands massively outweighed donations.
- Encouraged "buy to save the world" rather than structural political action.
- Reinforced Western consumerism while claiming to alleviate poverty.

Critics: *Buy a T-shirt for $40 so Apple or Gap can donate $4 – while labour exploitation continues.* An object lesson in using naïve celebrity figures to endorse a model they can't see makes the problem worse rather than better… while making them money.

6. Elon Musk / Tesla Carbon Credit Markets
Sector: Climate and energy
The dysfunction:

- Carbon credits incentivised companies *not* to reduce emissions but to buy offsets.
- Tesla's business became partially dependent on selling credits to highly polluting automakers.
- This *delayed systemic decarbonisation* by letting incumbents avoid actual change.

A "market incentive" that unintentionally propped up legacy emitters.

7. Big Tech's "Smart City" Philanthropy (e.g., Sidewalk Labs Toronto)
Sector: Urban development
Backers: Alphabet / Google
The dysfunction:

- Promised efficiency and sustainability.
- Actually embedded surveillance, data extraction, and private control over public space.
- Community and privacy advocates halted the project as harmful.

Solutionist urbanism that risked undermining democratic governance.

8. Agricultural Philanthropy: Alliance for a Green Revolution in Africa (AGRA)
Sector: Food security
Backers: Bill & Melinda Gates Foundation, Rockefeller Foundation
The dysfunction:

- Promoted high-input industrial agriculture (fertilizers, proprietary seeds).
- Increased dependency on multinational agribusiness.
- Failed to improve food security; some countries saw rising hunger.
- Undermined indigenous, regenerative, and low-input farming traditions.

A system-change programme that locked farmers deeper into volatile, costly input cycles.

9. Tech Philanthropy & Homelessness (e.g., San Francisco, Seattle)
Sector: Housing & homelessness
Backers: West Coast tech philanthropists
The dysfunction:

- Funding shelters and services while simultaneously accelerating housing inflation through tech-driven urban gentrification.
- High-profile initiatives often focused on *symptom relief* rather than zoning reform or structural housing supply expansion.
- Philanthropy increased visibility but left root causes untouched.

Sometimes described as *“philanthropy to clean up the consequences of your own wealth creation model.”*

10. Goldman Sachs / Bloomberg “Impact Bonds” & Pay-for-Success Initiatives
Sector: Social services
The dysfunction:

- Framed as innovative, evidence-based financing for social problems.
- In practice:
    - Extractive fee structures enriched financial intermediaries.
    - Distorted incentives in social programs (gaming metrics to trigger payouts).
    - Encouraged short-term, measurable outcomes over long-term structural fixes.

A “Wall Street solution” that risked turning vulnerable populations into an asset class.

And, if I may, here’s a more granular look at an eleventh, ongoing, instance of philanthrocapitalism running wild, and one where, from where I sit, Nature’s ability to manifest the Law Of Unintended Consequences looks set to bite back if we’re not careful:

Bovaer – When “Solutionism” Becomes Added Load
Bovaer is a feed additive (active ingredient 3-nitrooxypropanol, 3-NOP) designed to suppress methane production in ruminant digestion, thereby reducing greenhouse-gas emissions from livestock. According to regulators and its manufacturer, when used as directed it reduces methane output from cows by up to ~27–45 %.
Proponents – including some wealthy or philanthropic-interested stakeholders – present it as a climate-friendly, scalable fix to one of agriculture’s major environmental problems.

What’s going wrong (or may go wrong): signs of added dysfunction:

1. Treating symptoms, not root causes: critics – including one adviser to the UK royal household's sustainable-food council – argue that using Bovaer is a textbook case of "re-engineering the cow" instead of questioning the entire industrial dairy/ beef model. Put differently: rather than reducing demand for high-emission animal farming, the additive permits the same system to continue – possibly encouraging expansion – while giving a veneer of "climate-consciousness." That locks in the existing business model rather than transforming it.
2. New risks and unintended harms to animals and supply-chain resilience: reports from some farmers (not always independently verified) claim health problems in cows fed Bovaer: reduced milk yield, reproductive issues, digestive problems, and in a few cases death. Because the additive modifies rumen biology – a deeply complex ecosystem – long-term effects on animal health, fertility, genetic resilience of herds, and milk/meat quality remain uncertain.
3. Social backlash, mistrust, and destabilization: when major dairy producers announced Bovaer trials in the UK, social media erupted with disinformation, conspiracy theories linking the additive to elite funders, and consumer boycotts. This polarisation can undermine public confidence in sustainable-agriculture measures, stall climate-friendly reforms, and increase social distrust (especially among rural or farming communities). That is itself a form of systemic dysfunction.
4. Regulatory & governance fragility: although authorities such as the UK Food Standards Agency (FSA) and EU regulators approved Bovaer as "safe" (milk from treated cows is declared safe, and the additive metabolizes in cows), the shifting reports of on-farm issues (especially in Denmark, where mandatory use reportedly triggered widespread farmer complaints) show the system remains fragile. Mandatory rollout under climate-policy pressure could amplify risks – both to animal welfare and to agricultural resilience – while closing off alternative, systemic solutions (e.g. reducing meat/dairy demand, diversified farming, regenerative land-use). (Insert image of smiling Bill Gates sat in meetings with senior Government officials here.)

Why This Illustrates a Core Critique of "PhilanthroCapitalism"
The Giridharadas-book sparked worry – that elite-backed 'win-win' interventions often entrench dysfunctional systems and create new layers of dependency – finds a concrete instantiation here:

- Lock-in rather than transformation – Instead of reducing global demand for emissions-intensive livestock or reforming land-use, Bovaer promises to let dairy and beef remain "business as usual," with fewer emissions – a form of "carbon cosmetic."
- Externalising risks and costs – Health problems in cows, supply-chain fragility, and public mistrust are borne by farmers, regulators, and consumers – not necessarily the philanthropic backers or corporate sponsors.
- Reinforcing inequality in agency and decision-making – The decisions are driven by large corporations and chemical manufacturers, not by the farmers or affected rural communities. Local needs, welfare, or alternative farming models get marginalised.
- Perverse incentives for expansion – A perceived "cleaner" dairy supply could encourage higher consumption or intensification, undermining broader environmental or ethical goals.

In short: rather than attack root causes of agricultural emissions (diet patterns, consumption, supply-chain structure, land use), the intervention patches symptoms – and may worsen structural vulnerabilities. At which point, I have the sinking feeling in the pit of my stomach already, the philanthrocapitalists will reveal the next solution, one that in all likelihood adds yet another layer of harm into the poor cow's already naively-interrupted world.

The Big Pattern: The System Behaves Like a System
Across these cases, the same systemic tendencies appear:

- Treating symptoms, not causes
- Creating new layers and forms of dependency
- Reinforcing elite power under the guise of benevolence
- Scaling interventions faster than understanding
- Weakening public institutions
- Increasing long-term fragility

In TRIZ/SI terminology, these are optimisations that worsen the supersystem, not improvements that evolve it.

A Final Warning: The Elite's Hidden Contradiction-Solving Machine
Perhaps the most subtle trend – and the one most relevant to readers of this ezine – is the emergence of a new elite strategy: diverting the world's brightest young problem-solvers into consulting, tech philanthropy and ESG projects that appear progressive but structurally preserve the status quo.

This is contradiction-solving of a very different kind:

- Identify a societal contradiction (e.g. climate, inequality).
- Channel talent into tackling *manageable* parts of it.
- Ensure their solutions do not challenge the business model that created the contradiction.
- Celebrate them as world-changing.

It is, in effect, a meta-contradiction solution: a brilliant method to ensure elites evolve towards their Ideal Final Result, while the global system gets further and further away from its antifragile, increasing-value-for-all Ideal.

And that, ultimately, may be the greatest risk highlighted by Giridharadas: The most powerful contradiction-solving machine the world has ever seen is now geared toward protecting the existing system, not transforming it.

Wow In Music – Live From Studio S2

Inventive Intimacy. We usually feature single pieces of music in this section of the ezine, but this month we're deep into sum–is–greater–than–the–parts territory. Hania Rani's Live From Studio S2 isn't so much a live EP as a quiet act of reinvention. Across four pieces, recorded in the resonant wooden hall of Polish Radio's historic Studio S2, she performs not as a pianist revisiting familiar material, but as something closer to an inventor – someone treating composition as a living organism, open to mutation, expansion, contraction and rediscovery. It's one of the few releases where the tracks feel inseparable, not because they sound the same, but because they seem to breathe the same air.

Rani is often grouped with the neo-classical cohort – Nils Frahm, Max Richter, Ólafur Arnalds – but Live From Studio S2 demonstrates just how misleading that label can be. Where many in the genre lean toward ambient minimalism or slowly unfurling loops, Rani's approach is both more architectural and more emotional. Her music is structured with intent, yet porous enough to let the listener in. The result is hypnotic, mesmerising, and quietly daring.

A great deal of the magic comes from the room itself. Studio S2 is a space with history in the walls, and Rani leans fully into that. In a Rough Trade interview, she reflects: "You can feel the leftovers of the great history of Polish radio recordings… there is a magic that always makes me feel creative and focused." That sense of place is not atmospheric wallpaper – it's an instrument. The hall's gleaming wooden surfaces, natural reverb and unhurried decay shape every phrase, giving the performance a warmth that can't be simulated. Rani isn't just playing in the room; she's playing with it.

The EP opens with Hawaii Oslo, a piece built around a repeating piano pulse that might, in lesser hands, feel predictable. Instead, Rani uses repetition as a launchpad for incremental transformation – a textbook example of how small variations, added with care, create emotional lift. The motif remains constant, but the surrounding texture shifts: subtle voicings, shadow-melodies, passing harmonies, the quiet bloom of reverb. It's the musical equivalent of watching the same landscape under changing light.

Glass follows, and here Rani demonstrates her gift for re-contextualisation. She wrote a fresh introduction and outro specifically for this session, reshaping the piece to suit the unusual space. What emerges isn't a revision but a resurrection – the same bones, but a different soul. This willingness to rearrange her own work is something she explicitly

embraces: “I decided to rearrange some of my favourite songs and bring them to the audience in a different version,” she explains. “Sometimes completely new.” The phrase “completely new” is key: she is not merely polishing these pieces; she’s allowing them to reveal alternative forms of themselves.

On Leaving and Buka, the performance becomes more meditative, but no less inventive. Rani introduces gentle synthesiser layers, small rhythmic shifts and a delicate interplay between grand and upright piano. She has long been a “multi-instrumentalist within the piano,” but the way she manages timbre here – using the room’s natural resonance as a second voice – is quietly masterful. There are moments when the music seems to float in suspension, freed from the bar-line, and others when its structure tightens with the precision of a chamber ensemble.

What makes Live From Studio S2 so remarkable is how it balances technical creativity with emotional depth. Every inventive gesture – a rearranged phrase, a whispered synth, a loop that evolves rather than repeats – is in service of feeling rather than effect. Rani’s classical training gives her discipline; her willingness to unlearn gives her freedom. The combination is potent.

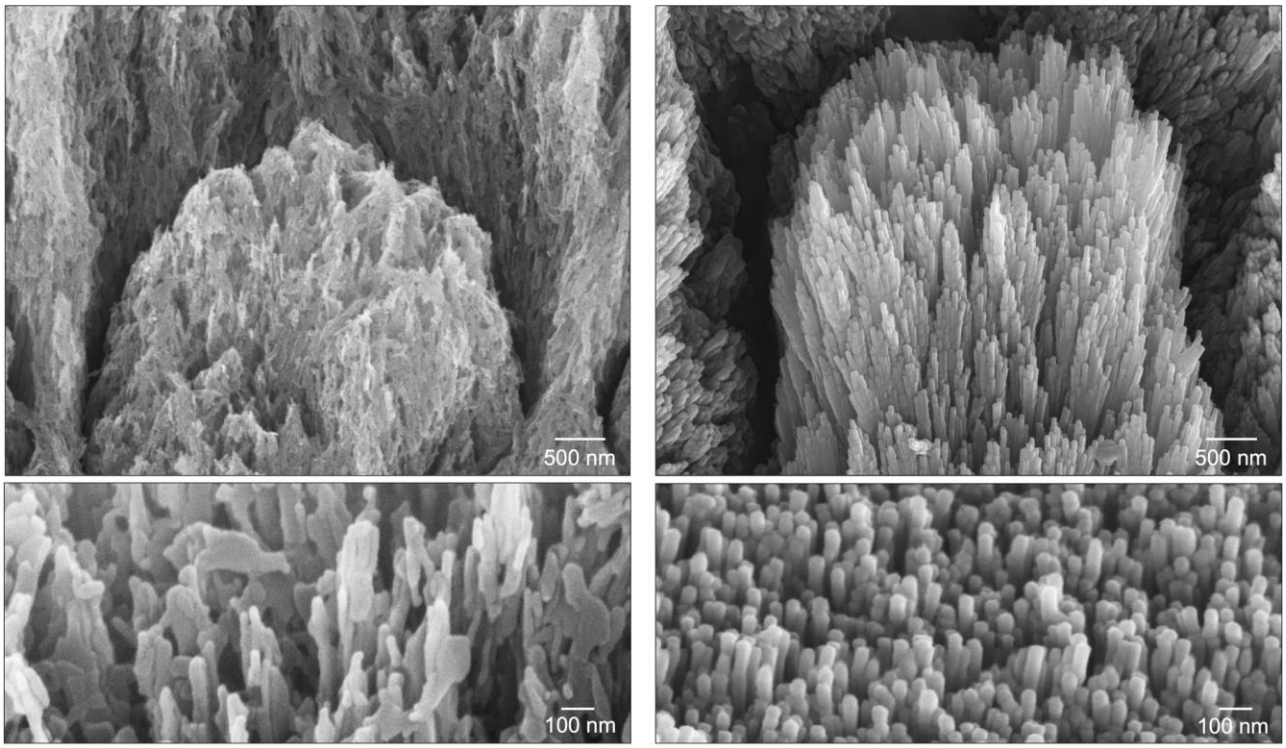
Across just four pieces, she demonstrates something rare: innovation that doesn’t call attention to itself but deepens the listener’s experience. These performances don’t chase novelty; they reveal possibility. The EP feels simultaneously intimate and expansive, grounded and exploratory – a reminder that inventiveness, at its best, is a way of listening as much as a way of making.

Live From Studio S2 is a small release, but it leaves a long echo. This is music that doesn’t just sound beautiful – it thinks beautifully. And that may be Rani’s greatest invention of all.

Eagle-eyed readers of this section of SIEZ may have noticed an absence of the usual nods to various Inventive Principle illustrations. That’s because, if you listen closely – and this is what I think will make the EP and enduring classic – you’ll hear something like all 40 Inventive Principles at work. It’s not just a performance. It’s a laboratory.

Do yourself a favour. Find a twenty-five minute gap (!) in your day and go check out https://www.youtube.com/watch?v=kFRdoYfZYUY&list=RDkFRdoYfZYUY&start_radio=1&t=1090s. See is believing.

Investments – Regenerating Tooth Enamel



A research team at the University of Nottingham has unveiled a biomimetic, protein-based gel capable of regenerating tooth enamel using the calcium and phosphate ions naturally abundant in human saliva. Published recently in *Nature Communications*, this innovation could signal the beginning of a profound shift in the global dental industry, away from drill-and-fill repair and toward non-invasive biomaterial regeneration.

For investors and innovation strategists, the technology represents a classic early-stage disruption: simple, elegant, low-cost in application, but with the potential to undercut entrenched incumbents and reshape clinical pathways and market structures.

What the Technology Is

The material is a supramolecular protein gel, engineered using elastin-like recombinamers (ELRs) that mimic the self-assembling proteins guiding natural enamel formation in early childhood. When applied to a tooth surface, the gel forms a thin, robust coating that acts as a scaffold for mineral growth.

Critically, the gel does not supply minerals itself. Instead, it draws calcium and phosphate from saliva and organises them into ordered crystalline structures through *epitaxial mineralisation* – the same mechanism that shapes natural enamel. The resulting layer resembles genuine enamel in architecture and mechanical performance.

Why This Is Potentially Disruptive

1. A Functional Substitute for Drilling and Filling

Current dentistry treats enamel loss as irreversible. This gel challenges that assumption by enabling *regeneration* rather than *restoration*. If clinically validated, it threatens entire value chains built on invasive treatments, from drill-based procedures to composite and amalgam materials.

2. Simplicity and Ease of Use
The gel is applied similarly to fluoride varnish: quick, painless, and non-invasive. Disruptive innovations often start at the low end with simple, convenient offerings that appeal to overlooked or cost-sensitive segments. This gel fits that pattern.

3. Fluoride-Free Trajectory
A non-fluoride alternative for enamel protection/remediation places it in the path of a global shift towards fluoride scepticism and demand for biomimetic solutions.

4. Scalability and Low Marginal Cost
Bio-inspired protein materials can be produced at scale, and application does not require new hardware or training. This "drop-in disruptor" model is extremely rare in medical innovation.

5. Potential to Redefine Preventive Care
The ability to regenerate enamel – especially in early erosion – could enable a new category of preventive oral care in retail or community settings, bypassing traditional dental providers.

Market Implications
Addressable Market Size: Enamel erosion and dental caries affect over half the global population. The total accessible market includes:

- Preventive treatments
- Restorative dentistry
- Oral health retail products
- Clinical consumables and materials

The combined value runs well into the tens of billions annually, making even modest adoption highly financially significant.

Potential for Business Model Innovation
The formation of the Nottingham spin-out Mintech-Bio signals readiness for commercialisation. Possible business models include:

- Professional-only gel application kits
- Retail/OTC remineralisation products
- Consumer subscriptions for enamel maintenance
- Licensing to major dental materials manufacturers

Each model offers distinct pathways for incremental or radical disruption.

Barriers and Risks

- The regenerated enamel layer is thin; long-term durability is unknown.
- All current data is from in vitro testing.
- Regulatory approval timelines could extend beyond expectations.
- Incumbent manufacturers may resist or attempt to co-opt the technology.

Despite these challenges, the material’s conceptual simplicity makes imitation likely; early IP and manufacturing rights are strategic assets.

Strategic Investment Outlook
Short-Term (1–3 years)

- Regulatory trials will determine clinical credibility.
- Likely early adoption in private dentistry and specialist clinics.
- High investor interest in biomaterials, regenerative medicine, and minimally invasive devices.

Mid-Term (3–7 years)

- Potential shift in treatment guidelines and reimbursement systems.
- Emergence of hybrid dental care models blending preventive and regenerative approaches.
- New entrants could leverage the technology for consumer products.

Long-Term (7–15 years)

- Possible widespread decline in drilling-based treatments.
- Reinvention of dental insurance models around prevention and regeneration.
- Global health implications as low-cost remineralisation reduces disease burden.

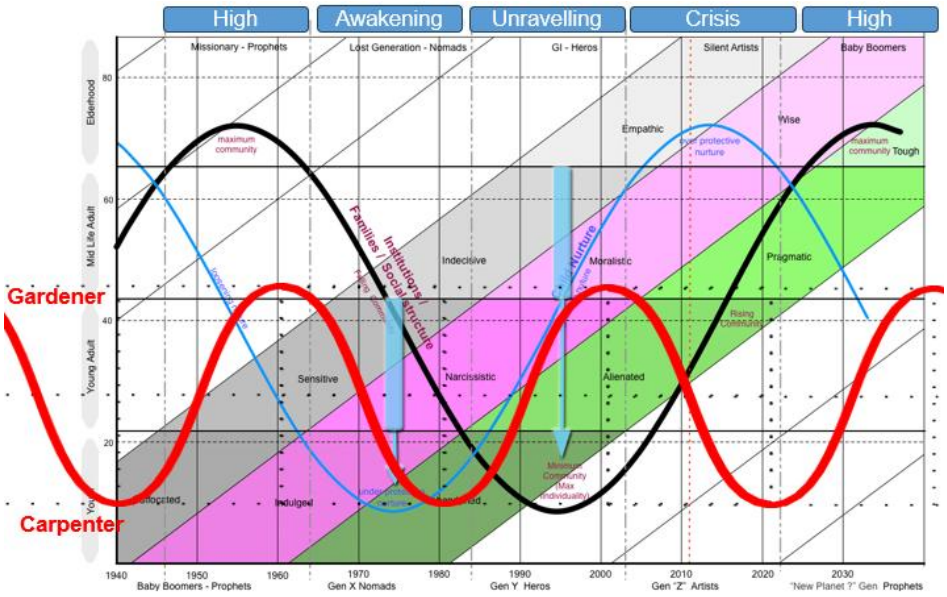
Conclusion: A Classic Case of Potential Disruption

The protein-based enamel-regeneration gel exemplifies the hallmarks of a disruptive innovation: simplicity, affordability, non-invasiveness, scalability, and alignment with unmet needs. Its capacity to rebuild enamel using the minerals already present in saliva is scientifically elegant and commercially promising.

If it clears clinical and regulatory hurdles, this technology could irreversibly alter both the practice and economics of dentistry– making early investment attention both timely and strategically necessary.

Read more:
https://www.nottingham.ac.uk/news/new-gel-restores-dental-enamel-and-could-revolutionise-tooth-repair

Generational Cycles – Gardeners And Carpenters



If you follow generational theory, you already know Strauss and Howe's core claim: that Anglo-American history moves in a rhythmic, four-generation cycle, each turning reshaping institutions, politics, and – crucially – parenting norms. Their model includes a long-wave oscillation in "nurturance": rising generations either receive highly protective, attentive parenting or experience a kind of emotional abandonment, with each mode cresting approximately every 40 years. Peak under-nurture arrived in the early 1970s; peak over-nurture around the mid-2010s. Two generations, two very different childhood climates.

But there is another, shorter cycle influencing parenting, one that runs on a different frequency entirely. Developmental psychologist Alison Gopnik, in her book 'The Gardener and the Carpenter', argues that modern societies toggle between two philosophies of child-rearing: a "carpenter" model and a "gardener" model. The carpenter parent tries to *shape* a child into a particular kind of adult – structured, optimised, intentionally created. The gardener parent, by contrast, focuses on *building an environment* in which children can explore, adapt, and grow in unpredictable ways. The gardener accepts that parents cannot determine outcomes; the carpenter is certain they can.

Where Strauss and Howe track the emotional intensity of parenting, Gopnik tracks its developmental philosophy. And here's where things get interesting: while Strauss-Howe's nurturance cycle has a two-generation periodicity, Gopnik's gardener/carpenter cycle appears to flip roughly every generation. Two cycles, oscillating at different speeds, interacting in ways that explain some of the apparent contradictions we observe in twentieth- and twenty-first-century parenting.

To understand why these cycles differ, we must first separate what they're measuring. Gopnik's axis concerns openness vs. control: whether the parent sees their role as cultivating a space for emergence or constructing a child to plan. Strauss and Howe's axis addresses emotional presence: whether parents smother or starve their children with attention. These are orthogonal dimensions. One can be a warm gardener, a cold gardener, a warm carpenter, or a cold carpenter. And historically, we've seen every combination.

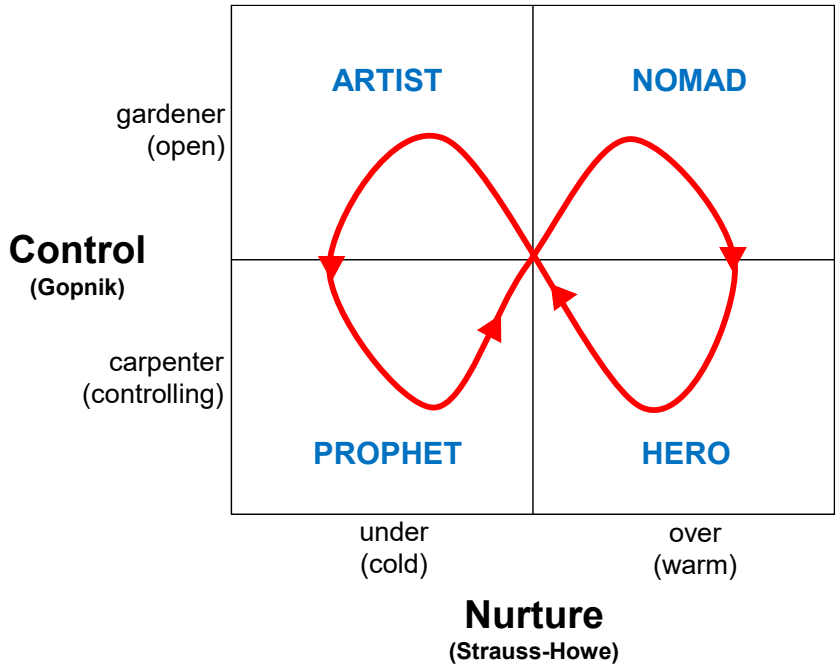
Consider the Silent Generation as parents. Their style – at least as remembered by their Boomer children – was emotionally distant and developmentally hands-off: low nurturance, low directional control. In Gopnik's model they were gardeners; in Strauss–Howe's, they were under-nurturers. Their children were loved, fed, and supported, but not micromanaged.

Boomer 'Prophet' parents, by contrast, demonstrate the importance of distinguishing the axes. Strauss–Howe famously calls them narcissistic, self-involved parents who "abandoned" their Gen X children. Emotionally, at least. But this emotional withdrawal existed alongside rising safety anxiety, structured activities, academic pressure, and the birth of modern helicopter parenting. In developmental terms, Boomers were carpenters; in emotional terms, they hit the nadir of nurturance in the early 1970s. Carpenter + under-nurture. Cold carpentry.

Nomad, Gen X parents, raising Gen Y, reversed the emotional trend while keeping the developmental philosophy flexible. Sociologists describe them as pragmatic, empathetic, and autonomy-supportive. They brought emotional presence back into family life without fully returning to carpenter-style directional shaping. They are, in effect, warm gardeners.

Millennial ('Hero') parents, the newest cohort to enter the parenting phase, represent a different combination again: high nurturance *and* high developmental control. They are warm carpenters. Emotionally attentive, extremely safety-conscious, and technologically equipped to monitor, optimise, and track every detail of their children's lives. Their style forms the crest of Strauss–Howe's over-nurture wave around 2015, but it also marks the latest turn in Gopnik's one-generation flip from gardener to carpenter.

What emerges is a compelling 2×2 matrix with one axis for Gopnik (gardener vs. carpenter) and another for Strauss–Howe (under- vs. over-nurture). Each generation occupies a different quadrant. This resolves the seeming contradiction between the theories: they aren't describing the same cycle. They're describing *intersecting* cycles – two sine waves at different frequencies. A slow, two-generation emotional wave (nurture) layered with a faster, one-generation philosophical wave (developmental control). Multiply them together and you get the complex patterns we witness across the last century of parenting:



So what comes next? What might Gen Z be like as parents?

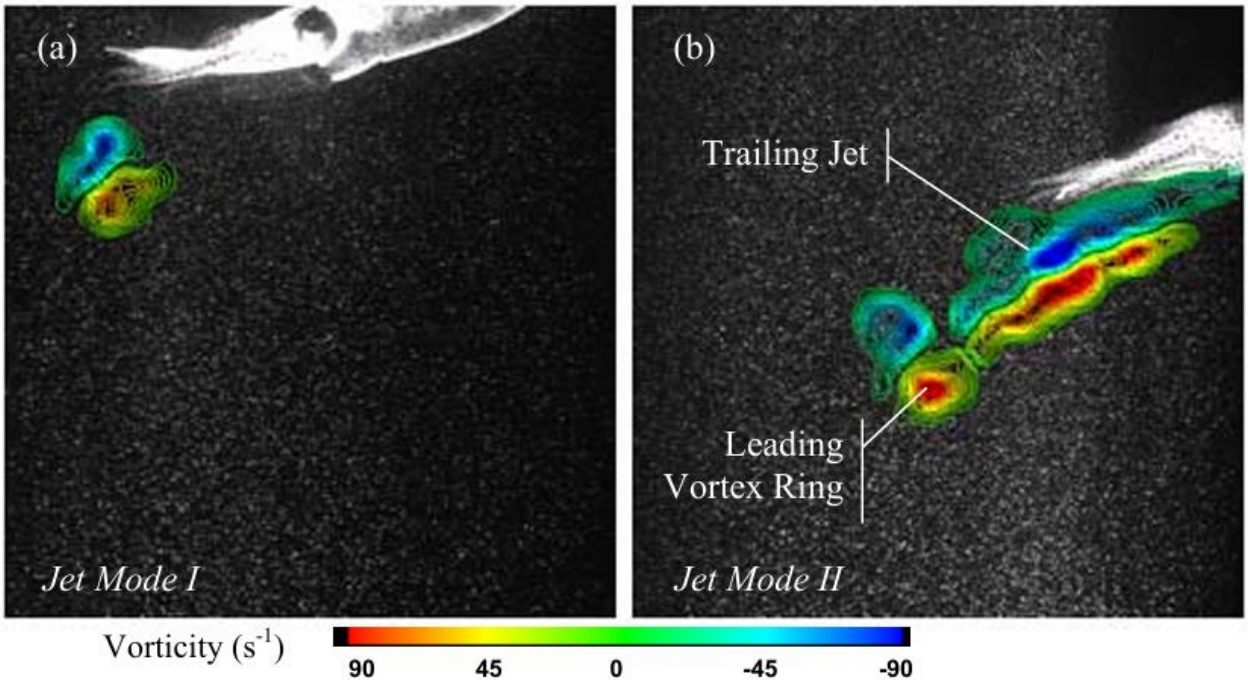
If the pattern holds, Gen Z (‘Artist’) parents – arriving in force as parents in the late 2020s and through the 2030s – should combine:

1. Gardener tendencies (a Gopnik flip away from Millennial carpentry)
Gen Z is sceptical of perfectionism, allergic to micromanagement, and comfortable with identity fluidity. They may reject the optimisation culture they were raised in and return to environmental openness rather than outcome engineering.

2. Moderate or shifting nurturance (a Strauss–Howe drift)
Gen Z grew up in the high-nurturance peak of the 2010s. According to Strauss–Howe, this crest should begin to decline as a new low-nurturance era slowly approaches. But that decline takes decades; early Gen Z parents may be warm, attentive, and emotionally available, only later trending toward reduced nurturance as the next generational turn approaches.

Put together, this suggests the peak Gen Z parenting period will likely be, like their Silent Generation great-grandparents, be ‘cold gardeners – emotionally distancing but developmentally open-ended. They may loosen the grip of parental anxiety while maintaining emotional connectedness. Less carpentry, less helicoptering and more space for children to self-organise.

Biology – Squid (Propulsion)



They shoot water like a cannon, and still glide like a ghost. Meet the squid's secret: vortex-ring jet propulsion. Beneath the shimmering surface of the sea, a squid tenses its mantle. Muscles contract, the narrow siphon at its head braces. In one swift pulse, gallons of water are blasted out – every instinct says that must create chaos: turbulence, drag, waste. But as the water exits, something extraordinary happens: the flow curls into a donut-shaped vortex ring that detaches, spins, and carries momentum with uncanny efficiency.

That spinning ring isn't just expelled waste. It's a self-contained thrust engine. Unlike a continuous jet that trails messy wakes, the vortex ring captures not just the momentum of ejected water, but entrains surrounding water – essentially dragging more mass behind the thrust without sucking in more energy. The result: explosive acceleration, silent thrust, and minimal turbulence. The squid jets forward – fast, smooth, and economically.

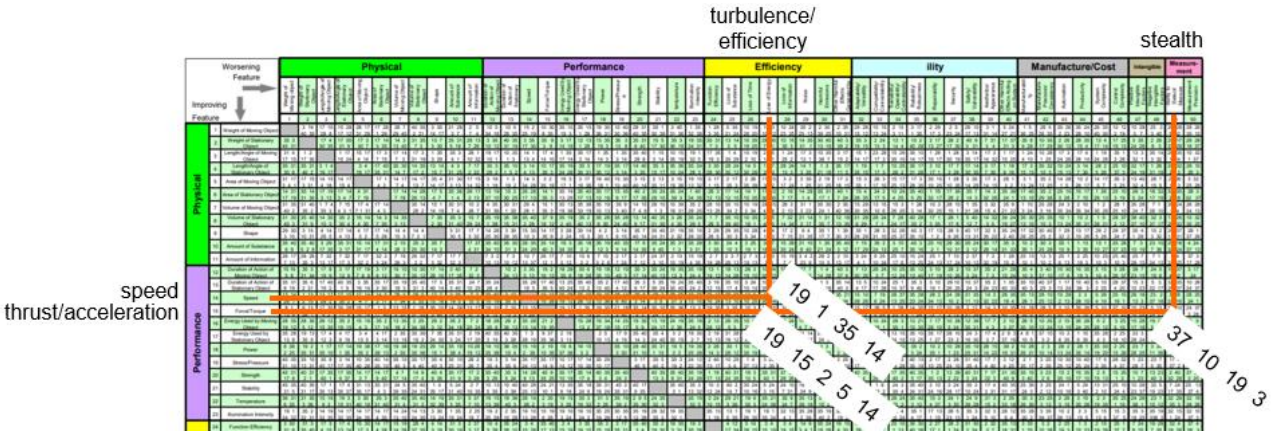
Biologists have measured this: when squid swim using clear, isolated vortex rings, their propulsive efficiency jumps to nearly 79%. Compare that to more turbulent, elongated-jet modes where efficiency falls dramatically. The difference is the vortex.

Engineers tried to replicate it. "Robo-squid" prototypes using pulsed-jet nozzles and elastic mantle-like chambers achieved bursts of thrust and good cruise-speed performance – validating that the squid's biology isn't an oddity, but a blueprint for efficient jet propulsion in fluid environments.

So, what contradictions did the squid propulsion system solve?

- Thrust vs. turbulence
- Speed vs. efficiency
- Acceleration vs. stealth

Here's what those conflicts look like when mapped onto the Contradiction Matrix:



They didn't compromise – they re-imagined the fluid dynamic problem, shifting from continuous flow to (Principle 19) pulsed (Principle 15/37) vortex (Principle 14) rings.

As a result, the squid swims in bursts and glides in silence. When danger looms – a predator glides nearby – it sends a single, nearly silent jet and vanishes, leaving barely a ripple.

For us, in engineering or innovation, this is pure TRIZ. It's not incremental improvement. It's contradiction elimination.

Read more: https://fs.wp.odu.edu/wp-content/uploads/sites/209/2015/08/biomimetic-vortex-rings.pdf

And, PS, what remains uncertain (and why it matters): Like any natural system, squid jet propulsion is not perfect under all conditions:

- Some squid species – especially at different life-stages – use longer jets or mixed modes and produce more turbulent wakes.
- In high-speed swimming or complex manoeuvres, the combination of fins + jet makes wake dynamics more complicated; vortex structures merge, interactions become chaotic.
- Performance depends on precise timing, muscle coordination, and environmental conditions. A continuous-jet fallback is available – but less efficient.

Thus, while vortex-ring propulsion is "optimal" under many conditions, it's not a universal magic bullet. The squid's mastery lies in (Principle 15 again) dynamic control – switching modes depending on need. That nuance makes the example even richer for TRIZ thinkers: optimal solutions often depend on context, and the key is adaptive switching, not rigid norms.

Ellen Domb, RIP

The TRIZ world lost one of its finest on December 5.

I first met Ellen a year or so after I'd started submitting articles to *The TRIZ Journal*. She'd made so many editorial suggestions on one of my efforts that I suggested she should be named as a co-author. Soon after – though I can no longer remember the exact circumstances – I found myself with a five-hour connection at one of LA's minor airports and wondered if Ellen might be interested in meeting her new co-author face-to-face. She graciously accepted.

She was, to say the least, a force of nature. Never in the history of waiting for planes has four hours passed more quickly. She kept calling me a "scrawny kid" throughout the conversation. I was in my mid-thirties. By the end, we'd decided on several more papers we could write together. And I'd learned, as everyone that Ellen met quickly learned, that her inspiring conversations were endless: Ask her a question and then sit back and bask in the joy of thirty or more minutes of insightful response.

Fast-forward a few years and I invited Ellen over to the UK so we could run a workshop together. Again, she graciously accepted. And didn't say a word when she realised that the eleven hours she'd spent flying across America and the Atlantic was going to be matched by another eleven hours travelling from Heathrow, via three train connections, to a railway station in rural Yorkshire. There, I was supposed to pick her up in my beaten-up car and drive her another hour along the county's single-track roads.

The car, unfortunately, possessed the nasty quirk of refusing to start if it sensed any stress from the driver. I was already feeling bad that Ellen had endured several hours of British Rail non-hospitality, and so of course we got into the car, and it refused to start for what felt to me like an eon. Ellen calmly sat in the passenger seat and began planning the final details of the workshop while I ran around tinkering under the hood, climbing back in to see whether anything I'd touched had persuaded the starter motor to turn.

When I finally got her to the middle-of-nowhere farmhouse where we'd be running the workshop, she remained as calm and collected as it was possible to be, fully aware that the entire journey would need to be repeated in reverse a few days later. Needless to say, the workshop itself flowed with her usual whirlwind of calm. Partly, no doubt, because the hosts had a hot tub. And Ellen was a mermaid. "When I take my glasses off," she told the attendees, "I figure no one can see me."

After we'd finished and returned to civilisation, our hosts rang to say that Ellen had left behind half of a paperback book and asked whether they should post it to me. "Was it the first half?" I asked. Yes, it was. "Don't worry," I said, "she's a light traveller. If she's read something, she's not going to carry the dead weight around with her." I noticed the same habit in subsequent years when we found ourselves in other weird and wonderful parts of the world at conferences together. I still have a couple of half-paperbacks at home from when she came to stay with us. I'm glad I kept them.

One year, I was lucky enough to stay with Ellen and Bill for a weekend at their home in LA. On the Saturday they took me up in their Cessna and the three of us flew to Las Vegas. Ellen, of course, handing the controls over to me for part of the journey so she could, in her words, teach me how to fly. We arrived safely in Sin City anyway. They'd arranged a car to take us from the airport to one of the swanky hotels, where we ate the most expensive dinner I have – still to this day – ever eaten. Then they took me to see *Cirque du Soleil*. After that, we returned to the airport, climbed back into the Cessna, and flew home to LA in the dark.

It still ranks as the best day out I've ever had in my life.

That weekend wasn't far removed from the time Ellen and Bill decided it was time to retire. By then, Ellen's grit, persistence, and unstoppable charm had grown *The TRIZ Journal*'s readership to over 120,000. After she sold it, it was never quite the same again, despite later having, for the first time, substantial funding behind it. That, in itself, is a final testament to what Ellen brought to an otherwise turbulent and argumentative TRIZ world. She was the only person capable of bringing any real unity to the community, and it has missed her ever since she and Bill bought their boat and moved to Florida.

Ellen, of course, was never going to fully retire. I remained the beneficiary of a steady stream of emails offering advice, case studies, and examples for this ezine. What turned out to be the last of those emails arrived at the end of November.

Tragically, her life ended in a diving accident on December 5. For those of us who knew her, the news was simultaneously devastating and entirely typical of Ellen: living life to the full, leaving us with her fins on rather than from a hospital bed. I think she would have hated that alternative. Instead, she left us with that final contradiction to try and resolve for ourselves.

She leaves behind an unfillable hole in the TRIZ world, and an unfillable hole in mine. Rest in peace, Ellen. It was an absolute joy knowing you, learning from you, and working with you. We will miss you always.

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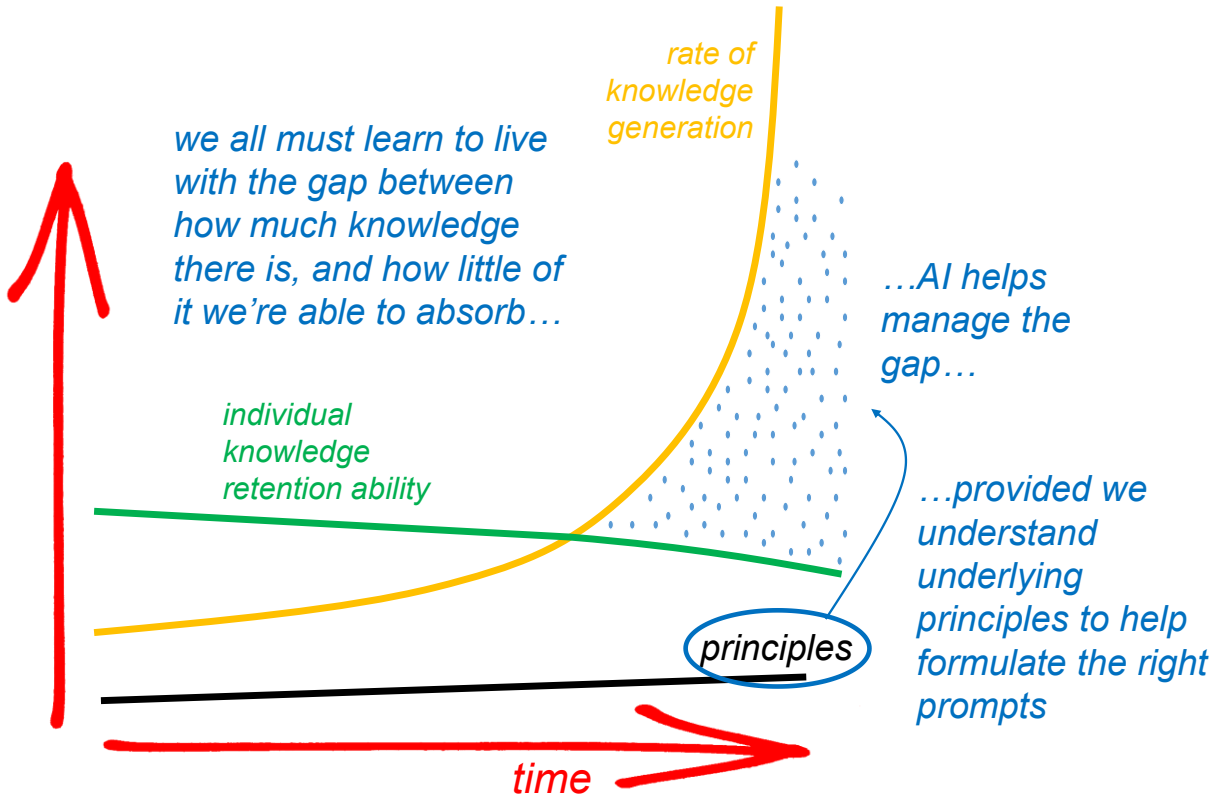

News

The 1%ers
The new ebook from Shana Finnegan and Darrell Mann is now available from Amazon as well as from the SI-shop. Check it out here: https://www.amazon.co.uk/dp/B0G7L6LHGW. There are rumours that we might be doing an actual book launch in the Twin Cities some time in the first part of 2026. More news on that front after we've worked through the logistics. You may well read about it first at the new 1%ers onepercenters website.

1%ers Assessment
As mentioned in the book, we've also just launched the first version of a 1%ers assessment tool. Very much aimed at the moment on 1%ers in the corporate world, anyone feeling brave enough to take the challenge can find the assessment at https://1percenterassessment.com. We're currently working out how to measure EQ – hopefully going some way beyond the current range of very poor tools available for doing the job. The contradiction needing to be solved is how to measure something highly complex and nuanced without surveyees needing to spend half a day providing inputs. We think we just about cracked it… hopefully more news next month. Or February!

The 1%ers German Edition
We're also happy to announce that we agreed terms for the translation and publication of a German language version of the book. Check out Robert Adunka's rather excellent TRIZ Mastery Hub for more details as the story unfurls.

Solving Ethical Contradictions
Speaking of new books, we're happy to announce that Darrell's new-new book has also been published this month. SIEZ readers get access to a special 33% discount by clicking on the QR code below:

DangerMouth
We just recorded our final podcast of 2025, so it should be available before the start of the holiday season. Things have been a bit slow so far in Season #3, largely thanks to book-writing commitments. We've got three sessions booked in January, so hopefully (for us, if not our listener) 2026 will return the production rate to something more like 'normal'… if there is such a thing in DangerMouth world.

New Projects
This month's new projects from around the Network:

- FMCG – Generations Project
- Agriculture – TrenDNA Study
- Services – Business Transformation Project
- Hospitality – AI-Driven Leadership Project

Semiconductor – Innovation Culture Workshops
Telecom – Innovation-For-Leaders Workshop Series
Logistics – Innovation LMS

Happy Holiday
Finally, it falls to us to wish all our readers a happy and restful end to 2025. Whether you're celebrating Christmas or taking advantage of what seems to be an increasingly global shut-down during the last week of the year, we here at SI HQ wish you and your nearest and dearest our best wishes for a Happy and prosperous New Year. Since 2009 we've been predicting '2025-6' as the end of the current Omni-Crisis period… it clearly hasn't ended in 2025, so… Take Care.