

AN INTRODUCTION TO

POST NORMAL TIMES THEORY



LIAM MAYO

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THEORY

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PART 01

SETTING **THE SCENE**



'A new civilization
is emerging in our lives,
and blind men everywhere
are trying to suppress it.'

ALVIN TOFFLER

BREAKING...!

On 18 April 1930, six years before the BBC's first television news broadcast, the people of Great Britain sat around their radios, waiting for the 8:45pm nightly news bulletin, a fifteen-minute programme. The newscaster spoke from his script saying, 'there is no news'. Following this urgent message, the remainder of the fifteen minutes was filled with piano music. Over ninety years later, it is hard to imagine even a slow news day — let alone no news at all.

Fast forward to 18 April 2024, a day that might be considered relatively uneventful by today's standards. Yet, within the span of just a few hours, the United States vetoed a UN resolution to grant Palestine full membership, Germany arrested two Russian-German nationals accused of escalating tensions between Russia and Ukraine, Kenya declared three days of national mourning after a fatal plane crash, and the National Hockey League announced the relocation of the Arizona Coyotes to Salt Lake City. And these were only the headlines deemed significant enough to break through the relentless churn of the 24-hour news cycle. Today, we don't wait for news — it chases us, flooding every screen, every notification, every moment. 'Breaking news' is no longer an exception; it is the default.

With so much happening, all at once, we struggle to keep up. The sheer volume of events, updates, and interpretations does not just inform us — it exhausts us. Depending on where we look, we see vastly different versions of reality, some stories amplified, others buried, narratives competing for attention in an endless cycle of urgency. It's no longer just a question of 'what' is happening, but 'why does everything feel so unstable?'

So, what is going on? What just happened?

The answer isn't as simple as it once was. It isn't just one thing that has just happened – it is many things, colliding, compounding, and accelerating all at once. The more we try to make sense of it all, the more we feel the ground shifting beneath us. Things no longer feel normal – not necessarily abnormal, just... not normal. The world we once knew still exists, but its familiar patterns seem to be unravelling, leaving us moving towards – what, exactly?

The futures we once imagined for the twenty-first century now seem increasingly uncertain. Stability, progress, and continuity – once taken for granted – are giving way to unpredictability. We are living in a state of postnormal. Post, from the Latin *post*, meaning after; normal, from the Latin *normalis*, meaning typical, regular, conforming to common standards or the established order. We are not in a new normal. We are beyond normal.

It feels like a disturbing presence – a haunting – has slowly but surely revealed itself to us. We emerged from the quarantine of the COVID-19 pandemic and looked around to see the forced migration of millions of people thanks to wars waged globally, coupled with the profound escalation of civil disturbances within national borders around the world, an increased intensity and frequency of weather phenomena, alongside a protracted debate as to whether human acts affect environmental change, an increasingly complex and fragile world economy, adjacent to the emergence of blockchains, cryptocurrencies, and NFTs (non-fungible tokens), all underpinned by the spectacle of spiteful post-truth politics. Has this always been normal? Standing in our kitchen, inexplicably hugging a flesh-eating ghoul, we ask ourselves: has there always been a zombie living in my house!?’

It reminds me of the scene from the 2004 Edgar Wright film *Shaun of the Dead*, where our hero, Shaun, hungover and poorly from a night out with his best friend Ed, ambles from his house to the local shop and back again, entirely oblivious to the fact that London has now been overrun by zombies. He ignores the rubbish sprawled all over the footpaths and the streets, the bloody handprints down the front of the refrigerator in the shop, and even mistakes a zombie for a homeless person: 'sorry, I haven't got any change'. The zombie apocalypse is literally unfolding before him, and Shaun persists with his normal life, the very embodiment of ignorant bliss.

Back at home Shaun flops on the couch and turns on the television, idly clicking through the channels searching for something to entertain himself:

[click] '... no official comment, but religious groups are calling it Judgement Day. There's... '

[click] '... panic on the streets of London...'

[click] '... number of reports of... '

[click] '... serious attacks on... '

[click] '... people who are being... '

[click] '... eaten alive.'

[click] 'Witness reports are sketchy...'

[click] 'One unifying detail seems to be...'

[click] '... that the attackers appear to be... '

[click] ‘... the sensational chart-topping... ‘

[click] ‘... or ideological connection between

[click] ‘... those committing the atrocities... ‘

He is oblivious – still!

‘There’s a girl in the garden!’ Ed interrupts, pointing to a woman shuffling awkwardly through their back garden towards the house.

... ‘She’s so drunk!’ Shaun declares, on closer inspection.

She’s not! She’s a zombie!

‘What just happened?’ is an apt question because it captures the broad sentiments of people in societies and in communities across the globe. A sense that everywhere, all of us, seem to be moving from one crisis to the next, or moving to avoid crisis, sometimes even juggling multiple, simultaneous crises, with no rest or reprieve. And it’s very hard to make sense of what is happening and why.

Indeed, many thinkers have been deeply reflecting on the ‘what just happened’ question, trying to make sense of the changes we are experiencing, and how they impact us and our future. The historian and media darling Yuval Noah Harari¹ pointed out, in his 2018 book, *21 Lessons for the 21st Century*, the next decades may be characterised by intense soul-searching and the formulation of new social and political models. He has since made bold claims that AI technology has hacked the operating system of human civilisation. The physicist Stephen Hawking has declared that ‘we are at the most dangerous moment in the development of humanity.’²

Marin Rees³, an astronomer, and colleague of Hawking's, believes that the twenty-first century may well be our last. The feminist and critical theorist Nancy Fraser⁴ believes that there is so much crisis happening in our world we get tied up in endless loose talk. And Timothy Morton⁵, the philosopher of ecology, believes that our world has already ended, we're just living in a weird sense of denial.

Indeed, this collective sense of crisis has permeated not only academic discourse but also popular culture, where filmmakers, authors, and thinkers grapple with the uncertainty of our times. Adam Curtis's documentary *Can't Get You Out of My Head*⁶ dissects how the modern world, trapped between nostalgia and chaos, has lost its ability to imagine new futures. In *The End of the World is Just the Beginning*⁷, geopolitical strategist Peter Zeihan warns that globalization is unravelling, leaving nations ill-prepared for the cascading crises ahead. Kim Stanley Robinson's climate-fiction novel *The Ministry for the Future*⁸ presents a terrifyingly plausible near-future scenario in which global catastrophe forces radical shifts in governance and technology. Meanwhile, philosopher Byung-Chul Han, in *The Disappearance of Rituals*⁹, laments the erosion of meaning in an era dominated by speed, spectacle, and digital alienation. Even cinema has captured this existential unease, with films like Ruben Östlund's *Triangle of Sadness*¹⁰ and Alex Garland's *Men*¹¹ offering darkly satirical critiques of societal collapse and collective anxiety. Across these works, a common thread emerges: we are not merely witnessing change; we are experiencing a profound rupture in how we make sense of the world.

It can all feel pretty grim. We're like Shaun, flicking through the channels of the proverbial television of life, while the zombie apocalypse is happening around us:

[click] 'Climate crisis! ... Continents on fire... In-human temperature rises...'

[click] 'Sea level risings... Biblical floods... Droughts...
Oceans polluted with plastic...'

[click] 'The decline of the US... BREXIT... Fragile mega-states...'

[click] 'The rise of China... Putin and the invasion of Ukraine...'

Let's not forget, our world, unlike Shaun's, is full of other media channels that exist outside television:

[swipe] 'The internet of things... post-truth... fake news...
alternate facts... deep fakes...'

[swipe] 'Conspiracy theories... social media... algorithms...
the gig economy...surveillance capitalism...'

[swipe] 'Cyber warfare... cryptocurrencies... the decline of
cryptocurrencies... the digital divide...'

We can also get more engaged with the crisis if we want:

[like] 'Automation... smart cars, smart homes... the
Metaverse... artificial intelligence... killer robots...
big data...'

[like] 'Multinational monopolies... Amazon... Apple...
Google...'

[like] 'Super rich with unfathomable wealth... Davos
obscene inequality... rising poverty...'

We can respond to the crisis that resonate with us:

[like] 'Social division... President Trump... the rise of the
far right... the return of fascism...'

[share] 'Xenophobia... Islamophobia...weaponised identity...

[share] 'The loss of faith in science... the loss of faith in democracy...'

And we can just as easily become part of the crisis:

[post] 'I think that the government's response to the global pandemic is...'

This is crisis upon crisis upon crisis, compounding and bombarding us through all avenues, attacking each of our senses, eroding any feeling of a safe and secure future we may have once had. So, when we ask 'what just happened' we're already out of breath. It certainly feels like a lot just happened. And it feels like there is much more to come!

The Paradox of Postnormal Times

But there is optimism too. A lot of it. And for good reason. There are also thinkers, writers, and creators are exploring pathways to renewal, resilience, and transformation. *In Not Too Late: Changing the Climate Story from Despair to Possibility*¹², Rebecca Solnit and Thelma Young Lutunatabua challenge the dominant narrative of climate doom, instead highlighting stories of activism, adaptation, and hope. Sci-fi writer Becky Chambers, through her *Wayfarers*¹³ series, envisions a future where cooperation, kindness, and curiosity shape interstellar civilizations rather than conquest or conflict. Johan Norberg, in *The Capitalist Manifesto*¹⁴, argues that human progress continues to accelerate, with poverty, disease, and inequality declining faster than ever before. Similarly, *Factfulness*¹⁵ by Hans Rosling encourages a shift away from fear-based thinking, demonstrating through data that the world is, in many ways, improving. On screen, the Apple

TV+ series *Ted Lasso*¹⁶ has resonated globally as a cultural antidote to cynicism, championing optimism, emotional intelligence, and human connection. Meanwhile, Greta Gerwig's *Barbie*¹⁷ playfully reclaims joy and possibility, proving that even in a chaotic world, reinvention and imagination remain powerful forces. Across these works, the message is clear: despite our challenges, hope is not naïve – it is necessary.

The paradox of postnormal times is that everything is at the same time better and worse than ever before.¹⁸ Advancements in medical technology are pushing the boundaries of what is possible, leading to more effective treatments, extending lifespans, and even eradicating diseases once thought incurable. Efforts to combat climate change, if sustained and expanded, can lead to cleaner air and water, reducing pollution-related illnesses and improve the overall quality of life. Breakthroughs in technology and automation are not just disruptive forces; they also have the potential to increase efficiency, transform industries, and create new kinds of work, expanding opportunities and enhancing productivity. Access to education has never been greater – digital platforms and the internet democratize knowledge, offering people around the world the tools to build new skills and bridge gaps in learning. The increasing focus on mental health and social wellbeing has the power to reshape public health policies and community support systems, ensuring that wellbeing is not an afterthought but a central pillar of human progress.

Humanity does have the capacity to rise to the challenges we face today. It is not our potential that is in question, but our competency – our ability to think, adapt, and act with clarity and foresight. This requires breaking old habits, shedding outdated assumptions, and embracing new ways of knowing and being that are better suited to the realities of our time. Because one core tenant remains, the future is not something that happens to us – it is something we create, together.

To achieve this, argues the psychologist Vlad Glaveanu, requires a radical commitment to the idea that the world is not yet finished, but in a continuous process of becoming.¹⁹ He wants us to reflect deeply on the power of possibility: 'what currently is', 'what is not yet, but will be', 'what might be', and 'what can never be'. This means we should view possibility as the space between us and the world, as a relational space where action and interaction take place. Possibility can also move us beyond the future, to 'what might have been' in the past, and what exists 'as if' in the present. This is to invite new perspectives into the 'what is' so that it may be transformed. This is to live life with one foot in the actual and the other in the possible.

However, before we can approach the possible, we need a base, a foundation for our thinking to help us make sense of what just happened, what is going on, and what might happen next. We need a theory that describes and explains our epoch and has some sort of predictive element to it. Because when we ask, 'what just happened?', what we should be asking is 'what can I learn from what just happened so I can make more informed choices about the future?' And, within that, sits a series of reflective questions like, 'why are we allowing these things to happen?', 'how do I make sense of what is happening around me?', 'who is to blame?', and most poignantly, 'what could happen next?' In this sense, 'what just happened' is actually a question about the future. It is a question grounded by a motivation to better anticipate what is coming next, and a yearning to create a different future from that which we have previously experienced. This is to use the future as a guiding principle for action.

It is the power of imagination that will allow us to envision new perspectives and create bold visions for the future. And it is our creativity that will generate the novel ideas, products, and solutions needed to move us forward. With a more creative and imaginative

approach to the future, our capacity will finally align with the competency required to navigate the challenges of postnormal times.

So, what are we to make of the zombie that we're hugging in the kitchen; the unknown haunting that we are challenged to comprehend. What are we to make of this perpetual sense of crisis – real or perceived.



The Unknown Haunting

The psychologist John Vervaeke says that we are in the midst of a meaning crisis – a symptom of Western culture's struggle to make sense of the collapse of modernity's worldviews.²⁰ As a result, he contends, we lack the cognitive and existential resources needed to respond to emergent challenges. Taking an aesthetic reading of Western culture, Vervaeke reflects on the pervasive sense of alienation, disconnection, and disenchantment that defines contemporary society – a society that, in the absence of a unifying spiritual mythology, finds itself unmoored, with no

compelling narrative to drive collective action. It is one thing, says Vervaeke et al,

for a culture to run its course and give rise to the next stage in its development, or even to be conquered by another culture – a death and rebirth, if you will. It is another for it to trip over itself and expedite its own demise – a waking death the ‘walking dead’ epitomized.

Culture, the sociologist John Clammer reminds us, is premised on constellations of values, assumptions, and drivers that are constantly in flux. Modern culture is predicated on the notion of progress. As Zygmunt Bauman, the British Polish sociologist and philosopher, has so eloquently put it, ‘the movement called “progress” was more an effort to run away from failed utopias than an effort to catch up with utopias not yet experienced; a runaway from the “not as good as expected”, rather than a run from the “good” to the “better”; an effort spurred by past frustrations rather than by future bliss’.²¹

This relentless pursuit of progress has not only shaped our ambitions but has fundamentally restructured our relationship with knowledge and the unknown. To sustain the illusion of forward momentum, we have embraced a bold – if audacious – belief that the unknown is not truly unknowable; it is merely the not yet discovered. Every unanswered question is framed not as an invitation to rethink our assumptions, but as a temporary gap awaiting inevitable resolution. While this is a crude summation of science’s motives, it reflects a deeper cultural impulse: the drive to simplify complexity, to impose order on uncertainty, and, ultimately, to assert mastery over the world.

Alongside this, we have become fixated on the idea that issues of question must be synthesised and made concise for broader consumption and understanding. In the pursuit of answers, commentary shifts entirely to the means: Who will discover it first?

At what cost? By when? To what ends? What is a proportionate response? We ask more questions — not to interrogate the question itself, but to accelerate the arrival of an answer we assume must exist.

As a result, rather than using our imagination to rethink our assumptions and envision new futures, we channel it into constructing endless pathways toward a predetermined vision of progress — one that resembles less Glaveanu's exploration of possibilities and more a reinforcement of our existing expectations. In this way, Bauman's notion of progress is Trojan Hosed into the very process of imagining itself, smuggling in assumptions that limit what we believe is possible. The future becomes not an open horizon but a story we tell ourselves — a fixed destination shaped by inherited beliefs rather than a space for radical reimagination. That is to say that our fixation on reductionism has shaped not only how we engage with knowledge but also how we define the limits of what is possible.

Because of this, we have behaved as though truth is singular. We have assumed there exists a monopoly on what is right and wrong. Yet, as postmodernism taught us, truth is not merely a matter of objective fact but of perception — shaped by those who hold the greatest influence over how reality is framed, interpreted, and disseminated. The power to define truth does not lie in discovery alone but in the ability to construct narratives that dictate what is seen as valid, legitimate, or inevitable. In this way, truth becomes less about absolutes and more about authority — about who is able to shape the dominant perception of reality itself.

So, whilst modernity postulated a single objective truth, postmodernity exposed truth as a construct shaped by perception and power. Now, in postnormal times, truth is no longer merely contested — it is fragmented, unstable, and fluid, shifting across

multiple, often contradictory, realities. And fast! As competing narratives vie for dominance, the ability to navigate uncertainty becomes more critical than the pursuit of absolute answers. In this era, truth is not something to be discovered or deconstructed, but something to be actively negotiated, reimagined, and reconfigured in response to the complexities of our time.

What this means is that, despite the collective yearning for it, there are no straightforward answers to address the complex questions of our world. And whilst objective truths may be knowable, how they are arrived at, understood, and democratised continues to be a matter of perception and power. This becomes even more problematic when juxtaposed against an epoch that demands we accept a fundamental shift in our relationship with knowledge and time. We now inhabit a world where many of today's most pressing questions may not yield answers within our lifetime—where clarity, resolution, and meaning may only emerge generations from now, once the full impact of our present actions is truly experienced. This challenges not only our patience but also our very conception of progress, forcing us to grapple with the unsettling reality that some consequences will remain unknowable until long after they have been set in motion (the mercury in the batteries that lie in landfills across the globe may contaminate the soil for as long as 250,000 years – perhaps longer).

Yet, it is not only that we are suspended between the old ways of knowing, and new ways yet to emerge, but we are stuck to imagine our way out of the cultural cavern of crisis we have found ourselves in. This is Vervaeke's 'meaning crisis' the collective conditioned response of anxiety, alienation, disconnection, and disenfranchisement in the face of the emergent challenges owed to significant societal change. This is a loss of normative agency; emblematic of the estrangement of individuals from one another, and the infertility of their ecology with the world.

What is required is a fundamental shift in our relationship with knowledge — one that values patience, humility, and the ability to act despite uncertainty. Yet, in a world obsessed with immediate answers and linear solutions, our impetus for creative thinking — our imagination — becomes gridlocked. Without imagination, we risk being consumed by a sense of dread, trapped in a reality where only what is known feels possible. Our thought processes default to a hyperliteral, hyperlinear mode of thinking, reducing complexity to rigid, formulaic responses that fail to grasp the fluidity of our times. Imagination is needed. It is not a luxury; it is a necessity. Without it, we have no hope of navigating the upheavals of today or overcoming the meaning crisis that threatens to overwhelm us. Imagination allows us to move beyond what we have already experienced — to step outside the confines of the present and conceive of new possibilities. It is only through imagination that we can transcend inherited assumptions and create a future that is not merely an extension of the past, but something genuinely new.

But to unlock our imagination, we need a theory for the present way of knowing the future — a framework that allows us to think beyond inherited assumptions, resist the gravitational pull of outdated paradigms, and embrace the uncertainty of what is yet to come. Such a theory must account for the complexities, contradictions, and rapid transformations defining our time, providing not rigid predictions, but a way of sensing, interpreting, and engaging with emergent realities. It must recognise that the future is not a fixed destination but an unfolding terrain, shaped by our collective choices, struggles, and aspirations. Without this, we remain trapped in the past, mistaking momentum for progress and repetition for innovation. A theory of the present future is not just about forecasting change — it is about cultivating the capacity to imagine, adapt, and create within it.

A Theory for the Present Future

I met Ziauddin Sardar, originator of the postnormal times theory, at an inflection point in my life. Although at the time I did not know it. For nearly a decade, my work had been entwined with communities, organisations, and governments grappling with the weight of transformation. Change — unpredictable, relentless — was the constant. My days were spent advising, designing, and facilitating support for those in motion: asylum seekers passing through unfamiliar lands, refugees seeking permanence in places that were never meant to be home.

It was easy to become fixated on it all — the way history had been shaped or had shaped us. The world wars that redrew borders, the conflicts that followed in their wake, the role of the West in both creating displacement and deciding who would be welcomed, who would be left outside. I believed, then, that justice was possible, that systems could be reoriented, that envisioning a collective future that was more equitable and sustainable could be enough to alter the course of entrenched histories. The conviction of youth is fortifying, its hubris, even more so.

This was a landscape steeped in uncertainty, shaped by the fragile hope that the future might break free from its past. The question that underpinned it all — how can we work together to create positive futures for those who need them most? — was always present but rarely answered with unguarded optimism. Injustice, misinformation, and systemic violence structured this world at every level. To speak of positive futures in such a space was to court both necessity and impossibility.

Through this work — across borders, in spaces of flux — I became increasingly drawn to how anticipation and uncertainty manifested uniquely in people. Some carried it like a quiet weight; others wielded

it as defiance. In this terrain, caught between expectation and disillusionment, I turned to Sardar's thinking. Not for its answers, but for the way it named the condition I had been witnessing all along.

By virtue or by vice, I found myself leading a project in Papua New Guinea to resettle asylum seekers indefinitely detained in an Australian Government-funded detention centre on Manus Island. I stood at the centre of a web of actors: asylum seekers, Papua New Guinea Department of Immigration officials, and Australian Government representatives; the United Nations Human Rights Commission, politicians, and advocacy groups; service providers, industry leaders, community members, and journalists.

Each actor told their own stories about how they had come to be in this most obscure and obscene of settings: government official; security guard; support service officer; asylum seeker fleeing persecution and war for a better life. Each told a story that in some way attempted to rationalise, or make sense of, their role in this space: the maintenance of sovereign law; the delivery of government policy; the sustenance of bilateral partnerships; the provision of humanitarian care; an applicant under the United Nations Human Rights Convention; a plea for mercy. And indeed, each person was a multitude; no one story belongs solely to oneself, for there are always stories of those who have no voice yet have been impacted by the contextual forces of change. For example, the environment – a small Pacific Island, suddenly swollen in human population, with all their desires (exotic plastic-wrapped foods, air-conditioning, television, and internet) shocks an ecosystem in profound and immeasurable ways.

Anticipation and uncertainty abounded. In a space engineered for indefinite detention, anticipation took on new forms. Uncertainty intensified, and hope faded, as long-term plans blurred into the immediate concerns of daily survival: When will I next be rostered?

Where will my next meal come from? Who is looking after the family I was forced to leave behind? Similarly, under duress, the imagination was both stifled and overstimulated: Why does Jeanette always get the best shifts? Why do they never serve the food I like? Is my partner cheating on me? Is my family even alive?

This is a space where the emotional weight of the future is acutely felt, where anticipation can quickly turn into anxiety, or worse, apathy. And the desperate need for certainty in the face of uncertainty provokes actions that might otherwise seem incongruous.

I became more and more curious about the ways in which anticipation and uncertainty manifested in the people around me, a curiosity that drew me toward futures studies. And although futures studies is brimming with methods, tools, and concepts, for imaging plausible, probable, possible, and preferred futures²², I was left wanting. How are we supposed to vision a future when it feels like the present is changing beneath our feet, so rapidly, so consistently, and so drastically? And even if we can create a vision for the future, how do we know that our vision of the future isn't at odds with someone else's vision of the future? How do we know there is a future for us to imagine at all?

My conversations with Sardar – often extensive, running way past midnight – on postnormal times (PNT) theory forced me to rethink my ideas on change and futures. PNT theory offered something different, in a way that resonated with me personally and professionally. It is a theory that makes sense of our period in history by providing a conceptual framework by which we may understand the change we are experiencing. It recognises that uncertainty and anticipation are not experienced uniformly; they manifest differently in different people, shaped by their histories, positions, and perspectives, and articulates that collective phenomena can help us to both anticipate and navigate grand societal change.

This framework deliberately avoids apocalyptic tones, affording us perspective, and focusing our energies on the agency we possess to consciously shape the future in a way that is more pluralistic. Its firm theoretical foundations may be found across a diversity of work on postnormal science, complex systems theory, postcolonial, and critical scholarship over the past few decades. This work provides a nuanced and sophisticated approach to the future.

Thinking about the future through the lens of postnormal times theory moves us beyond binary logic, opening up more refined and worldly ways of thinking and analysing our current problems. In these postnormal times, the theory helps bridge the gap between abstract thought and practical application, enabling us to develop systems, policies, and processes to navigate uncertainty and work toward just and sustainable futures.

What captivated me most about postnormal times theory was its aesthetic — it carries a poetic elegance. Words like complexity, chaos, and contradictions resonate immediately. Speed, scope, scale, and simultaneity are not just descriptors; they are lived experiences. Meanwhile, uncertainty and ignorance aptly capture the prevailing cultural mood.

This is more than just the theory's vocabulary; it is language as poetic as it is pragmatic. Like a poem or song, postnormal times theory unfolds across scales — globally, shaping entire societies; locally, animating cities and communities; and individually, defining how people experience change.

For all these reasons, I was drawn to postnormal times theory, compelled to explore the rich and evolving tapestry of its ideas. Herein lies the fundamental power of postnormal times theory—its decree for agency. In a world characterised by accelerating complexity, uncertainty, and contradiction, postnormal times

theory does not prescribe a single path forward; rather, it demands that we actively engage with change, embrace plurality, and take responsibility for shaping the futures we desire. It reminds us that while the future is uncertain, it is not predetermined – we have the capacity, and indeed the obligation, to imagine its trajectory.

An introductory book aims to acquaint you with a new area of study – this book is designed to do just that. It will help you grasp concepts and theories that may be new to you but will continue to evolve as we deepen our understanding of the profound transformations humanity is currently experiencing. What you and I require are new modes of thinking and new ways of doing – tools that enable us to navigate this period of change. This demands imagination, creativity, and an acute awareness of the complex interdependencies, and networks in which we exist. For all the reasons I have mentioned – and for many more that we will explore throughout this book – postnormal times theory provides a vital framework for making sense of change, equipping us to navigate it with greater clarity and purpose.

A Romantic Comedy with Zombies

Let's go back to *Shaun of the Dead* for a moment. It is so much more than a typical zombie apocalypse film. You see, although the film follows our hero Shaun, and his hapless best friend and sidekick Ed as they fight to survive and save their loved ones from the zombie apocalypse, it is also the story of how Shaun is stuck in a rut and trying to find direction in his life after he is dumped by his girlfriend. Despite continued requests and clear instructions about the ways Liz, Shaun's girlfriend, wants him to change, Shaun's lazy demeanour and impotence for change always leaves him fumbling and Liz unsatisfied. The zombie apocalypse offers Shaun an existential crisis to mirror his internal crisis – he is going to have to do something very different if he wants to survive.

One of my favourite scenes from the film comes when Shaun, now realising that he is indeed in the middle of a zombie apocalypse, describes his plan for how he is going to keep himself and his friends safe, the culmination of which is 'go over to Liz's place, haul up, have a cup of tea and wait for all this to blow over.' Essentially do nothing. When Ed challenges Shaun on this plan (he doesn't like the idea of having to spend an extended period at Liz's place), Shaun proposes an alternative plan, they'll go and collect Liz 'bring her back here, have a cup of tea and wait for all of this to blow over.' A similar plan, with a minor change. No, both Ed and Shaun agree, that won't work either. They need to do something different. Shaun tries again, laying out his plan, however this time, the crescendo 'go to the Winchester [the pub], have a nice cold pint, and wait for all this to blow over.' It looks different, but it's essentially the same plan as the previous two. Ed likes it! And agrees. He'll be in his favourite place with a nice cold beer, how could he refuse? The two head off to execute the plan.

This is a quaint and poignant analogy of a fundamental characteristic we observe in postnormal times. This movie isn't really about zombies at all. (The *Shaun of the Dead* movie posters famously described it as 'a romantic comedy with zombies'.) Just like postnormal times isn't really about crisis – that's only what's on the movie posters! Crisis is simply a symptom of the accelerating change, complexity, and chaos that characterises our time. Crisis is a symptom of the many ruptures that are occurring across the fabric of our society. Ruptures are moments where our accepted norms are distinctly broken away from. This is about knowledge – how we know the world. Ruptures expose us to fundamental inconsistencies with the way we have thought about things and require us to unlearn and relearn the world. The more ruptures appear, the more intense their frequency, the greater their impact on how far we shift from our previously held notion of normal, the greater the sense of crisis.

You see, our hero Shaun has been pining for his ex-girlfriend, frustrated at himself for not listening to her sooner and changing his ways. More than that, he has also been ignoring the zombie apocalypse that has been slowly transpiring around him – literally. Now, plainly confronted with both these realities, Shaun does the same thing he has always done – go to the pub with his best friend, have a cold beer, ignore his problems, and hope it all goes away. Of course, the joke here is that Shaun is himself a zombie. Or at least he acts like one. In which case, perhaps it is the things he does, the way he thinks about the world, that makes him act like a zombie. Which, said another way, means that the ways he knows the world is infecting him to the point where he is becoming a zombie. He is trapped between what he could become – the person that Liz wants him to become – and the person he is – the loveable lay-about that his best friend Ed wants him to stay. This way of viewing the world has always worked for Ed, and it has worked for Shaun, until now. So why change? Shaun is stuck. But he has a decision to make. If he has any hope of surviving the zombie apocalypse and winning back the affections of Liz, he must change. If he doesn't, well, it will mean the inevitable demise of everything he has known and loved.

Vervaeke finds the zombie metaphor particularly fitting for our times. As he argues, we are surrounded by strangers, alone in our intent, moving with determined purpose in a world that fundamentally lacks it. In other words, the radical negative theologies of modernity and postmodernism have infused the contemporary epoch with profound uncertainty. The media theorist and writer Douglas Rushkoff²³ points to the instantaneous and omnipresent forces of social media that are enabled through ever-expanding digital technologies, claiming that what we are experiencing is a narrative collapse – a disruption of traditional, linear storytelling, replaced by fragmented, real-time information flows that challenge our ability to make sense of the world in a cohesive way. As such, we no longer share a uniform worldview

that guarantees divinity or prescribed standards of behaviour. What we need is the ability to step back, assess the terrain, ask the questions that need to be asked — in the manner they must be asked — and imagine new ways of thinking about and being in the world. Because the space between knowledge and problem is where learning is truly fostered. But to build new ways of knowing the world, we need perspective. In this sense, the unsettling presence we feel is not the ghost of normal haunting us — it is the realisation that we lack the capacity to meaningfully engage with the unknown. Long held worldviews — our normal bastions of wisdom — are now regarded with pessimism and contempt. Or, in many ways, they simply fail to compete with the instantaneous, hyper-coloured, algorithmically driven media streaming through our phones.

We're like Shaun - suspended between the 'no longer' and the 'not quite yet'. And things feel very uncertain. Like Shaun, we dig in, and do the same things we've always done to get by. And like Shaun, we're nostalgic, desperate for things to go back to the way they were before; we just want 'all this to blow over'. So why then do we keep thinking the same ways, and doing the same things, despite knowing better, hoping for a different result. Look at global warming, war, the criminalisation of drug addiction, capitalism, the ways in which the world has (or has not) changed in the shadow of a global pandemic. Or our continued faith in democracy, justice, science, reason, oppressive customs, ossified traditions, and obscurantist religious thought as vehicles to give our lives meaning and direction. There is a saying, roughly summarised from the famous theoretical physicist Albert Einstein quote: the definition of foolishness is to do the same thing over and over again, expecting a different result.

Are we that fool? Shaun certainly is.

A Vanishing Sense of Normal

A great deal of this has to do with what we constitute as being normal. If we understand how we have created normality, we can understand how ruptures are occurring, crisis is experienced, and how we can go about navigating the change to come.

Let us explore this through four key areas: time, knowledge, technology, and self.



Graffiti found in Hong Kong in 2019: *'We can't return to the normal, because the normal that we had was precisely the problem.'*

+ Times

Time for us is as straight as an arrow, as neat as an ice cube. The English polymath, Sir Isaac Newton said so. He proposed, in the 1600s, that time and space are absolute – that time ultimately exists independent of us, and universally progresses at a consistent pace. And although undetectable, he said, time can be measured and understood through the use of mathematics.

This theory built on the work of the famed Italian astronomer Galileo Galilei and became the corner stone of Enlightenment thinking, a period dominated by European thinkers. They set about exploring the ways in which humans may understand the universe around them, with resolve to understand and improve the human condition. It was not until 1905, when Albert Einstein devised the *Theory of Relativity*, that more sophisticated understandings of the way the universe functions were introduced.

Regardless, Newtonian absolute time had ploughed fertile terrain for modern culture. And with consistent linear time, we had a metronome for the rhythm of our progress. We industrialised and urbanised, capitalised, and Westernised. And of course, we colonised, and firmed up the idea of nation – states and an absolute faith in the moral and ethical resolve of political and social systems. The locomotive and Henry Ford, telephone and Alexander Graham Bell, the fax machine and the internet of things, all helped to govern and control time, and to control time was to travel through time and space. Modern life was to turn our backs on seasonal time, the rise and fall of the moon, and gaze down at our wrist watches with resolve to drive efficiency and productivity.



Modern systems were set up on these very foundations: world markets, governance, communications, education, cities – all open and complex systems thatched against the premise that the past, present, and future are fixed entities on a linear spectrum. Time became a commodity, and our lives became partitioned into neat little segments for either making time or spending time – work time/leisure time. ‘Time is everything,’ Karl Marx once said, ‘man is nothing, he is at most time’s carcass’.²⁴

Zygmunt Bauman dedicated a great deal of his career to exploring the ways in which our perceptions of time have left us feeling in a permanent sense of crisis. He described ours as a liquid society, where our idea of progress has turned into ‘a sort of endless and uninterrupted game of musical chairs in which a moment of inattention results in irreversible defeat and irrevocable exclusion’.²⁵ Bauman argued that the liquid society is one that never takes a moment to slow down, and as such is incapable (or unwilling) to think about where we might be going. Our liquid society is characterised as the society that changes for the sake of change.²⁶ In a liquid world, Bauman concludes, the only lasting value seems to be change itself. So, with firm control of time, and masterful grasp on change, the future, as we see it, is created as a product of bold human creative design and delivered through our hard work and innovation.

The future then, on the Newtonian time scale of past, present, future, is always a fixed point on the horizon, something for us to progress toward, something that we are yet to attain. And culturally, it is both the principle for action and the dynamic space for the realisation of our full potential. Or, put another way, human progress is synonymous with how we approach the future. We plan, but we never quite arrive at it. But that is ok. It is outside us, beyond us, interpreted and understood through our visions and declarations of intent of what could be done and will be done in the future. The modern future is a thing that is rationalised into existence; the

secular bastion of hope that remains afar; an indicator by which we will progress, rather than the proverbial burning platform for action in the present.

The American futurist Jim Dator takes a quintessentially modern view of the future – seeing it as humankind’s ‘last frontier’, at risk of colonisation lest action is taken.²⁷ His argument is that the future is a contested space, where multiple agendas, from multiple different actors compete for dominance. ‘History is written by the victors’, so goes the phrase. Dator does not want us to forget that those who hold power in the present, are probably more interested in writing the story of the future too. Futurists, like Dator, will also tell us that there are multiple futures. Your future is different to my future, and our futures are different to the future of those people over there. Each of us are progressing toward futures of our very own. Time then, as we have nurtured it in the modern world, is not only our objective measure of the future as it sits on the linear time scale but is also a barometer for how we should feel about how we are progressing toward our futures.

Well, these were convenient assumptions when the world seemed normal. What we are discovering in postnormal times is that absolute Newtonian time is inadequate. And not just in physics laboratories, or for space engineering firms around the world. But through the devices we carry in our hands, every day, everywhere we go. Never before in human history has one person been able to communicate with billions with readily available apparatus, like we do today. This takes our modern notions of time, neat as an ice cube, and melts it down to a liquid form.

In postnormal times, the hyper-interconnectedness of a globalised world means that the slightest incidence in any geographical corner of the globe has the possibility of triggering a tectonic social, political, economic, and environmental shift. The sheer speed of change is

met by the simultaneity of occurrences – change happens so fast that any event and its impacts overlap with one another in a way that make it almost impossible to address in isolation because there are so many different priorities, perspectives, and issues at stake. Thomas Friedman, American conservative commentator and writer, agrees, arguing that everything is changing so fast that we simply do not have the time to think or adjust to the change that is occurring, let alone where each change will take us.²⁸ Moreover, with hyper-connectedness comes scale and scope, the individual, communal, societal, and environmental are so deeply interconnected with one another, we now need to reassess how we define the scope of each of these domains. This increasing complexity is powerfully linked to the manner with which we sense



time. Suddenly it feels as though time moves faster; decisions are more urgent; consequences more dire.

Take for example the case of Justine Sacco, who was the senior head of corporate communications at an American corporation. On 20 December 2013, when she was boarding a flight from London to Cape Town, she posted a tweet. Thinking that she was making a wry joke about white privilege to her, rather small, 170 followers on Twitter, Sacco wrote: 'Going to Africa. Hope I don't get aids. Just kidding. I'm white'.

However, the Twittersphere didn't take too kindly to Sacco's sense of humour, and by the time she had landed in Cape Town, only eleven hours later, she was trending worldwide. Eleven days later, she was Googled 1.22 million times. Shortly after she was fired. As time melts, so too does the way we experience change. And this is where the sense of crisis starts to creep in.

In a very similar way, albeit it from a very different perspective, Elon Musk hit send on an interesting tweet on 7 August 2018: 'Am considering taking Tesla private at \$420. Financing secured.' We're



not sure of his exact motivations, however within a minute the price of Tesla's stock shot up by \$8 a share and by the end of the day had climbed further to \$20 a unit. Stocks would ultimately tank ten days later as details emerged that there was no deal to be made for Tesla at all.²⁹ A lot of Tesla investors lost a lot of money. The tweet has resulted in a US Securities and Exchange Commission complaint against Musk and led him to step down as the company's chairman and require him to have Tesla lawyers approve any tweets about the company before he shares them.³⁰ 'Just because I tweet something does not mean people believe it or will act accordingly,' Musk told the jury in a San Francisco federal court³¹, ostensibly wolf whistling at the postnormal phenomenon where fabrications and facts may be seen as interchangeable.

The scale of impact a single decision can have, and the speed and simultaneity of change that occurs consequently, is not like we have ever experienced in human history before. The scope of what it means to be an individual, with such an immense capacity to influence so much change, means both the scope and scale of the impacts of the decisions we make needs to be addressed. Just as our construction of the idea of time – and anchored the concept of progress to it - is starting to demonstrate its inadequacy to deal with a postnormal world, we find that our notion of knowledge too is proving insufficient.

+ Knowledge

Like time, western knowledge is constructed in a linear fashion, giving us the tidy, dotted line from Plato to Descartes to modernity. What we would call 'normal' forms of knowledge creation have centred around the notion that knowledge is a continuation of this long-range succession. And like time, knowledge should be impartial and measurable. Reason and rationalism were paramount here, a strong focus on logical and scientific method, and while religious

freedom was celebrated, spirituality was quarantined to the church, and the moral and ethical imperatives of life were now as much the business of the political as they were that of the religious.

This sanitised and secular approach to method of knowledge creation saw institutions of education and government emerge, to not only oversee the active development of knowledge, but ensure that knowledge is translated into policy, by which collective progress and improvement was achieved. This is life according to reason, not the graces of the Divine. The rights of the individual are foregrounded here, as the power of government grew to surpass that of monarchies. Modern culture that would come, came with what we called grand narratives of modernity: faith in inevitable social, scientific, and technological progress; rationalisation and secularisation; the development of the nation-state; and representative democracy, to name a few of these narratives.

But because of the breakneck speed of things, and our inability to pause and be reflective, the elements we have considered normal in our society are fast losing their strength, as well as their authority, credibility, and trustworthiness. Institutions like governments, universities, hospitals, and police are called into question because they are unable to keep up with the change that is occurring; where they used to be our strongholds of certainty against an uncertain world, they are now unable to provide solutions to the problems we face. Or we just don't trust them anymore. And because we have created entire systems based on the assumption that these institutions will always be the purveyors of truth, when doubt undermines their strength, a void appears for who or what will create certainty in our world. While we have created institutions to be objective, apolitical, and impartial systems are not.

The future that is supposed to remain on the horizon – outside us, objective and impartial – to be designed and worked towards,

comes crashing into the present. The systems of knowledge we have created also exacerbate the problem. As a result, change is no longer about progress, change is the convalescence of complex problems that now need to be urgently addressed. This is where things start to go postnormal.

In postnormal times fabrications hold more weight than objective facts, solid evidence, or rational arguments. What we are experiencing is conspiracy without theory. This was evident with the Brexit vote in Britain and the US Presidential elections of 2016, as well as in the 6 January 2021 attacks on the US Capitol Building in response to Trump's false claims that the election had been stolen. Or Neom, Saudi Arabia's new bold eco-city of the future, funded by oil extracted from the very country on which it is being built. The cunning of our postnormal world is that the conjecture of crisis both heightens our awareness of the crisis while simultaneously confusing an appropriate course of action.

In an interview with the *Journal of Consumer Culture*, German sociologist Ulrich Beck reflected on how challenging it is to make sense of a society whose systems of coordination are changing so significantly, so consistently, and so rapidly. Beck believed that our desire for change indicated that we have become fixated on risk and as such have organised society for the purposes of risk mitigation and achieving certainty. Because of this we are carrying around a load of obsolete 'categories' that not only weight us down but hinder our ability to imagine new futures. By 'categories' Beck meant things like 'social class', the 'nation-state', 'war', 'peace', 'friend', 'foe', 'enemy', 'crime', and 'peace', just to name a few. Beck believed that 'zombie categories' are concepts that are dead but kept alive in the way they are used by modern institutions. These concepts infect our ways of thinking about the world as it is today, and stifle our ability to navigate postnormal change.

The former United States Secretary of Defence Donald Rumsfeld alluded to this, quite by accident, in his news briefing on 12

February 2002. When seeking to explain the lack of evidence linking the government of Iraq to the supply of weapons of mass destruction to terrorist groups, Rumsfeld referred to 'unknown unknowns' – the things we do not know we do not know; risks that come from situations that are so unexpected that they would never otherwise be considered. The unknown unknowns in this case turned out to be entirely fictitious weapons, based on conjecture rather than evidence, whose existence (or non-existence as the case may be) inspired the US invasion of Iraq. What Rumsfeld and the Bush administration had failed to consider was that the categories by which they organised society were demonstrating their ineffectiveness to navigate a rapidly changing world. In fact, the very categories that were designed to create certainty now cultivated uncertainty because they had become zombified.

Zombie categories create zombie knowledge which roam society infecting our ways of thinking and decision making. And the way we think about the future is not immune. My friend and colleague, Shamim Miah and I have been interested in the notion of zombie disciplines, disciplines that disseminate ideas and concepts that are no longer representative of reality but continue to shape minds and outlooks, education and policies, worldviews and futures. Zombie disciplines, we argue, create zombie people, who continue to make decisions that are informed by toxic knowledge, and these further exacerbate the impacts of postnormal change.

We have established culturally, thanks to Newton, that the future is an objective entity that exists outside of us. We have in turn created ways of knowing the future, ways of creating knowledge about the future, as though it is a thing, like any other thing in our world, to be studied. With this, theories about exploring, studying, and researching the future have been proposed and methods to achieve greater insight into the future have been developed. These vary in name: futures, foresight, perspectives, strategy, futures studies, anticipation, predictions, anticipation, and the problematic

futurology and futurism – however, all of them play within the parameters for how we approach the future culturally. Here, the goal is to provide, in line with Beck's notion of the 'Risk Society', us with certainty about where we are going, and a degree of confidence that we can weather the change that is to come.

What this means is that if the future is both the principle for action and the active space for the realisation of potentialities, obligation is suspended. Look at Rumsfeld's unknown unknowns. His focus was on the grave uncertainty, a characteristic of postnormal time. Yet his desire for certainty against uncertainty, a characteristic of modern culture, motivated him to make decisions in the present that would impact the future in foreseeable ways. However, those impacts are yet to be realised. Rumsfeld will deal with those when they arise when he arrives at them. For now, his decision in the present, by the parameters of modern culture is correct. Hence, obligation is suspended. In this case, time is on Rumsfeld's side. Bauman said that progress stands not for any quality of history, but for the self-confidence of the present. Rumsfeld exemplified this.

With modern culture, we have nurtured an unexplained cognitive dissonance between changing reality as experienced and change as imagined. Remember the mercury in the batteries that lie in landfills across the globe will last up to 250,000 years? Our way of conceptualising the future cannot compute this reality. So, we make decisions based on a self-confidence of the present, with the knowledge we can culturally compute, and suspend that obligation... by 250,000 years in some cases. The knowledge that we create reaffirms our already held cultural belief that the future is something that is going to happen rather than something that is happening right now.

Our inability to interrogate the issue of zombie categories, for example, has meant that the fallout from the West's invasion of Iraq has been more focused on the domestic politics of the United States and its influence over international affairs, rather than

what actually happened to Iraq and its people, and to focus the sinister shifts in how we now understand things like 'nation', 'war', 'soldier', 'crime', 'justice', 'freedom', and/or 'liberty'. In this context, the future, as we think about it, is actually an obstacle to eliciting action in the present, rather than a catalyst for momentum, as we have convinced ourselves it is. The consequence of this is that our attention is caught up in the more obvious implications of change – the crisis as it were – and we miss the more clandestine impacts – the reality – of the change that is occurring. One apparent example of our attention being grabbed by the superficial, rather than the profound, is the increasingly complex conversation we find ourselves having about identity and what it means to be a human.

+ Technology

Modern time was framed by technology. And modern technology was an enabler of the knowledge of our progress, a tool. Technology, for our modern culture, has enabled our evolution out of superstition and irrationality, to dominance and universal conquest. The hunter-gatherer became the agrarian, who became the industrialist, who became the capitalist. In postnormal times, the lines of where these tools begin and end blur. Amongst others, the philosopher Rosi Braidotti has argued that technologies mingle with our bodies with unprecedented degrees of intrusiveness. This intrusion has deep ethical and moral consequences. These technologies are now not simply sold to us as leisure or luxury items, but necessities of life – inseparable from daily life, embedded into the very fabric of our existence. More than just external tools, they shape our thoughts, behaviours, and even our sense of self. We do not simply use technology; we are shaped by it in ways barely recognisable to modernity's frame of reference.

This does not simply signal a crisis of how we categorise where a 'human' begins and ends, but has already instigated the most radical shift in how humans relate to our world since the Enlightenment.

Life can, for the first time in history, imagine itself immaterially socialised in virtual reality. And this is hard for us to think about. It is change we can feel but are yet able to properly rationalise. A fear emerges of what we're moving toward, and that fear leads us to a preoccupation with that which we think we can control, rather than deal with that which we perceive to be uncontrollable. What this means is that although we like change (as a culture we change for the sake of change remember – so we feel like we are progressing), we also like to downplay change, to normalise the impacts of change by comparing them to something familiar. Or, perhaps, our fear of abnormality means we are constantly seeking to recreate what normal is.

Consider the mobile phone as an example of this. These are closer to a high-powered piece of computing technology than a telephone. The 'smart phone' is the metaphor for a device that is our personalised computer, offering access to our bank accounts, our social networks, our information hub, camera, photo album, entertainment system, and so much more. With each iteration, as new technologies emerge, our perception of what is normal stretches incrementally to incorporate it as part of our culture. Thus, the mobile phone, with more power than we ever conceived possible, has become normalised. As such, it is now a necessity of modern life. This is where we see that cognitive disconnect between changing reality as experienced and change as imagined. Postnormal technologies – no longer simply a tool that enables the knowledge of progress – have become the enablers of a culture that wants us as the consumers to embrace change, but swiftly normalise new technologies, without critically analysing their impacts. The more swiftly we normalise, the more swiftly new technologies can be introduced to the market and sold to us. Here postnormal technologies are leveraging the speed of change, the ethos of human progress, and the zombie nature of knowledge, to colonise our futures.

What happens is that our attention is captured by the easy to access, easy to consume, easy to understand, and easy to digest. Through technology we loop ourselves into the 'project of life'. We strive for self-improvement, developing ourselves personally, professionally, sexually, and spiritually, while grappling with the anxieties and tropes of inadequacy amongst peers, for the betterment of ourselves and ultimately – we convince ourselves – humankind. Thus, our attention focuses on the things our technologies produce for us, rather than the deeper changes that lie beneath as a consequence of this engagement. Smart phones become a tool for accessing social media, our portal toward self-autonomy, and ultimately self-identity. Our most meaningful connection is no longer with the world but with ourselves.

+ Self

The dialectic between modernity and its influence on the way we perceive ourselves – our universe and our existence – has been a source of enquiry and inspiration for centuries. In *Julie*, Jean-Jacques Rousseau's protagonist Saint-Preux moves from the country to the city and is rapidly overcome by the experiences of metropolitan life. He writes to his love: 'with such a multitude of objects passing before my eyes, I'm getting dizzy. Of all the things that strike me, there is none that holds my heart, yet all of them together disturb my feelings, so that I forget what I am and who I belong to'. For Rousseau, who is widely considered to have used the word *modernise* in the way we now use it, life in the city – with its rational moral principles – was a heady and intoxicating turbulence that engulfed and overwhelmed his sensibilities. Indeed, as we learn in *Julie*, even as Saint Preux reaffirms his love for Julie, he fears that, in this new world, he does not know who (or what) he is going to love from one day to the next.

Saint-Preux's disorientation in the city reflects a distinctly modern anxiety – the struggle to reconcile personal identity with the forces

of progress, urbanisation, and rational moral order. Modernity, with its emphasis on individualism, reason, and structured societal roles, sought to define the self within a stable framework. Yet even in Rousseau's time, that framework was already slipping, challenged by the sheer velocity of change.

If modernity unsettled the self, postnormal times fracture it. In an era where uncertainty, complexity, and contradiction define our reality, identity is no longer merely destabilised — it is fluid, multiple, and increasingly difficult to anchor. The turbulence that once overwhelmed Saint-Preux in the city now manifests in digital culture, hyperconnectivity, and algorithmic mediation. In postnormal times, who we are is no longer a fixed question, but a negotiation in constant flux. This may be understood through four key traits.

One, how we live in the world is now intrinsically linked to a myriad of sophisticated objects. Satellites, submarine cables, antennas, poles, cables, nodes, routers, and modems are deployed by a convoy of commercial and service providers, government agencies, and marketeers who operate within complex, thatched economic, industrial, and regulatory systems. We — the user — via our computer and mobile device, may enter and explore an ever-increasing array of digital networks.

Two, through these connections, users themselves have evolved the ability to multitask, becoming cognitively enhanced sifters of universal information. Space is no longer binary: 'where I am' and 'where I am not'; 'physical' and 'virtual'; 'adjunct and parallel'. Rather, space is an infinity of data abstractions from the banks of every computer in the human system. The further we are detached from references to normal life, the more undefined things become and the more we function in the psychological state of the virtual. The complexity of the networks that link these spaces is unfathomable, and the movement between and within these spaces is outside the constructs of lineal time. Now, the inadequacy of Newtonian

absolute time is not just that the hyperconnectivity of networked spaces has accelerated traditional temporalities, rather, the abstraction of self across each of these spaces is so severe that time, as an experiential part of the human condition, has altered.

Three, the self-assertion of the individual now reigns supreme. Adeptness at perpetual and rapid multitasking has now become necessity for navigating the imbroglio of modern life. Decisions are made on the fly, with five-star reviews and online opinions garnering the richest influence over our choices. So too, the desire to record and share (as widely as possible) experiences and ideas is now customary practice. Through this, our plurality of selves, takes form, and is abstracted across multiple spaces. This fractures between what society has normally defined as a single physical body and a single awareness of self-moves us into a new realm of disembodied subjectivity. Indeed, while social networking may be a reason for participation in contemporary society, self-representation is the condition of participation. Through the creation of virtual selves, we compose something tangible, yet still simulated, and through this construction we build who we are and create who we want to be. The ubiquity of digital technologies and the ensuing hyperconnectivity are normalised so that our identities, individually and collectively, are intimately linked to our online accounts. We present images of who we are, or want to be, to online communities that, in turn, either confirm or deny these identities. In this realm, we can be whoever we want to be; abstracted from physical reality. Existence can, for the first time in history, imagine itself immaterially socialised in virtual reality. This is life in pastiche, where new identities are explored and tried on. As such, digital culture creates the subject who is partly possessed by, and yet distinct from, the technologies that facilitate entry into the virtual realm.

Four, we are the victims of our own entrapment. Software algorithms, implemented by the corporate owners of websites,

search engines and networking platforms, perpetually monitor our online behaviour. Algorithmic rankings determine who and what gains visibility online. They seek to understand what we do online so they can give us more of what we want quicker. They also sell that big data to other corporations who are eager to do the same. In this regard, we, the user, is consistently delivered information that not only reaffirms our already held beliefs and mollify our biases but is often information that is not curated or verified. Our access to new information and new realities narrows, rather than widens in the virtual realm. So instead of an infinite savannah ripe for exploration, the virtual realm has become an increasingly claustrophobic system of feedback loops that pander to our preconceived ideas and appetite for instant gratification.

Through an exploration of these four key areas – time, knowledge, technology, and self – it becomes clear that as the foundations of what we once considered normal erode, our understanding of the world ruptures. Yet, we have not yet caught up to this transformation. What this means is that human action – the actions we take – to respond to crises, is not only ineffective, but often exacerbates things. It is not that we do not know we need to change – we know we need to change. We just do not know how to change. And, in some cases, we do not want to. As a result, human responses to crises are not only ineffective but often aggravate the very problems they seek to solve. It is not that we are unaware of the need for change – we recognise it. The challenge is that we do not know how to change. And, in some cases, we resist change altogether. If we understand how normality has been constructed, we can better recognise the ruptures that destabilise it, the crises that emerge, and the pathways that might allow us to navigate the transitions ahead. This is to put uncertainty at the centre of our problem-solving ventures, rather than ignore it, and to embrace it as a necessary condition for adaptive thinking, creativity, and meaningful transformation.

**WE DON'T NEED NUKES.
WE HAVE THE INTERNET.**

Alice Minium, American writer



PART 02

POSTNORMAL TIMES **THEORY**



‘The temper of the times
derives its character
from the rearrangement,
reassessment, revitalisation
or renegotiation of established
values. Change is a question
of which values alter or adapt
or how values are contested.’

MERRYL WYN DAVIES

Background

In 2010, futurist, writer and cultural critics, Ziauddin Sardar published 'Welcome to Postnormal Times'. After editing *Futures*, the primary and most influential journal of futures studies, for thirteen years, he decided to step down from the editor's chair, marking a pivotal moment in his engagement with the field. The paper was intended as a summary of what he had learned from the careful review of hundreds of papers submitted, both accepted and rejected, to the journal. He called it 'a synthesis of ideas culled from the fabric of foresight and futures studies.'

One paper that stood out was the work of philosopher of science Jerry Ravetz and mathematician Silvio Funtowicz, who in the early 1990's undertook an interrogation of the scientific realm through the lens of mathematical risk. It had become universally understood, Ravetz and Funtowicz argued, that the human pursuit of discovery was no longer the primary objective of science. Rather, after centuries of achievements and the steady advancement of certainty in knowledge and control of risk, science had become a bastion to 'remedy the pathologies of the global industrial system of which it forms the basis'.

The Funtowicz and Ravetz piece, 'Science for the post-normal age', one of the most cited papers to be published in *Futures*, argued that the ultimate triumph of the science of the industrial world has been its ability to articulate and position its knowledge above and at the expense of all other ways of knowing. They went on to argue that this is not simply saturation of one kind of knowledge, but is more

like colonisation, whereby common-sense and lived experience have all but lost their claim to authority. They observed that scientists, a small and segmented group aligned with education, wealth, and class in Western culture, had become the possessors and purveyors of all practical wisdom. The pair believed that technology and medicine together had made nature predictable, and in part controllable, in a way that has enabled many people to enjoy a safer, more comfortable, and pleasant life. The opposing side of this achievement is that living life in this way is profoundly unsustainable, not merely in terms of equity, but for planetary survival.

'Science for the post-normal age' introduced 'post-normal science', a new concept to effectively approach contemporary problems, where the methods of traditional science have proved inappropriate. Post-normal science was to be framed as a problem-solving strategy in a globalised and hyper-interconnected world where 'facts are uncertain, values in dispute, stakes high and decisions urgent'. Whilst traditional science held a mandate to banish uncertainty, post-normal science advocated for new scientific methodologies that embrace and deal with uncertainty. This meant that scientific exploration may no longer be undertaken in a way in which time and place and process are irrelevant to explorations.

Funtowicz and Ravetz argued that by pointing out the variable nature of facts, and proactively introducing problem-solving strategies to address the uncertainties present in knowledge and the complexities that exist in ethics, a space is opened in which the limitations and weaknesses of both scientific and lay knowledge may be examined side by side, facilitating a dialogue that can be used to affect their reconciliation. Thus, post-normal science embodies the principle that uncertainty cannot be banished from science, and that good quality of information depends on good articulation and management of its uncertainties.

Post-normal science introduced the notion of 'extended peer communities' who are able to articulate and speak to 'extended facts.' Extended peer communities not only extend the traditional quality assurance role of conventional peer communities to all legitimate stakeholders by enabling their participation in related policy debates, but also 'positively enrich the processes of scientific investigation' by enabling the use of 'extended facts' such as local and anecdotal knowledge. The thrust of this, for Funtowicz and Ravetz, is to address what has now become the deeply complex relationship between policy and science: the communication of uncertainty, the assessment of quality, and the practise and legitimacy of the extended peer communities. Without remedy, they argued, science will never be able to meet the new challenges of global environmental problems.

As the editor of *Futures*, Sardar promoted the exploration of postnormal science. Indeed, *Futures* had pioneered postnormal science; and many groundbreaking papers in the field, including those of Funtowicz and Ravetz, first appeared in that journal. Sardar saw that while Funtowicz and Ravetz were specifically addressing science they were in fact developing a language to describe a shift that had been occurring across disciplines and canons for some time – an acknowledgment that the reductionist view of science was becoming increasingly insufficient in understanding and interpreting the world around us. This multifaceted analysis spoke to Sardar who, as a futurist, was concerned with the centrality of power, and how the field of science had been colonised by modernist-Western classifications of knowledge.

Most significantly 'Science for the post-normal age' signalled the entrance of the term 'postnormal' to the academic world and provided futures thinkers with a language to understand and research, not just change that was happening in the present, but the way that change itself was changing.

Postnormal Times

Welcome to Post-normal Times both expanded the foundational work of Funtowicz and Ravetz and synthesized decades of work Sardar had been doing in the fields of futures studies, postcolonialism, epistemology, and the cultural critiques of science and modernity. Taking a broad and sophisticated view of the current epoch, it explicitly defined and detailed the changing nature of change — how this accelerating phenomenon is reshaping the contemporary human condition, and argued that we are now experiencing change that is not only rapid but also global and local, often unfolding instantaneously. In an interdependent, networked world, Sardar theorised that complexity had become the new norm, generating contradictions at every level—contradictions that, when compounded, frequently give rise to chaos.

Whilst today's epoch has been offered many a moniker — post-industrial, postmodern, liquid modernity, post progress, post-truth, the new dark age, surveillance capitalism — postnormal times are deliberately defined as an in-between period, where old ways of knowing and being, old traditions and orthodoxies, are dying and new ones are yet to form. In this sense, postnormal times offer more than just another descriptor; it provides a conceptual framework for interpreting and understanding the present, a lexicon for contextualising and articulating the current human condition, and practical methods and tools for navigating the profound changes unfolding in this transitional era.

In doing so, Sardar juxtaposes postnormal times against normal times — normal being what is frequently encountered: the dominant way of being, doing, and knowing. It is conventionally seen as the standard, dictated by tradition and upheld by disciplinary structures, scholarship, and institutions that give it legitimacy. Normality allows for prediction and control. In normal times, there was a general

acceptance that the existing distribution of power and hierarchy of interests could be maintained indefinitely. Progress, we believed, was assured. A deeply embedded mythology reinforced the dominant cultural understanding of society, science, and economy. Seemingly stable systems upheld a normalised worldview: that vested interests and power holders ultimately serve the common good and will act in the best interests of the collective.

This belief was sustained by institutions – intellectual, academic, political, social, and cultural. Heroic disciplines like science, economics, and sociology were translated into laws and promoted as the foundation of good governance. Prudence and probity, we were told, governed the economy and political affairs, and because of this, we were meant to feel confident in the present and hopeful for the future. We are supposed to hold firm to the belief that the institutions of society – politics and governance, science and economy, financial organisations and social relations, health, and welfare – will generate solutions for the greater good.



But as Sardar outlines, normal times have never been without turbulence. The process of modernising has always been marked by significant and ongoing change. However, the powerful mythology of modernity assures us that by adhering to its core tools — secularism, rationalism, democracy, capitalism — any challenge can be managed, and humanity will continue to advance.

Normality dictates that problems can be addressed in an ordered, episodic progression, where both knock-on effects and unforeseen consequences can be handled rationally and with reason. In normal times, uncertainties are discrete and manageable. Postnormal times, however, fundamentally expose the fragility of what we have long considered normal. The norms that once provided stability and predictability now reveal themselves as precarious, contingent, and often exclusionary, dismissing dissent as nonconformity and marginalising the Other.

Yet all of this hinges on a shared understanding of time. The success of modernity — and its promise of perpetual progress — rests on the foundation of human-made, linear time. Modernity constructed and preserved Newtonian time, transforming it into something measurable, predictable, and ultimately controllable. If humans could control time, they could control the universe. The modern project, at its core, has been about gaining certainty and maintaining control, all under the guise of human progress. This belief in time as a resource afforded modernity a sense of confidence: while change was inevitable, problems were not immediate. There was always time to solve them.

But in postnormal times, uncertainty takes center stage. Everything is interconnected, complex, chaotic, and accelerating. Nothing can be described with certainty. The expanding web of crises, unfolding at unprecedented speed and scale, disrupts our ability to relate the present to the past. Even when history offers examples of systemic

failures, their lessons are no longer easily applicable. The very conditions that defined problem-solving in modernity — stability, predictability, and progression—no longer hold.

Postnormal times reveal a sobering reality: it is not just crises that have intensified, but the very institutions and systems designed to manage them have become the problem. Moreover, the illusion of time as an available resource has collapsed. Problems now demand immediate and urgent attention, yet any attempt to resolve them only entangles them further, multiplying rapidly and dangerously.

What we once took for granted — the stability of our institutions, the reliability of our systems — has evaporated. The figures and structures in which we placed our confidence — scientists, economists, accountants, bankers, politicians, governments, markets, financial institutions, pharmaceutical companies, technology giants — stand exposed. The emperors have no clothes.

It is not that we ever believed our institutions were perfect. Rather, we are coming to terms with the unsettling realization that their foundations are perilously fragile, incapable of addressing the deep-rooted flaws of our world order. And worse, they may be accelerating the trajectory toward collapse rather than preventing it.

Sardar and other proponents of postnormal times point at an increasing litany of events that share the characteristic of being 'not normal'. Environmentally extreme weather events and the effects of climate change continue to stimulate a discourse of division, despair, and desperation as well-entrenched worldviews (and lifestyles) shift at a glacial pace, if at all. The impact of human activities which are now changing the ecology and geology of the planet, leading to the emergence of the Anthropocene, a distinct geological age. The emergence of bioengineering which is redefining

what it means to be human. The arrival of post-truth which for the first time dethroned what we considered to be truth since the time of ancient Greece. In governments globally, we have witnessed a flurry of dynamic shifts, concurrently, the Arab Spring, BREXIT, the Russian annexure of Crimea turned full on invasion of Ukraine, and the shift from the United States as the unipolar global superpower. Curiously, the global financial market continues to dominate us, unchanged, despite the Great Financial Crisis of 2008 exposing all the flaws of neoliberalism. All of this as we experience profound shifts in the way we construct and experience our world owed to digital technologies, the internet, and social media.

These occurrences are not normal, but they are not exactly abnormal either. As futurist Jordi Serra del Pino argues, postnormal 'connects two pertinent notions: it indicates that what we are experiencing is not normal or, at least what we expect as normal... but the term also signifies that what we are experiencing is not exactly abnormal. Rather, what is happening is that we are transcending the usual meaning of normalcy and entering an uncharted territory, the domain of the "postnormal"'. As such, postnormal times is not the birth of a new period in human history – it is a period of transformation: where old ways of knowing are eroding, and new ways of knowing are yet to emerge. This transformation means that change is not simply happening on the surface, but at the level of the basic tenets of our worldview.

Our experience in postnormal times is very different to that which has come before. It is now widely accepted that the experience of humanity is one of accelerating transformation. The old conventions – the normal – by which we have existed in decades gone by are becoming increasingly mistrusted and irrelevant. And while globalisation, urbanisation, genomics, and climate change have expedited this transformation, it is the fledgling nature of digital culture that is incendiary to the change of our epoch.

Today, thanks to digital culture, our fundamental understandings of reality are being challenged and expanded. In the era of 'fake news' the erosion of trust in traditional forms of knowledge making is normalised; exacerbated as both fake and legitimate news stories are shared through social media networks. These platforms, whose business models hinge on driving high volumes of traffic and social engagement, propagate and promote content that is likely to go viral over content that is factually accurate. And this content is underpinned by big data, the 'dynamic, instantaneous, global and complex' field that captures both conventional varieties of data, 'facts, signals, symbols' as well as 'behaviours, emotions, actions, and attitudes'. As a result, Sardar asserts, big data 'incorporates the essence of individuals, groups, and communities'.

It feels as though our quest to modernise has resulted in stark and faceless institutionalisations, depriving bureaucracies of their social function. This ultimately alienates and disempowers those they are supposed to serve. Capitalism and the neoliberal agenda have failed to deliver on the fore-promised trickle-down effects of a free market, with the gap between the rich and poor now reaching obscene levels.

It appears the entire global system is geared to disproportionately rewarding the few at the expense of the majority. The selfish self-interests of power and the powerful are revealed as the only mechanism that works and the reality on which everyone is dependent. Control and management are exposed as grand illusions. All overarching explanations, the mythology that bound and made society viable, become toxic, the bearers of pathogens that infect society with distrust and lack of confidence. In postnormal times we know we have abilities but not the systemic, ethical, and organisational capacity to translate our abilities into providing sustainable solutions to our endemic, interrelated, and

proliferating problems. Because of this, in postnormal times, facts are uncertain, values are in dispute, stakes are high, and decisions are urgent.

As such, communities have a distrust for traditions and institutions and little confidence in the leadership of politicians and governments. The conventions by which we have lived over the past decades are increasingly becoming irrelevant. To navigate our way out of postnormal existence, Sardar contends, we must learn how to negotiate and how to translate aspiration into transformation. It is incumbent on us to organise, listen, and sensibly engage everyone in a discourse of doing for mutual benefit.

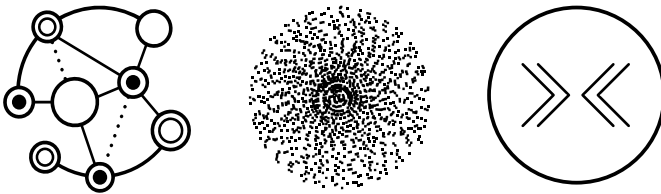
'Welcome to Postnormal Times' garnered considerable attention – both positive and negative. It led to a 2011 special issue of *Futures*, edited by anthropologist and cultural critic, Merryl Wyn Davies, devoted to both the proponents and detractors of postnormal times. Critics attacked the theory for its use of alliteration (speed, scope, scale, and complexity, chaos, and contradictions) – which to me is its profound simplicity and beauty – for lacking evidence, and even suggested that it was a western perception not appropriate for non-western societies. Davies herself was not convinced. There may be postnormal times in the future, she suggested, but we are not there yet! Three years later, Sardar came back with 'Postnormal Times Revisited', which not only silenced the critics but also piled up evidence upon evidence.

By 2015, 'Welcome to Postnormal Times' had generated enough reactions and debate 'among those aboard the omnibus of futures studies' for it to swiftly spread across futures and foresight scholarship. As a result, postnormal analysis has now moved on from its origins in futures studies to political analysis, economic intelligence, architecture, museology, and policy. The postnormal

times analysis has been used to shape an empowering vision and policy framework for Malaysia – known locally as ‘Malaysia MADANI’ that is now the official national vision and policy. It has been used to develop policies for primary and secondary educational reform in Sarajevo Canton – now enshrined in law and implemented throughout the school systems in the capital of Bosnia-Herzegovina.

Much of the policy work has been done by the Centre for Postnormal Policy and Futures Studies (CPPFS) an international ‘network that promotes futures literacy with a particular focus on marginalised peoples and Muslim societies’, established by Sardar in 2012. The Centre works with communities, foundations, businesses, and government institutions to encourage an understanding of, and exploring new means of navigating, postnormal times.

Postnormal Forces: 3C's



Traditionally, Futures Studies deals with plurality of alternative futures by differentiating between plausible, probable, possible, and preferable. But what is probable in a world where uncertainty and chaos is the norm? What is plausible in futures dominated by contradictions? Are our conventional methods, such as forecasting, scenarios, and modelling fit for purpose in postnormal times? Do scenarios about futures take note of changing change? Do existing scenario modelling methods adequately allow for the requisite

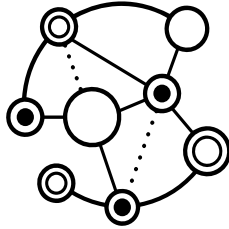
pluralism and polylogues, including amongst humans, non- and un-humans, needed to confront postnormal times? How do we produce viable policies to navigate postnormal times? Or, to put it another way, do our stories about the future(s) tell us something meaningful that can generate policies and strategies to cope with complexity, uncertainty, and chaotic behaviour? Postnormal times theory seeks to address these and other questions.

In postnormal times theory, it is complexity, chaos, and contradictions (otherwise known as the 3C's) that shape and propel postnormal times. The complex hyper-interconnectedness of the systems by which the globalised world operates means that the slightest incidence in any geographical corner of the globe has the possibility of triggering a tectonic social, political, economic, and environmental shift in any number of other places, if not globally. Chaos ensues, as communities scramble anxiously to understand the experience and adjust to a new norm. This is compounded, as one incidence precedes another, then another; each intersecting with one another; each incrementally affecting the other. And as communities seek to adjust and settle into the new normalcy, they cling on to the little they have that provides them certainty: nostalgia for the glorious past, naked nationalism, and protectionism.

Contradictions prevail. These contradictions are forces within the system that may be complimentary, 'where the opposed forces are kept in dynamic equilibrium; or destructive, where the struggle leads to collapse; or creative, where the contradiction is resolved by transformation'.

In postnormal times, complexity, chaos, and contradictions do not operate at equal levels on all situations. Sometimes complexity may be the biggest component; in others, it may be chaos or contradiction. But, in general, as the Cs accelerate and grow, they overlap to produce a postnormal situation.

+ Complexity



Complexity refers to the quality or state of being complex. Systems with various components that interact with each other in multiple ways, leading to non-linear behaviour, are said to be complex. A complex system or phenomena exhibits emergent properties or behaviours; behaviours that arise from the interactions between the parts or entities of the system. These interactions lead to the emergence of novel and often unexpected properties. As such, complex systems cannot be predicted or explained by looking solely at the individual components of the system.

Complexity is evident in nature. It can be seen in the behaviour of social insects like ants or bees. Individually, each insect follows simple rules based on local sensory input and pheromone communication with other insects. However, when many ants or bees interact with each other, they can form complex structures like nests or hives, exhibit collective decision making, and even perform sophisticated tasks like foraging for food or defending the colony. A flock of birds, and a school of fish also demonstrate what is known as emergent behaviour; what scientists refer to as 'swarm intelligence' or 'collective intelligence'.

Scientists, mathematicians, and sociologists take a variety of approaches in their study of complex systems; examining the interactions between the components of the system, using computational models to simulate the behaviour of a system, or by creating controlled environments where the behaviour of

the system can be observed and measured, or by manipulating individual components of the system to observe how this affects the behaviour of the system as a whole.

In postnormal times theory, complexity speaks to our hyperconnected world, where multiple interactions occur across multiple systems, simultaneously, so that no one system may be isolated from the other. As such, we cannot predict or explain behaviours of properties of complexity by looking solely at the individual components of the system. In our postnormal world this means that nothing happens in isolation, and nothing can be understood in isolation. We need to take complexity into account and consider the plurality of relationships across a system and the multiplicity of impacts as a result of an event anywhere in that system. What this means is that one challenge may not be addressed without a greater understanding and perspective of the broader systemic interactions. In our world, local acts have global impacts, and global activities burrow down into the day to day lives of the local level.

This is demonstrated in the way the world economy behaves, or the manner with which actions to mitigate the human impacts on global warming are deeply intertwined with global industry, local energy supplies, emerging concerns around food security, and universal human population growth. The sudden and severe economic downturn that began in the US in 2008 and quickly spread around the world, became the Global Financial Crisis (GFC). Widespread job loss, business failures, and significant social and cultural fractures followed. This was caused by a complex combination of factors, including lax regulation of the financial sector, excessive risk-taking by banks and financial institutions, and the widespread use of complex financial instruments such as derivatives and mortgage-backed securities. And then, a loss of faith in traditional economic and political systems, as well as increased scrutiny and criticism of the financial sector. This growing sense of inequality helped to

fuel social and political movements around the world, including the Occupy Wall Street movement in the US, which called attention to the disproportionate power and influence of the financial sector and the need for greater economic justice and fairness.

The GFC also spurred policymakers and economists to re-examine the relationship between economic growth, inequality, and social and political stability. The imperative was to consider new approaches to promoting greater economic opportunity and reducing inequality. In addition to the Occupy Wall Street movement, the GFC also helped to catalyse other social and political movements around the world, including the Indignados movement in Spain, which focused on issues of economic inequality and political corruption, and the Arab Spring, which was fuelled in part by frustrations over economic hardship and political oppression.

Before the dust settled on the GFC, in 2010 and 2011, the Middle East and North Africa was experiencing a series of pro-democracy protests and uprising. These would become collectively known as the Arab Spring, motivated by the social and economic grievances, including high unemployment, corruption, and political repression. It was facilitated by a variety of factors, including the widespread use of social media and other forms of digital communication, as well as the interconnectedness of the global economy and the spread of democratic ideals and values. The Arab Spring had profound social and cultural impacts in the region, leading to significant political changes and shifts in power dynamics. Several long-standing authoritarian regimes were toppled, and new democratic governments emerged in countries such as Tunisia and Egypt. It is an example of how complex social and political systems can interact in unexpected ways to produce sudden and dramatic social and cultural change. By leveraging the power of social media and other digital technologies, ordinary citizens were able to organise and mobilise for political change in ways that were previously impossible.



ONE COMPLEX BURGER

SODAS



If we add all the water required to grow the needed ingredients for soda (like sugar cane) the resulting ratio would be



250 Litres of water per litre of soda

VEGETABLES



In order to make all required vegetables available all year round, many countries are switching to intensive farming that:

Is reliant on pesticides

Is dependent on fossil fuels

Reduces biodiversity

Lowers overall quality

BEEF BURGER



300 Million cattle are slaughtered to produce the



71 Million tons of meat eaten every year

WATER CONSUMPTION



1 Pound of beef takes



7 Litres of water to produce

GUACAMOLE

Guacamole is made from avocado - a high water consuming plant. This requires:



2,000 Litres of water to produce



1 Kilogram of avocados

CHEESE



Most dairy products come from the milk of cows or buffalo.

Every second



45,863 Pounds of milk are produced globally.

BURGER BUN



Russia is the world's #1 wheat exporter (**more than 37 million Tons in 2020**) and Ukraine is #5 (**with over 18 million Tons**).



The ongoing war between these two has created a strain on the market that requires serious rethinking and innovation to overcome.

FOSSIL FUEL COSTS

US farming accounts for:



17% of the country's fossil fuel use

On average, **4.7 units of energy** are needed to produce



1 Kilogram of beef

GMO FOOD



95% of animals used for meat and dairy in the United States eat GMO crops.

In the aftermath of the Arab Spring, many governments in the region were weakened or destabilised, which created a power vacuum that was exploited by extremist groups, such as ISIS and Al-Qaeda. These groups were able to gain a foothold in parts of the region, and they used violence and intimidation to exert control over local populations and destabilise governments. The rise of these extremist groups has had far-reaching consequences, including the displacement of millions of people, the loss of countless lives, and the ongoing destabilisation of the region. It has also contributed to the spread of terrorism and political violence beyond the region, as extremist groups have carried out attacks in other parts of the world. Overall, the emergence of extremist groups in the aftermath of the Arab Spring was an unforeseen outcome that has had significant and lasting consequences for the region and the world. The Arab Spring also illustrates the ongoing tensions between traditional power structures and the aspirations of young people and other marginalised groups for greater political participation and social equality.

Of course, the global pandemic has brought the implications of our complex world into stark realisation. Coronavirus demonstrated the ability of a microscopic virus to bring the Earth to a grinding halt and provides a prime, real-world example of how our world and our lives are changing. As the world stood still, the clock kept ticking – everything from travel to shopping, tourism, supply chains, economics, our everyday lives, and even basic human to human contact were severely disrupted – signifying the changing nature of change.

Moreover, in the shadow of the pandemic, we see how complexities spur unforeseeable, albeit interesting connotations. Los Angeles, which is notorious for its smog, found itself with some of the cleanest air in the world in early 2020, as California kept itself under lockdown to prevent the spread of the coronavirus. In fact, globally,

direct greenhouse gas emissions also declined. Carbon dioxide (CO₂) emissions dropped by 2.4 billion metric tons, or down 7% from 2019, according to a study published in *Earth System Science Data* in December 2020. This represents the biggest annual drop in CO₂ emissions ever recorded in modern times. In Venice, the canals ran cleaner, with less pollution from the previously regular boat traffic. As a result, the water became clearer and marine life, such as fish and crabs, began to return to the canals. The decrease in human activity also allowed for the growth of algae and plants on the canal walls, creating a more natural and biodiverse environment. Satellite images showed a significant decrease in nitrogen dioxide emissions in cities worldwide during the pandemic, indicating an improvement in air quality. However while this short-term drop in greenhouse gas emissions will not contribute toward solving climate change in the long term, it has given scientists a new way to confirm something already known: that human activity is causing climate change. Thus, the sophistication of complexity.

According to the global management consultancy firm McKinsey, companies have accelerated the digitalisation of customer and supply chain interactions and their internal operations by three to four years in the wake of COVID-19. This has not only redefined the office experience for employees, but changed the way people manage their work lives and personal lives. As Alan Whitman, a columnist for *CEOWORLD* magazine, notes, radical change is the only constant we can rely on: 'I bristle at the word 'normal' because it conveys a sense of complacency, of slowly slipping back to the old way of doing business instead of taking the future into our own hands.'

What we have learned through complexity is that the notions of control and certainty are becoming obsolete.⁷⁴ What we are instead looking for is an understanding of behaviours, rather than certainty in the prediction of behaviours.

As humans become more connected to complex systems such as the internet, social media, and e-commerce platforms, their identities are becoming increasingly complex and multifaceted. This is because these systems allow individuals to interact with a much larger and more diverse set of people, ideas, and cultures than was possible in the past.

One way that complex identities are emerging is through the process of 'self-branding' or 'personal branding'. This involves individuals using social media platforms and other online tools to create and promote a carefully curated image or persona that reflects their values, interests, and aspirations. By presenting themselves in a certain way online, individuals can signal their membership in certain groups or communities, as well as their unique personal qualities and strengths.

Moreover, e-commerce platforms and other online marketplaces can also contribute to the emergence of complex identities. By allowing individuals to express their preferences and interests through their purchasing decisions, these platforms can help individuals to define and express their personal values and identities. For example, someone who is interested in sustainable fashion may choose to purchase clothing made from eco-friendly materials, signalling their commitment to environmental sustainability as part of their personal identity.

This is evident in the apparent rise in popularity of the self-pronounced digital influencers, a type of micro-celebrities who are paid by companies to use their large online profiles to promote brands and products. Digital influencers, presenting themselves as ordinary individuals, can penetrate deep into social networks and are able to sell their message directly to the user through their shared connection. Through an impression of 'realness,' influencers foster a sense of intimacy, accessibility, and relatability, which forms

the basis of affective relationships with their followers. In selling their identities, they become proxy supporters of the manufactured normalcy field (a concept we will explore further at the end of Part 2). Far removed from traditional forms of advertising and marketing, the digital influencer goes to the heart of the concerns that many observers and commentators share regarding the now seemingly fluid relationship between lived and virtual realities. Retail companies, interest groups and ideologues alike are able to acquire data to target vulnerable people, infiltrate social networks, and use algorithmic software to create closed-loop cycles of information with which to spread their messages.

With digital ethos, influencers are now normalised part of our culture having shifted our perception of truth, knowledge and expertise. Influencers often use their social media platforms to showcase their personal brand and to share their opinions and experiences with their followers. This can include everything from fashion and beauty tips to travel recommendations and lifestyle advice. By generating a sense of intimacy, influencers are able to connect with their followers on a more personal level and to build a loyal fan base that trusts their recommendations and advice. One example of influencer marketing in action can be seen in the partnership between the beauty brand Glossier and the influencer Emily Weiss, who founded the beauty website Into the Gloss. Glossier's marketing strategy relies heavily on influencer partnerships, and the company has built a loyal fan base by working with influencers who embody the brand's aesthetic and values. Emily Weiss, for example, has been instrumental in promoting Glossier's 'skin first, makeup second' philosophy and has helped to build a community of loyal Glossier customers who identify with the brand's emphasis on natural beauty and simplicity.

Podcasters played a pivotal role in Donald Trump's 2024 re-election campaign, leveraging their platforms to shape public discourse, amplify right-wing populist narratives, and foster deep audience

WHAT YOUR SMARTHOME SAYS ABOUT YOU



THERMOSTAT

What you tell it:
Your preferred home temperature.

What it tells about you:
Your general feeling and overall health, your day-to-day activity, and whether or not you are sick, which can be extrapolated into rich marketing potential.



REFRIGERATOR

What you tell it:
To optimise energy expenditure, to keep track of food expiry dates, prevent waste, and build grocery lists.

What it tells about you:
How often you open the fridge, eating habits, commercial preferences, marketing appeal, and how different brands can most effectively target you.



ENTERTAINMENT CENTRE

What you tell it:
What shows to keep track of, what shows you have watched, what shows might be appealing to you for future viewing.

What it tells about you:
What sorts of content can be produced to cater to your liking, how marketing content can be specifically tailored to you, how messaging can be manipulated to warp your opinion and your vote, and how long they have your attention to do it!



WASHING MACHINE

What you tell it:
Preferred laundry settings, laundry schedule, whether or not to machine dry or hang dry.

What it tells about you:
How often you do laundry, giving insight to how regimented your lifestyle is, giving insight to your clothing and fashion preferences, gives data related to preferred laundry products that can be extrapolated into targeted fashion and accessory marketing. Gives insight to carbon footprint and energy expenditure, thus can determine your environmental awareness.



SECURITY CAMERA APPS

What you tell it:
All goes to and from your home, when you have a visitor or delivery, when to secure your home when you are not there.

What it tells about you:
Your general schedule, your online shopping habits, concerns and paranoia, all that happens within the lens of the security camera.



MOBILE

What you tell it:
Who you know, who you talk to, important appointments, work matters, financial & health details, commercial habits, details of conversations you have, where you have been, when you sleep, when you eat.

What it tells about you:
Almost every thing, it holds your passwords and your darkest secrets, probably knowing more about you than you think you know about yourself, data beyond your comprehension that is the new oil in our contemporary world.



LIGHTING FIXTURES

What you tell it:
Settings for when you wish to have interior and exterior lights on throughout the house, settings for energy savings, ability to flip off a light you may have forgotten.

What it tells about you:
Your active hours, when and when you are not home, your economic concerns and wellbeing, your level of environmental concern.

loyalty. Unlike traditional media, which is constrained by time limits and editorial oversight, podcasting allows hosts to engage in long-form, unfiltered discussions that create an intimate and highly trusted relationship with their listeners. Figures like Joe Rogan, Steve Bannon, Dan Bongino, and Theo Von — each with their own distinct audience and political positioning — provided Trump and his ideology with sustained exposure, often normalizing and reinforcing his rhetoric through casual, conversational formats that felt more authentic than mainstream political reporting.

While some podcasters were explicitly pro-Trump, others contributed indirectly by platforming guests who pushed narratives favourable to his campaign or by discussing issues in a way that resonated with conservative and disaffected voters. Theo Von, for example, did not overtly endorse Trump, but his podcast featured figures like Tucker Carlson, who spoke at length about media bias, deep state conspiracies, and the decline of American values — key themes in Trump's campaign messaging. Joe Rogan, whose audience includes a mix of libertarians, conservatives, and anti-establishment liberals, repeatedly criticised Joe Biden's leadership, fuelling scepticism about his presidency while amplifying Trump's messaging about government overreach and cultural decline. Steve Bannon and Dan Bongino, on the other hand, used their platforms to aggressively push election fraud claims, anti-immigration rhetoric, and economic populism, directly reinforcing Trump's appeal to his base.

Beyond podcasts, short-form content on platforms like Instagram and TikTok played a crucial role in Trump's digital resurgence. While long-form podcast episodes shaped deep narratives, short, viral clips — often taken out of context — circulated widely, reaching younger audiences who may not have engaged with full-length discussions. TikTok, despite being a platform dominated by Gen Z and often seen as left-leaning, became a battleground where pro-Trump content thrived due to its algorithmic preference for high-

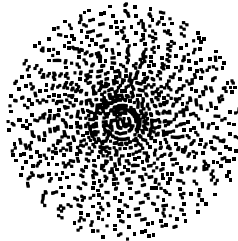
engagement, provocative material. Clips of Trump speaking candidly, edited in a way that made him seem more relatable and humorous, flooded the platform. Instagram Reels followed a similar pattern, with influencers and meme pages amplifying viral soundbites that positioned Trump as strong, defiant, and countercultural qualities that resonated with young men disillusioned by mainstream politics.

The 2024 election demonstrated that political influence is no longer dictated by traditional media but by the decentralised, personality-driven ecosystem of podcasts and social media. Trump's campaign effectively capitalised on this shift, leaning into platforms where engagement – not institutional credibility – determines visibility. In an era where digital figures hold more sway than journalists, podcasters and influencers did not just comment on the election; they actively shaped its outcome by redefining what was considered credible, urgent, and worth voting for.

Thus, complexity is now suffusing every aspect of our lives, politics, social and cultural intuitions, technology, and all else beside.

A fundamental principle of postnormal times theory is that complex problems require complex solutions – this is known as the law of requisite variety.

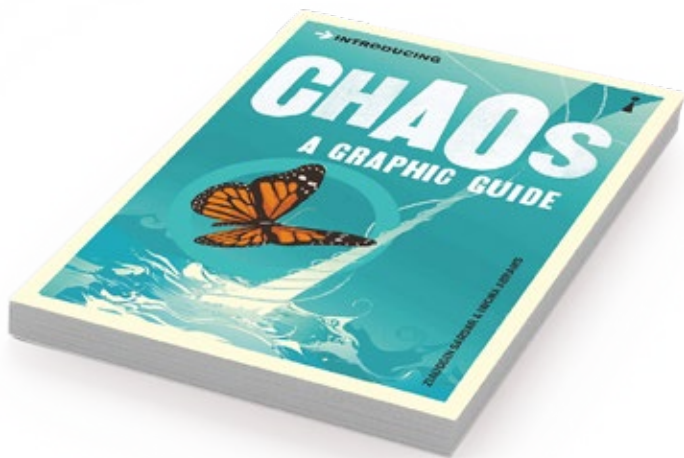
+ Chaos



Chaos is a state of disorder and unpredictability in a dynamic system that arises from small, seemingly insignificant changes in a system. This phenomenon is commonly known as the 'butterfly effect',

which suggests that a butterfly flapping its wings in one part of the world can trigger a chain reaction of events that ultimately leads to a hurricane in another part of the world. Chaos theory recognises that even the smallest changes in initial conditions can have profound and unpredictable effects on a system's future behaviour.

Feedback loops are essential components of chaos theory, as they enable the amplification or dampening of effects within a system. Positive feedback loops occur when the output of a system feeds back into the input, resulting in a self-reinforcing cycle that amplifies the initial change. Conversely, negative feedback loops occur when the output of a system feeds back into the input, resulting in a self-correcting cycle that dampens the initial change. Feedback loops are crucial in determining whether a system remains stable or reaches a state of chaos.



As a system approaches the edge of chaos, small changes in initial conditions can lead to a rapid and exponential increase in complexity. This process, known as geometric growth, occurs when each iteration of a system builds upon the previous iteration, resulting in an exponential increase in complexity. At the edge of chaos, a system becomes highly sensitive to small changes, making it difficult to foresee future behaviour.

However, this sensitivity can also create opportunities for the emergence of new order and innovation.

Chaos theory suggests that systems may collapse under the weight of their own complexity, leading to a state of chaos. However, chaos can also serve as a catalyst for the emergence of new order and creativity. In his international bestseller, *Introducing Chaos*, Sardar notes that chaotic systems are characterised by their ability to generate novel and unexpected behaviours, which can lead to new insights and breakthroughs. Through the chaos, new structures and patterns can emerge, leading to a renewed sense of stability and order.

Chaos in postnormal times is not just a state of disorder, but also an opportunity for transformation and innovation. Through chaos, new forms of knowledge and expertise can emerge, leading to new ways of understanding and addressing global challenges. However, this requires a shift in our approach to knowledge, from one based on certainty and control to one that embraces complexity and uncertainty. The climate crisis exemplifies the complexity and chaos inherent in postnormal times, as illustrated by several specific events that have occurred in recent years. For example, the Intergovernmental Panel on Climate Change (IPCC) reported, in 2018, that global temperatures had already risen by 1°C above pre-industrial levels, and that urgent action was needed to limit the rise to 1.5°C to avoid catastrophic impacts. One example of the chaotic nature of the climate system is the rapid and unprecedented melting of Arctic Sea ice. In 2012, the Arctic experienced its lowest sea ice extent on record, with the area covered by sea ice falling to just 3.4 million square kilometres. This melting exposes darker ocean water, which absorbs more heat, leading to further melting and more heat absorption. This self-reinforcing cycle could lead to sudden and unpredictable changes in the Arctic and beyond.

Another example of chaos in the climate system is the nonlinear response of ecosystems to global warming. In 2016, a massive coral bleaching event occurred on the Great Barrier Reef, causing significant damage to the ecosystem. This event was triggered by warmer ocean temperatures, which led to the loss of the algae that provide corals with their food and colour. Such a nonlinear response could lead to sudden and unexpected changes in ecosystems worldwide, with significant impacts on biodiversity and human societies.

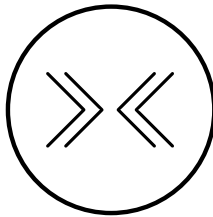
Positive feedback loops can also amplify the impacts of climate change, leading to further chaos and uncertainty. For example, the 2019-2020 Australian bushfires were fuelled by a combination of dry conditions, high temperatures, and strong winds, which created a positive feedback loop that allowed the fires to spread rapidly. The fires burned more than 18 million hectares of land, destroyed over 5,900 buildings, and caused at least 34 deaths.

The complexity and interdependence of the climate system also make it difficult to predict the impacts of global warming accurately. In 2020, Siberia experienced a prolonged heatwave, with temperatures reaching 38°C in Verkhoyansk, the highest temperature ever recorded north of the Arctic Circle. This heatwave could lead to the release of large quantities of methane from melting permafrost, which would amplify the greenhouse effect, leading to further warming.

In postnormal times theory, the climate crisis is a prime example of the complexity and unpredictability of the global challenges facing society in the twenty-first century. By embracing the chaos and uncertainty of the climate system, we can develop new ways of understanding and addressing the crisis, leading to innovative and transformative solutions for a more sustainable future.

A basic principle of postnormal times theory is that new order, paradigms, worldviews, and opportunities emerge at the edge of chaos.

+ Contradictions



Contradictions are a fundamental characteristic of human logic, referring to situations where two or more statements or propositions are incompatible with each other. In other words, a contradiction is a situation where two things cannot both be true at the same time. Contradictions can arise in many areas of human thought and discourse, from everyday conversations to philosophical debates.

One way that contradictions can arise is through the use of self-referential statements or paradoxes. The liar paradox arises when a statement asserts its own falsity, such as the statement 'this sentence is false'. This statement cannot be true or false without creating a contradiction, as if it is true, then it must be false, and if it is false, then it must be true.

Another way that contradictions can arise is through the use of vague or ambiguous language. The Sorites paradox arises from the use of vague predicates, such as 'heap' or 'tall'. If we consider a pile of sand, at what point does it cease to be a heap? This paradox highlights the difficulty of defining concepts precisely, leading to contradictions in our reasoning.

In some cases, contradictions can also arise from the use of conflicting beliefs or assumptions. For example, someone might hold the belief that all human life is sacred while also supporting the use of capital punishment. These two beliefs are incompatible with each other, leading to a contradiction in their position.

Contradictions can also arise from the use of incomplete or inconsistent systems of thought. For example, in the field of quantum mechanics, the wave-particle duality of matter creates a contradiction between classical and quantum mechanics. This contradiction highlights the limitations of our current understanding of the universe, leading to ongoing debates and research in the field.

As such, contradictions are a fundamental characteristic of human logic, arising from a variety of sources, including self-reference, vagueness, conflicting beliefs, and incomplete systems of thought. While contradictions can sometimes lead to confusion and paradox, they also play an important role in challenging our assumptions and expanding our understanding of the world.

In postnormal times theory, contradictions are defined as an inherent and pervasive feature of complex systems. This is because postnormal times are characterised by high levels of uncertainty, ambiguity, and rapid change, which can create contradictions in our understanding of the world and our attempts to solve global challenges.

One way that contradictions manifest in postnormal times is through the tension between different forms of knowledge and ways of knowing. For example, scientific knowledge and indigenous knowledge may hold contradictory views on how to address climate change or other global challenges. This tension between different forms of knowledge can create contradictions in our attempts to understand and address complex problems. Another way that contradictions arise in postnormal times is through the interaction between multiple social actors and stakeholders. Different actors may hold conflicting values, interests, and perspectives, leading to contradictions in the goals, strategies, and actions of various groups. This can lead to uncertainty, conflict, and power struggles, which further complicate efforts to solve global challenges.

Contradictions can also arise in postnormal times through the emergence of unexpected and unintended consequences. For example, a technological solution to a global challenge may have unintended negative impacts on the environment or society, creating contradictions in our attempts to balance the benefits and risks of new technologies. Finally, contradictions can arise in postnormal times through the complex interdependencies and feedback loops inherent in global systems. For example, addressing climate change may require significant changes to energy systems, transportation, and agriculture, which are all interconnected and interdependent. This can create contradictions in our attempts to design and implement effective solutions that address the root causes of global challenges. In postnormal times theory, contradictions are seen not as an obstacle to progress but as an opportunity for learning and transformation. By acknowledging and embracing contradictions, we can develop more nuanced and holistic approaches to global challenges, which account for the complexity and uncertainty of the world.

In the hyperconnected global world of postnormal times, contradictions in morals and values are increasingly apparent, leading to complex and uncertain situations. These contradictions are evident in various aspects of society, including global challenges such as climate change, the COVID-19 pandemic, the rise of populist movements, and the use of digital technologies. In the context of climate change, the tension between the use of fossil fuels for economic growth and the need to reduce carbon emissions to mitigate climate change is a prominent contradiction. Balancing economic interests with environmental sustainability is a challenge that requires finding innovative solutions and transitioning to more sustainable energy sources.

The response to the COVID-19 pandemic has also highlighted contradictions in morals and values. The tension between individual rights and collective wellbeing has resulted in conflicting views on

measures such as lockdowns and vaccine mandates. Navigating these tensions requires considering both individual freedoms and public health concerns, and finding a balance that prioritises the greater good.

The rise of populist movements around the world reflects tensions between national interests and global solidarity, cultural identity and diversity, and economic growth and social justice. These movements challenge democratic norms and values, promoting exclusionary policies that exacerbate global tensions. Addressing these contradictions requires fostering inclusivity, promoting dialogue, and finding common ground to build a more inclusive and equitable society.

Digital technologies and social media have also amplified contradictions in morals and values. While these technologies enable connectivity and access to information, they also present challenges such as the spread of fake news, cyberbullying, and privacy concerns. Balancing the need for security and privacy with convenience and openness is a complex task that requires ethical considerations and responsible use of technology.

Additionally, the use of artificial intelligence (AI) in decision-making processes presents its own set of contradictions. While AI has the potential to increase efficiency and reduce bias, it also raises concerns about transparency, accountability, unintended consequences, and as we have seen in recent times, increased racial prejudice and xenophobia. Ensuring that AI systems are fair, transparent, and aligned with ethical principles requires careful regulation and ongoing evaluation.

In steering these contradictions, a multidisciplinary and collaborative approach is crucial. Embracing diverse perspectives, knowledge, and values can lead to more comprehensive solutions and a better

understanding of complex issues. It is important to prioritise human wellbeing, social justice, and sustainable development over narrow interests, and to foster collaboration and inclusion across different stakeholders. Overall, the contradictory nature of morals and values in postnormal times underscores the complexity and uncertainty of the current global landscape. By acknowledging and addressing these contradictions, societies can work towards more inclusive, sustainable, and equitable futures.

A basic principle of postnormal times theory states that contradictions cannot be resolved, but they can be transcended; and are opportunities for learning and transformation.

Emerging Change

Complexity, chaos, and contradictions are the forces that shape and propel postnormal times. Complexity acknowledges globalisation and the consequential, increased, intimate interconnectedness of all things; chaos admits that with this interconnectedness a crisis anywhere has a knock-on effect across the entire network; and contradictions concede that although humanity has more knowledge, greater capacity, and critical needs, we continue to make decisions, implement policy, and undertaken action with overwhelming ignorance. As we've discussed, we need look no further than the continued human impacts on the climate and the resulting weather events globally as an example of this.

The simultaneous interaction of these factors amplifies positive feedback in systems that already exhibit non-linear behaviour, further increasing the likelihood of bifurcations or chaotic jumps. This is fundamentally about change — change defined by speed, scope, scale, and simultaneity — and, crucially, the evolving nature of change itself.

CHAOS

Chaos is an opening where radical change emerges. It is simultaneously a breakdown of norms and the birth of something new.

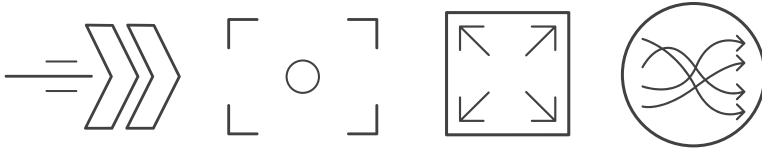


CONTRADICTIONS

Contradictions are the heart of the matter. They are the only way to see the world as it is, not as we wish it to be.



Postnormal Change: 4 S's



Change is a fundamental aspect of our existence. It permeates every facet of life, from individual experiences to global events. The dynamic nature of change means that everything evolves, adapts, and transforms over time. Whether it's the growth of a seed into a tree or the evolution of societies, change is ever-present.

Change operates at multiple dimensions. On a personal scale, it encompasses growth, learning, and self-improvement. Organisations undergo changes in structure, processes, and strategies. Societies witness cultural shifts, technological advancements, and political transformations. The drivers of change are diverse: innovation, external events, and individual choices propel us forward.

Resistance often accompanies change. People cling to familiarity and fear the unknown. However, adaptation is essential for survival and progress. Recognising patterns and cycles of change — whether in predictable seasons, economic fluctuations, or historical trends — helps us anticipate and respond effectively.

Postnormal times theory seeks to transcend traditional narratives of change. In an era where change is constant, and uncertainty is foregrounded, complexity arises from the intricate interactions between technology, culture, environment, and social structures. Context is key here. Because no single discipline or perspective can fully grasp and navigate change. Multiple realities interplay,

diverse viewpoints coexist, challenging traditional certainties. The stakes are higher than ever, with urgent global challenges like climate change, pandemics, and inequality.

Normal Change:

- Seasonal Shifts: The transition from winter to spring – a predictable, cyclical change.
- Personal Growth: Learning a new skill or overcoming a fear.
- Technological Advancements: The gradual shift from landline phones to smartphones.

Postnormal Change:

- Climate Crisis: Urgent action needed to address rising sea levels, extreme weather events, and ecological degradation.
- Digital Revolution: Rapid technological advancements impacting every aspect of life.
- Globalisation: Interconnectedness leading to cultural fusion, migration, and shared challenges.

Postnormal times theory provides a framework for new theories of change to emerge as existing theories fall short. It champions adaptive, transdisciplinary approaches to address complex challenges, where change is not linear but fluid and nonlinear. Adaptability and resilience become crucial as we navigate uncertainty, with strong ethical consideration and shared values to guide decision making.

Change, it argues, can be described through four key characteristics that define our current era: speed, scope, scale, and simultaneity. These 4S's shape the way we perceive and respond to the challenges and opportunities that arise in our globalised and interconnected society.

In this section, we will explore each of these concepts in detail and provide some examples of how they manifest in various domains.

+ Speed



In postnormal times, things change with great speed.

However, speed is not only a physical phenomenon, but also a social, cultural, and psychological one. It shapes how we perceive, understand, and interact with the world and with each other. Speed is both a driver and a consequence of the complex, chaotic, and contradictory conditions that characterise our era. Speed can be seen as a source of opportunity, innovation, and progress, but also as a cause of stress, anxiety, and alienation. Speed can enable us to connect with diverse people and places, but also to disconnect from ourselves and our environment. Speed can empower us to act and create, but also to react and destroy.

To comprehend the role and impact of speed in postnormal times, we need to draw on insights from various disciplines and perspectives. For example, physics can help us understand the limits and possibilities of speed in relation to space and time. Sociology can help us examine how speed affects our social structures and interactions. Philosophy can help us reflect on the ethical and existential implications of speed. Psychology can help us explore how speed influences our emotions, cognition, and behaviour.

Art can help us express and challenge our experiences and perceptions of speed.

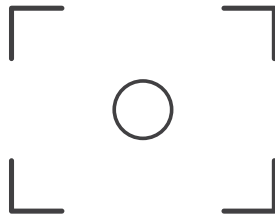
Speed manifests itself in different ways in postnormal times. It is both an opportunity and a challenge, depending on how we respond to it. On the one hand, speed can enable us to access more information, connect with more people, and create more value. On the other hand, speed can also create stress, anxiety, confusion, and fragmentation. Speed can also amplify the effects of our actions, for better or worse.

For instance, we can see how speed enables us to connect and communicate with people across the world through social media and digital platforms, but also how it makes us vulnerable to fake news, propaganda, and echo chambers, as the German-Austrian media scholar Axel Bruns argues in his book *Are Filter Bubbles Real?* Similarly, we can observe how speed empowers us to organise and mobilise for social change and justice, but also how it exposes us to violence, censorship, and division, as Italian sociologist and political scientist Donatella della Porta shows in her study of *Social Movements in Times of Austerity*. Moreover, we can appreciate how speed drives us to innovate and create new technologies and solutions for the challenges we face, but also how it generates new dangers and ethical issues, as philosopher Nick Bostrom warns in his book *Superintelligence*.

Furthermore, we can recognise how speed accelerates the impact of climate change and environmental degradation on our planet and our lives, but also how it inspires us to cooperate and adapt to the new conditions, as American journalist David Wallace-Wells illustrates in his book *The Uninhabitable Earth*. Finally, we can examine how speed transforms our economic systems and markets, creating new opportunities for growth and development, but also increasing inequality and instability, as various authors have documented.

These examples demonstrate that speed is not a simple or inevitable phenomenon, but a complex and situational one. Our experience and influence of speed depend on our values, choices, and actions. In postnormal times, we need to be mindful of the benefits and costs of speed, both for ourselves and others. We need to balance speed with slowness, efficiency with effectiveness, quantity with quality. We need to develop a sense of agency and responsibility for the future we want to create.

+ Scope



In postnormal times, change often has a global scope.

The concept of scope is a way of understanding the complexity and uncertainty of the current era, where the outcomes of human actions are unpredictable and often paradoxical. Scope not only refers to the global impact of emerging events and issues, but also the range of possible futures that can emerge from the interactions of social, environmental, technological, and cultural factors. Scope refers to the range, extent, or boundaries of a problem or a solution. The wider the scope, the more complex and unpredictable the outcomes. Scope can also be understood as the degree of interconnectedness and interdependence among different actors, domains, and levels. In postnormal times, scope is not fixed or given, but rather emergent and negotiable. Scope is not a fixed or objective reality, but a dynamic and subjective one, that depends on the perspectives and values of the actors involved.

To define scope in postnormal times, we need to consider three dimensions: plurality, probability, and participation. Plurality means that there are multiple and diverse views of reality, that may conflict or coexist. Probability means that there are different degrees of likelihood for each possible future, that may change over time. Participation means that there are different ways of influencing and shaping the future, that may empower or marginalise different actors.

One way to understand the concept of 'scope' in postnormal times is to consider how different disciplines approach the same problem or phenomenon. For example, a biologist, a sociologist, and a philosopher may have different perspectives on the causes and consequences of climate change, as well as the possible solutions and ethical implications. Each discipline has its own methods, assumptions, and values, which shape how they define and measure the scope of their inquiry. However, in postnormal times, the boundaries between disciplines are becoming more blurred and fluid, as interdisciplinary and transdisciplinary approaches are needed to address complex and uncertain issues. Therefore, scope is not a fixed or static concept, but a dynamic and contextual one, that depends on the purpose, audience, and situation of the inquiry.

In postnormal times, the scope of discourse about a natural disaster can vary greatly. A journalist might focus on the immediate facts and figures, constrained by the medium and reader expectations. A historian, on the other hand, might delve into the event's historical context and long-term societal impacts, driven by extensive research and personal curiosity. A poet might express personal emotions and symbolic interpretations, using literary devices to evoke reader empathy. A scientist might concentrate on a specific aspect of the event, using rigorous methodologies to test hypotheses within the norms of the scientific community. Lastly, a politician might

strategically highlight their party's response and future plans, using persuasive techniques to appeal to voters, shaped by political agendas and the prevailing political climate.

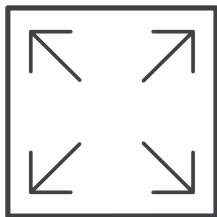
Consider the scope of the COVID-19 pandemic, which affected almost every aspect of human life and society. The pandemic was not only a health crisis, but also a social, economic, political, environmental, and cultural one. It has exposed the fragility and vulnerability of many systems and institutions, as well as the inequalities and injustices that pervade them. It has also challenged the dominant paradigms of growth, development, governance, and security and opened up new possibilities for alternative futures. The pandemic was a 'perfect postnormal storm', as it involved the acceleration of speed, scope, scale, and simultaneity of change in a number of human and natural systems, resulting in complexity, chaos, and contradictions.

Another example of a postnormal phenomenon with a wide scope is digital culture, which has transformed the ways we communicate, create, learn, work, play, and relate. Digital culture has enabled unprecedented access to information and knowledge, as well as new forms of collaboration and participation. However, it has also generated new challenges and risks, such as misinformation, cyberattacks, surveillance, privacy breaches, identity theft, addiction, and polarisation. Digital culture has also impacted our fundamental understandings of reality, authority, knowledge, selfhood, and time. It has created new epistemological crises and cultural ruptures that require new ways of knowing and understanding.

As these examples show, scope is not only a matter of quantity or quality, but also of relevance and significance. Understanding scope provides us with the ability to see the big picture and the interconnections between different aspects of a complex situation.

In postnormal times, we need to be aware of how we define and communicate our scope, as well as how we interpret and evaluate the scope of others. We need to be flexible and adaptable in adjusting our scope to suit different purposes and situations. We also need to be critical and reflective in questioning our own assumptions and biases that may influence our scope. By doing so, we can enhance our understanding and appreciation of the diversity and complexity of postnormal times.

+ Scale



In postnormal times, change touches everyone, quickly reaching the scale of the individual and community.

Scale refers to the extent or level of something, such as a phenomenon, a problem, or a solution. It can be understood as a relation between different entities or systems that have different properties or attributes, such as size, quantity, quality, complexity, or intensity. Scale can also be understood as a perspective or lens that shapes how we perceive, interpret, and act upon reality; or as a challenge and opportunity that requires us to adapt, innovate, and transform ourselves and our world.

Scholars have examined scale from a number of perspectives. C.S. Holling, an ecologist, introduced the concept of adaptive cycle and panarchy, which describe how complex systems change and evolve across multiple scales. Edgar Morin, a philosopher and sociologist, proposed the concept of complex thought, which emphasises the

need to integrate multiple levels of reality and knowledge in order to understand complex phenomena. Fritjof Capra, a physicist and systems thinker, has explored the connections between life, mind, and society from a systemic perspective that considers multiple scales of organisation.

In postnormal times, scale is both shrinking and expanding exponentially. What happens at one scale can have significant impacts on other scales, creating feedback loops and nonlinear dynamics. This means that global events can reach right down to the community and individual level, and vice versa. For example, climate change is a global problem that affects local communities and individuals in different ways, but also depends on the actions and choices of local actors.

The scale of our impact and influence is also expanding exponentially. We have the power to affect the lives of millions of people, as well as the environment and the planet as a whole. Our actions can have positive or negative effects, intended or unintended, immediate or delayed. For example, the development of new technologies such as artificial intelligence, biotechnology, and nanotechnology can create new opportunities for innovation, education, and health, but also pose ethical, social, and environmental risks. Similarly, the globalisation of trade, communication, and culture can foster diversity, cooperation, and interdependence, but also generate inequality, conflict, and fragmentation.

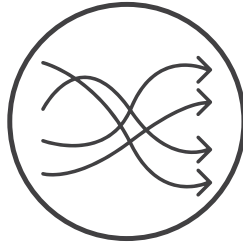
The scale of our challenges and opportunities is also increasing, as we face unprecedented threats and possibilities for human development and survival. We need to balance our interests and responsibilities in different domains and levels of scale, such as personal, local, national, regional, and global. This requires us to be aware of the trade-offs and synergies that may arise from our choices and actions. For instance, the climate crisis requires us to

reduce our carbon emissions and adapt to the changing weather patterns while also ensuring that we meet our basic needs and aspirations. Likewise, the pandemic demands that we protect our health and safety while also maintaining our social and economic activities.

Much like scope, scale too is not a fixed or objective measure, but a relative and subjective one. It depends on our perspective, values, and context. Reflecting on scale helps us understand the scope and magnitude of our actions and their consequences. What may seem small or insignificant to one person or group may be large or important to another. What may appear simple or clear to one may be complex or ambiguous to another. Therefore, scale invites us to be humble, curious, and empathetic. It challenges us to question our assumptions, expand our horizons, and appreciate our differences. It encourages us to collaborate, learn, and innovate across disciplines, sectors, and cultures.

In this way, scale is also related to the notion of perspective or worldview. Different scales can offer different perspectives on the same issue, revealing different aspects and dimensions of complexity. For instance, a macro-scale perspective can provide a holistic view of the system and its interconnections, while a micro-scale perspective can highlight the diversity and agency of the actors within the system. A meso-scale perspective can bridge the gap between the macro and micro levels, showing how structures and processes emerge from interactions and patterns.

+ Simultaneity



In postnormal times, change – in the shape of crisis, events, issues – often occur simultaneously.

Simultaneity is a concept that refers to the coexistence of multiple temporalities, realities, and perspectives in the same moment. It can reveal the complexity and diversity of reality, as well as the creativity and innovation of human expression. It is the quality or state of being simultaneous, that is, happening or existing or done at the same time. The word comes from the Latin *simul*, meaning 'together', and 'of or relating to'. Simultaneity can be applied to different fields of study, such as physics, music, linguistics, and art. In physics, simultaneity is the relation between two events that occur at the same time in a given frame of reference. However, according to the theory of relativity, simultaneity is not an absolute notion, but depends on the observer's state of motion. Two events that are simultaneous for one observer may not be simultaneous for another observer moving at a different speed or direction. This phenomenon is known as the relativity of simultaneity.

In music, simultaneity is the occurrence of more than one complete musical texture at the same time. Simultaneity can create harmony or dissonance, depending on the intervals and pitches involved. Simultaneity can also be used to create polyphony, which is the combination of two or more independent melodic lines. Polyphony is a characteristic feature of many musical genres and styles, such as classical, jazz, and folk music.

In linguistics, simultaneity is the expression of two or more events or situations that happen or exist at the same time in a single clause or sentence. Simultaneity can be marked by various grammatical devices, such as tense, aspect, mood, conjunctions, adverbs, and word order. For example, in English, simultaneity can be expressed by using the present progressive tense (She is singing and dancing), the simple present tense with a coordinating conjunction (She sings and dances), or an adverbial phrase (She sings while dancing).

In art, simultaneity is the representation of multiple perspectives or aspects of reality in a single image or work. Simultaneity can challenge the conventional notions of space, time, and causality, and create a sense of dynamism, movement, and complexity. Simultaneity can also reflect the artist's subjective vision or interpretation of reality. Simultaneity is a common feature of many modern art movements, such as cubism, futurism, surrealism, and pop art.

Simultaneity manifests in postnormal times theory in several ways. For example, we experience simultaneity of information, as we are exposed to diverse and often conflicting sources of knowledge, narratives, and data. We also experience simultaneity of crises, as we face multiple and interrelated challenges, such as climate change, pandemics, social injustice, political turmoil, and more. These crises require us to deal with multiple dimensions and levels of complexity at once.

The simultaneity of our experiences and events is another defining feature of postnormal times. We are exposed to multiple and diverse sources of information, perspectives, and stimuli at the same time. For example, we can access news from different media outlets, social media platforms, blogs, podcasts, and more. We can also communicate with people from different cultures, backgrounds, and views. However, this abundance of information does not necessarily lead to better understanding or consensus. Rather, it

can create confusion, polarisation, and misinformation. We need to develop critical thinking and media literacy skills to evaluate the quality and reliability of the information we consume.

We also face multiple and overlapping crises, such as economic instability, social inequality, political unrest, environmental degradation, and more. These crises are not isolated or sequential; they are interrelated and concurrent. They require us to deal with multiple dimensions and levels of complexity at once.

Moreover, we experience simultaneity of futures, as we envision different and often incompatible scenarios and possibilities for these futures. For example, we can imagine a future where technology advances exponentially and creates new opportunities and challenges for humanity. We can also imagine a future where technology fails or becomes a threat to human dignity and security. We can also imagine a future where humanity embraces sustainability and harmony with nature.



We can also imagine a future where humanity faces collapse and extinction due to ecological disasters. These futures are not mutually exclusive; they can coexist or merge in unexpected ways. We need to cultivate futures literacy and foresight skills to explore the plurality and diversity of all the futures ahead of us.

The Postnormal Condition

Postnormal times theory argues that the postnormal condition is one of ignorance and uncertainty. Uncertainty and ignorance grow in tandem as postnormal phenomena develop and mature. Over time, the extent of ignorance and uncertainty can expand or deepen dramatically. Over longer time frames, and across greater scales of change, ignorance and uncertainty can accelerate.

Ignorance is owed to the fact that current dominant ways of thinking and knowing are insufficient to navigate the complexities of today. We are not equipped to think the unthinkable. We are ignorant to how the solutions to the problems of today will affect us tomorrow. We are ignorant to decipher the validity of information that is factual against the flood of data delivered to us daily. This level of ignorance is unnerving to a society whose principle organising belief has been bound to risk mitigation and certainty. Our worldviews are shifting to be more akin to the former American Secretary of Defence, Donald Rumsfeld's notion of 'unknown unknowns – the ones we don't know we don't know'.

Ignorances

Ignorance may be defined as a lack of knowledge, information, or awareness about a particular subject, idea, or phenomenon. It can be a result of not having access to relevant information or not

having the necessary intellectual curiosity to seek out knowledge. Ignorance can also arise from biases or prejudices, which can lead individuals to dismiss or discount information that contradicts their preconceived notions. It is important to note that ignorance is not the same as stupidity, as an ignorant person may be capable of learning and understanding with the right guidance and resources.

Ignorance can have significant consequences, both for individuals and society as a whole. When individuals are ignorant about important issues, such as politics, economics, or public health, they may make decisions that are not in their best interest or the best interest of others. Ignorance can also fuel prejudice and discrimination, leading to harmful attitudes and actions towards marginalised groups. In addition, ignorance can hinder progress and innovation, as it is only through knowledge and understanding that new discoveries can be made and problems can be solved. Therefore, it is important for individuals to recognise and address their own ignorance, as well as work towards combating ignorance in others.

There is a correlation between ignorance and power. Ignorance can be wielded as a means of oppression and control, as those in authoritative positions exploit it to maintain dominance. It can, for instance, be used to rationalise inequality by disregarding marginalised perspectives and experiences as mere opinions. Similarly, ignorance is often employed to exclude certain voices and viewpoints from public discussion, thereby perpetuating intellectual segregation.

These are particularly pertinent points in postnormal times, when we reflect on how entwined media has become in our epistemological constructs of the world. Indeed, media plays a pivotal role in shaping our understanding of the world, and its representations can inadvertently foster ignorance and misconceptions. For instance, journalist Ian Jack writes about how the media's obsession with

sensational stories and 'breaking news' can overshadow complex and nuanced issues, resulting in a form of 'news ignorance'. Likewise, writer Pankaj Mishra argues that the media's emphasis on celebrity culture and consumerism can lead to a form of 'cultural ignorance,' where individuals become disconnected from their own histories and traditions.

Ignorance studies has emerged recently as an interdisciplinary field of research that examines the social, political, and cultural aspects of not knowing. It aims to understand how ignorance is created, sustained, challenged, or overcome in different contexts and domains. It researches a wide range of topics such as the history and philosophy of ignorance, the epistemology and psychology of ignorance, the sociology and anthropology of ignorance, the politics and economics of ignorance, and the ethics and law of ignorance.

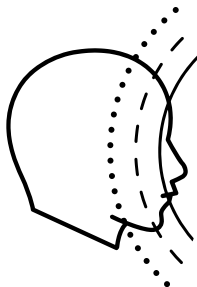


This field encourages us to question our assumptions and consider the role that ignorance plays in society's understanding and decision-making processes. For example, agnotology is the study of how ignorance is produced or maintained by deliberate or accidental means, such as propaganda, censorship, misinformation, or neglect. Agnotology can examine how the tobacco industry created doubt and uncertainty about the health effects of smoking, or how climate change denialism undermines scientific consensus. Conversely, nescience, is the lack of knowledge or awareness of something that one could or should know. Nescience can refer to the ignorance of one's own biases, prejudices, or limitations, or the ignorance of other cultures, perspectives, or experiences. Nescience can also be a source of curiosity, creativity, or discovery.

Docta ignorantia is learned or cultivated ignorance that recognises the limits of human reason and the incompleteness of human knowledge. This type of ignorance is often associated with mystical or religious traditions that emphasise the transcendence of God or the ineffability of ultimate reality. *Docta ignorantia* can also be a form of humility, scepticism, or openness to new insights. Strategic ignorance is the intentional or deliberate choice to ignore or avoid certain information or issues that are deemed irrelevant, inconvenient, or threatening. For example, strategic ignorance can be used to cope with information overload, uncertainty, or complexity, or to protect one's interests, identity, or beliefs. Strategic ignorance can also be a form of resistance, dissent, or empowerment.

In postnormal times theory, the concept of ignorance is defined through three distinct categories: plain ignorance, vincible ignorance, and invincible ignorance.

+ Plain Ignorance



Plain ignorance is the traditional approach to tackling uncertainty. It can be defined as a lack of knowledge or information about a particular subject or topic, without any particular intention or motive behind it. It is a simple lack of awareness or understanding, without any underlying bias or prejudice. Plain ignorance can arise from a variety of reasons, such as lack of access to information, inadequate education, or simply a lack of interest or curiosity. It relies on empirical evidence and uses experience and accumulated knowledge. This emphasises learning; If I don't know something, but it is something that is known in my discipline, or knowledge field, or by other experts, I can learn it by engaging with existing knowledge.

It is important to note that plain ignorance is not the same as wilful ignorance or intentional disregard of information. Plain ignorance implies a lack of knowledge that can be remedied through learning, while wilful ignorance suggests a deliberate refusal to learn or acknowledge information, often driven by biases or prejudices. Therefore, plain ignorance is not necessarily a negative trait, as it is something that can be addressed through education and learning. However, it is important to recognise and address our own plain ignorance, in order to expand our knowledge and understanding of the world around us.

Plain ignorance manifests in various contexts, such as misinformation surrounding the COVID-19 pandemic. Despite the abundance of available information, false beliefs and risky

behaviours continued to contribute to the virus's spread. Some individuals may lack awareness of the importance of mask-wearing and social distancing in curbing the spread of virus, while others may doubt vaccine efficacy or hold mistaken beliefs about the virus's origins. Addressing this ignorance requires comprehensive education, dispelling myths, and promoting critical thinking to reduce the impact of public health crises like COVID-19.

Similarly, plain ignorance can be observed in workplaces regarding diversity, equity, and inclusion (DEI) issues. Despite increasing attention, some employees and managers may not grasp the significance of these matters or their impact on creating an inclusive and equitable work environment. Microaggressions and biased practices may go unnoticed, hindering the experiences of marginalised colleagues. Organisations must offer education and training programmes, foster open communication, and emphasise the value of diverse perspectives to combat this ignorance and establish a more inclusive workplace.

Mental health issues also suffer from plain ignorance, perpetuating misinformation and stigma. Lack of understanding leads some to view mental illnesses as personal weaknesses rather than a legitimate medical condition, contributing to harmful stereotypes and discrimination. Combating this ignorance necessitates raising public awareness, reducing stigma, and improving access to mental healthcare through awareness campaigns, workplace training, and better healthcare provision. By addressing plain ignorance, society can become more supportive and understanding for individuals with mental illnesses.

Another area where plain ignorance is evident is climate change. Despite scientific consensus, many individuals fail to comprehend the urgency and severity of the issue. Lack of awareness regarding the impact of human activities on the environment

and the effectiveness of climate change solutions contributes to this ignorance. Combating it requires comprehensive education, public awareness campaigns, and policies promoting sustainable practices and reducing greenhouse gas emissions. Addressing plain ignorance about climate change is crucial for mitigating its effects and preserving the environment for future generations.

+ **Vincible ignorance**



Vincible ignorance is a type of ignorance that arises from a lack of knowledge or understanding that could have been reasonably acquired or overcome. Unlike plain ignorance, which may be beyond a person's control, vincible ignorance can be seen as a failure to make a reasonable effort to obtain knowledge or to act on that knowledge once it is acquired. It requires us to be aware of our lack of knowledge; and forces us to expand our perspectives and gain new experiences.

Vincible ignorance also has a build-in futures dimension: we are aware of this ignorance but the knowledge to overcome it may only be acquired in the future. For example, in the beginning of the pandemic we were ignorant of the true impact of the coronavirus and how to treat it, but rapid research provided enough knowledge of the disease to develop a vaccine. We are still ignorant of the long-term impact of COVID-19. But this knowledge will be gained in the near future. And of course, this knowledge will grow and evolve.

Vincible ignorance can have moral implications, as it may be seen as a failure to fulfil one's responsibilities or obligations to oneself or others. In some contexts, such as legal or ethical decision making, vincible ignorance may also impact the degree of culpability or responsibility assigned to an individual for their actions.

The emphasis here is on awareness: I don't know something, nor does knowledge exist in my discipline. As such, I am required to collaborate with other disciplines to generate new knowledge – till such knowledge is produced I'll remain ignorant. Thus, I need to be aware of what I don't know, take my ignorance into account, and act accordingly.

The most common example of vincible ignorance is that of a child living in a low-income family in a rural area with limited access to quality education. Despite their best efforts to excel in school, the child lacks the same resources and opportunities as their counterparts in more affluent areas. This disparity hampers their ability to acquire knowledge and skills, consequently impacting their future social and economic prospects. This example showcases vincible ignorance as the child's access to education and knowledge is constrained by systemic barriers like poverty and limited resources beyond their control.

Addressing vincible ignorance necessitates tackling the systemic and structural obstacles that hinder access to quality education and resources for low-income families in rural areas. Effective solutions include implementing policies and programmes that provide greater access to educational resources and opportunities, such as increased school funding and transportation options. Additionally, efforts to reduce poverty and promote economic inclusion are crucial. By addressing vincible ignorance, societies can strive for greater equity and justice, ensuring that every individual has the resources and opportunities needed to reach their full potential.

Another instance of vincible ignorance may involve a person residing in a country where the government tightly controls information flow and restricts access to knowledge and education. In such authoritarian regimes, internet access and other sources of information may be limited, and government-approved materials may propagate biased or inaccurate information. Here, the individual's lack of knowledge stems from a lack of unbiased and accurate information, illustrating vincible ignorance due to systemic barriers like censorship and propaganda. To combat this, efforts should focus on promoting freedom of speech, press, and access to information, advocating for government reforms that promote transparency, and supporting initiatives that foster access to unbiased and accurate information. By addressing vincible ignorance, societies can foster informed and engaged citizens who possess the information necessary for making informed decisions and participating fully in civic life.

Addressing vincible ignorance requires not only providing individuals with access to the necessary knowledge and resources, but also promoting a culture of accountability and responsibility. This can involve regular training and education on safety protocols, as well as implementing consequences for individuals who fail to follow established guidelines. By addressing vincible ignorance, organisations can work towards creating safer and more responsible environments for everyone involved.

+ Invincible ignorance



Invincible ignorance demands new approaches that challenge our current knowledge. Invincible ignorance refers to the situation where we do not know what we do not know, and we are not aware of our own ignorance⁸⁸. It is the product of our unthought, things we have never thought about because they are outside of our current framework of thinking. For example, before the discovery of quantum mechanics, physicists did not know that they were ignorant of the subatomic realm and its strange phenomena. Similarly, before the COVID-19 pandemic, many people did not know that they were ignorant of the risks and impacts of a global health crisis.

To overcome invincible ignorance, we need to transcend our current worldview, rethink our existing principles, axioms, and assumptions, and explore new possibilities and perspectives. We need to be open to questioning everything we take for granted, and to learning from diverse sources of knowledge and experience. We need to be willing to unlearn what we think we know, and to create new knowledge that is relevant and responsive to the postnormal times we live in.

Moreover, understanding invincible ignorance also means acknowledging the limits of our knowledge and expertise. This means that not only do we need to unlearn what we think we know about a particular matter, but we need to appreciate that the knowledge we seek does not exist and cannot be acquired within our current disciplinary or interdisciplinary boundaries. We need to question assumptions, basic axioms, unlearn, as a way to then generate something new for navigating postnormal times. For instance, in order to address the challenges of climate change, we may need to go beyond the conventional scientific and technological solutions, and consider the ethical, cultural, and spiritual dimensions of our relationship with nature.

This is what is meant with the decree: in postnormal times, traditional sources of authority and expertise may be called into question. It is important to recognise that we don't have all the answers, and instead open ourselves to learning from others who may have different perspectives or experiences. We need to cultivate a dialogical approach to knowledge production and problem solving, where we respect the diversity and plurality of views and values, and seek to integrate them into a coherent and holistic vision. A dialogical approach is based on the idea that knowledge is not a fixed or objective entity, but a dynamic and intersubjective process that emerges from dialogue among different stakeholders⁹⁰. By engaging in dialogue, we can learn from each other's perspectives, challenge our own assumptions, generate new insights, and co-create solutions that are more inclusive and sustainable.

Overall, understanding invincible ignorance can help us to become more humble, reflective, and curious in our approach to navigating postnormal times, and to better engage with the complex and rapidly changing world around us. It can also help us to develop a sense of wonder and awe for the unknown and the unknowable, and to embrace uncertainty as an opportunity for creativity and innovation.

Uncertainties

Ignorances nurtures uncertainties. In the zeitgeist of 'fake news', the erosion of trust in traditional forms of knowledge, perceptions of others and influence over our decision making is normalised. This is exacerbated by the fact that both fake and legitimate news stories are shared through social media networks. Our flexible and often problematic relationship with the truth both recognises and undermines the authority of the traditional truth-teller, the expert.

In postnormal times, campaigns against established knowledge can be led by anyone, anywhere, all they need are the readily available tools to transmit their agenda. For the writer and academic Tom Nichols, this is the 'death of the expert' – 'a Google-fuelled, Wikipedia-based, blog-sodden collapse of any division between professionals and laypeople, teachers and students, knowers and wonderers – in other words, between those with achievement in their area and those with none'. For us, living in postnormal times, facts are always uncertain.

Uncertainty speaks to the problem of 'objectivity' our experts (scientists, academics, economists, journalists, corporate executives) now face. Indeed, there is a growing and common understanding that there is no place where one can speak from objectivity. Let us take the realm of science, indeed where postnormal times theory found its inspiration, as an example. Today, the scientific enterprise is no longer a quest for discovery, rather an exercise of problem solving derived from the challenges (and threats) presented by the hitherto blind and uncontrolled growth of our total scientific-technical-industrial system.

Until recently the reductionist nature of scientific research and dominance of applied sciences was taken as a model for rational, intellectual, and social activities in general. Indeed, it was precisely this way of knowing that has been the thrust of modern epistemology. However, as the activity of science now encompasses the management of complex uncertainties in knowledge and ethics, and the recognition of different legitimate perspectives and ways of knowing are placed centre stage, we witness the breaking up of traditional constructs of truth. This is described as a crisis of epistemology.

Right:

A light sculpture from the Postnormal Times MADANI Exhibition displaying all the myriad elements at play in our collective climate catastrophe.



We have seen how climate change is a classic example of a postnormal uncertainty, as it is a complex, uncertain, and rapidly changing phenomenon that is difficult to fully understand and predict. The phenomenon of post-truth has impacted the perception of climate change, with some individuals and groups denying the existence of climate change or its human causes. The 'death of the expert' has also played a role in the debate over climate change, with some individuals and groups rejecting the authority of climate scientists and other experts. The uncertainty surrounding climate change is further compounded by the fact that traditional approaches to managing environmental risk and uncertainty may be inadequate, and the epistemological rupturing has made it challenging to come to a consensus on the best way to address climate emergency.

Globalisation is another example of a postnormal uncertainty, as it involves complex, interconnected, and rapidly changing social, economic, and political processes that are difficult to fully understand or control. The phenomenon of post-truth has impacted the perception of globalisation, with some individuals and groups viewing it as a threat to national sovereignty or cultural identity. The 'death of the expert' has also played a role in the debate over globalisation, with some individuals and groups rejecting the authority of economists and other experts who support globalisation. The uncertainty surrounding globalisation is further compounded by the rise of populism, nationalism, and protectionism, which challenge traditional notions of global governance and cooperation, and the epistemological fracturing has made it difficult to come to a consensus on the benefits and drawbacks of globalisation.

Technology is a third example of a postnormal uncertainty, as it is rapidly advancing and transforming many aspects of our lives, but also creating new challenges and risks that are difficult to fully

anticipate or control. The phenomenon of post-truth has impacted the perception of emerging technologies, just as in the case of climate crisis, with some individuals and groups spreading misinformation about their potential benefits or risks.

The ‘death of the expert’ has also played a role in the debate over emerging technologies, with some individuals and groups rejecting the authority of scientists and other experts who support their development. The uncertainty surrounding technology is further compounded by the speed and scale of technological change, which can outpace the ability of experts and regulators to fully understand their implications, and the epistemological fracturing has made it difficult to develop consensus on the best way to govern and regulate emerging technologies.



In postnormal times theory, uncertainty is defined, just like ignorance, in three layers: surface, shallow, and deep uncertainty.

+ Surface Uncertainty



Surface uncertainty is used to describe when we have a good sense of the directional or dimensional impacts change will have. It is the most visible and tangible layer of uncertainty. It refers to the situations where we have some knowledge and information about the possible outcomes and impacts of change, but we are not sure about their exact nature, timing, or magnitude. For example, we can reasonably predict that the iPhone will continue to improve its features and functions, such as camera quality, battery life, and storage capacity, but we do not know when or how these changes will happen, or how they will affect our usage and satisfaction with the device.

Surface uncertainty is not limited to technological innovations. It can also be found in other domains, such as social, economic, political, and environmental issues. For instance, we can anticipate that climate change will have negative effects on biodiversity, food security, health, and migration, but we cannot precisely estimate the extent or severity of these effects, or how they will vary across regions and populations. Similarly, we can expect that globalisation will increase the interdependence and integration of different countries and cultures, but we cannot foresee the specific challenges or opportunities that this process will create for global governance, trade, communication, and identity. We know that COVID-19 vaccines, to give another example, reduced the risk of infection and transmission of the virus, but we do not know by how much or for how long. Similarly, we know that Brexit has severely

affected trade and immigration between the UK and the EU, but we are still learning the exact economic and social impacts. Likewise, we know that the US presidential election in 2020 was influenced by various factors such as voter turnout, media coverage, and social media campaigns, but we do not know the precise effects of each factor on the outcome.

Surface uncertainty can be managed by collecting more data and information, conducting more research and analysis, developing more scenarios and models, and applying more monitoring and evaluation methods. However, these strategies may not be sufficient or effective in addressing the deeper layers of uncertainty that underlie the surface phenomena.

+ Shallow Uncertainty



Below the surface level, one might find that the rough direction of change is known but nothing can be said about the potential consequences that result from the convergence of complexity, chaos, and contradictions.

Economists often deal with shallow uncertainty when predicting market trends. They can forecast the general movement of the market based on current indicators but cannot predict specific outcomes due to the multitude of variables at play – outcomes which can lead to financial meltdown as we saw in the stock market crash of 2008. Similarly, urban planners face shallow uncertainty when designing cities for future needs. While they understand that demographic patterns will affect urban population, private and public transport configurations will alter urban mobility, economic, social, and cultural activities will be transformed, the exact nature of

these transformations remains unclear. In technology assessment, shallow uncertainty is prevalent during the early stages of innovation. For instance, the introduction of driver-less vehicles presents a clear trajectory towards automation and potential efficiency in transportation. However, questions remain about how this technology will integrate with existing infrastructure, its impact on urban traffic patterns, accidents and road safety and complex issues that arise from it, the consequences for employment – particularly in driving professions – and its overall societal impacts.

Thus, shallow uncertainty exists where there is a broad understanding of potential impacts but a lack of detailed foresight. Addressing this type of uncertainty requires interdisciplinary research and flexible planning to adapt to emerging information. Shallow Uncertainty cannot be managed, and its power is often underestimated – one can easily be swept out to deep sea even in shallow waters.

+ Deep Uncertainty



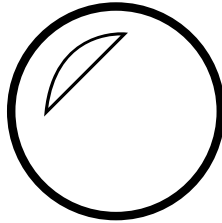
Finally, deep uncertainty represents a situation where the potential outcomes of an event or decision are highly unpredictable, and there is a significant lack of knowledge about the direction and magnitude of the impacts: 'when we don't know the costs and the benefits'.¹⁰² It refers to situations where analysts do not know, or the parties to a decision cannot agree on, (1) the appropriate models to describe interactions among a system's variables, (2) the probability distributions to represent uncertainty about key parameters in the models, and (3) how to value the outcomes of different strategies or decisions. This concept is widely recognised across multiple disciplines.

In economics, it relates to the unpredictability of markets and the difficulty in forecasting economic indicators due to complex interactions of economic variables.¹⁰³ In climate science, deep uncertainty acknowledges the limitations in predicting climate change impacts due to uncertain feedback loops and long-term effects.¹⁰⁴ In public policy, it pertains to decision making under conditions where there is no clear consensus on values or objectives among stakeholders.¹⁰⁵ In medicine, deep uncertainty often arises in the context of disease treatment and prognosis. For instance, the interaction of various drugs within an individual's system can be unpredictable, leading to uncertain outcomes.¹⁰⁶ Or when there is a lack of consensus on the best course of action due to ambiguous or conflicting evidence.¹⁰⁷ This is particularly evident in cases where patient values and preferences are diverse and must be integrated into care plans.¹⁰⁸ Additionally, the progression of diseases like cancer can be deeply uncertain due to the complex nature of tumour growth and response to treatments.

This notion is particularly relevant in the context of artificial intelligence (AI), where the rapid pace of innovation and the transformative potential of AI applications make it difficult to foresee their long-term effects on society. For instance, the integration of AI in job automation raises concerns about widespread unemployment, yet it also promises increased efficiency and new job creation. Similarly, AI's role in decision-making processes could lead to more objective and informed choices, but it also poses risks related to privacy, bias, and accountability.¹¹⁰ In healthcare, AI has the potential to revolutionise diagnostics and treatment plans, but there is uncertainty regarding its reliability and the ethical implications of machine-made medical decisions. The military application of AI in autonomous weapons systems also presents deep uncertainty, as it could change the nature of warfare and raise moral questions about the use of lethal force without human intervention. These examples illustrate

the multifaceted nature of deep uncertainty in the context of AI. As such, it is crucial for policymakers, researchers, and society at large to engage in ongoing dialogue and assessment to navigate these uncharted waters.

+ Manufactured Normalcy Field



Postnormal phenomena generate and are deeply embedded in growing uncertainties, which in turn produce a variety of ignorance. These undermine two fundamental tenements of modernity: certainty and confidence; and gravely distort how we view the future. But if a society has no compelling images of the future, how can it contextualise epochal transformation?

By mapping ignorances and uncertainties, we can make sense of where we find ourselves in the change process, equipping ourselves with an awareness and perspective of not only why change is happening the way it is happening, but how the impacts of this change are or could be experienced. Which takes us to the manufactured normalcy field, a concept that helps us to understand how we culturally construct our approach to the future, and why our current ways of thinking and doing are increasingly irrelevant, and ignorances and uncertainties abound in postnormal times.

The manufactured normalcy field is the incorporation and normalisation of change into larger conceptual metaphors built out of familiar experiences. 'Manufactured', in this sense, is as articulated by the economist Edward Herman and linguist Noam Chomsky:

norms that have been developed by powerful global institutions, including media and technology companies, that operate by relying on market forces, internal, unquestioned assumptions, and subtle manipulation to generate ideological and consumer driven desires and dreams.

The manufactured normalcy field is constructed by knowledge and reaffirms normalcy despite ontological shifts. It is not intrinsically positive or negative, but an adaptive strategy that may need recalibration in the face of rapid change.

The manufactured normalcy field is akin to, but not the same as nostalgia.

Nostalgia is a complex and multifaceted emotion that is characterised by a longing for the past or a sense of loss and yearning for a time, place, or experience that is no longer present. It is a powerful and universal human experience that has been studied extensively by scholars from a variety of disciplines, including psychology, sociology, and anthropology. At its core, nostalgia is a bittersweet emotion that is often triggered by feelings of nostalgia and memories of past experiences, people, or places. It is typically associated with positive emotions such as happiness, warmth, and joy but can also evoke feelings of sadness, regret, and longing. Nostalgia is often sparked by a particular sensory experience, such as a smell, taste, or sound, that reminds us of a past experience or place. It can also be triggered by a particular event, such as a family gathering or a holiday, that reminds us of a happier time in our lives. Nostalgia can serve many functions, such as providing comfort, helping us to feel connected to our past, and providing a sense of continuity and stability in the midst of change and uncertainty.

Despite its many positive aspects, nostalgia can also have negative effects, such as a tendency to idealise the past, a reluctance to

embrace change, and a sense of being disconnected from the present. Some researchers have suggested that excessive nostalgia can be a sign of psychological distress or a symptom of depression and may prevent individuals from fully engaging with their current lives and experiences.

In postnormal times, nostalgia manifests through various aspects of dominant culture. The resurgence of interest in vintage clothing and accessories, such as retro-inspired fashion from past decades, like the 1960s, 1970s, and 1980s, reflects a longing for a bygone era and a desire to connect with the past. Additionally, nationalist and populist movements have gained traction worldwide, driven by nostalgia for a simpler and stable past, appealing to traditional values in the face of rapid social and technological change. Social media platforms are also used to share nostalgic content, allowing people to reminisce, reconnect, and share memories. Moreover, the popularity of retro-themed entertainment, like remakes and sequels, further exemplifies the influence of nostalgia. These examples highlight the role of nostalgia in providing comfort, connection, and continuity in a changing world, but excessive nostalgia can also lead to anxiety, disconnection, and stagnation. Furthermore, in postnormal times, nostalgia has been linked to social and political movements such as Brexit, Trumpism, and populist movements in Europe. These movements draw on nostalgia to evoke a vision of a more prosperous, secure, and traditional past, but they can also create division and overlook the complexities of the present. Most significant, they are movements that reassure us, that helps us find certainty against uncertainty; that helps us to feel convinced that the change that we are experiencing is normal, despite it being very postnormal.

In contrast to nostalgia, the manufactured normalcy field is something that is actively created to wrap us in the comfort of the familiar and we take to be normal. With the manufactured

normalcy field, the life we live has a recognisable sense of being a static, continuous present. The future, in our modern conception of things, is always something that is going to happen, not something that is happening right now. Thus, in understanding how the manufactured normalcy field is constructed and operates, we can re-orientate our perceptions of what is and is not normal, and as a field that expands and contracts relative to our individual or communal experiences, we can ascertain which methods or tools we need to employ to navigate change.

PART 03

METHODS AND **TOOLS**

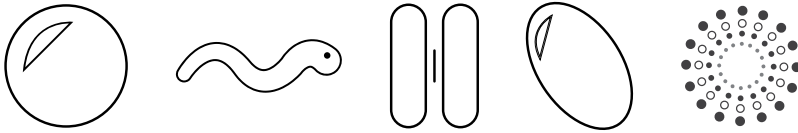


‘The future is not binary.

Our explorations of it
deserve more than two axes.’

WENDY SCHUTLZ

Charting Postnormality

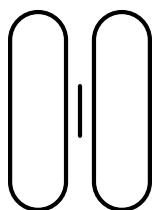


What is clear is that the predicaments of postnormal times cannot be resolved with existing tools. They require new modes of thinking and new ways of doing. This requires imagination and creativity and an awareness of the complexity of interdependencies and networks within which we function. This means an overhaul in the way we think and do things.

We have established that postnormal times theory provides a framework to make sense of the litany of surface level changes and a conceptual model to interrogate the fracturing worldviews experienced during significant societal change. This is not to say that everyone, everywhere, is affected by postnormal times in the same way, at the same time, or even to the same extent. Postnormalcy and normalcy overlap and exist side by side. Again, global warming exemplifies this: scientists insist that large scale industry contributes profoundly to intensifying the effects of climate change, while industry – grounded on capitalist interests – continues to pursue profits as primacy. Equally, as groups like Extinction Rebellion orchestrate large-scale protests to raise awareness of what they call the climate crisis, politicians favour jobs growth and an agenda for economic progress to curry favour with constituents. Interests and values intersect with one another, and conflict ensues as established ways of knowing and understanding are tested and/or usurped; the potential for established epistemological systems to turn postnormal is accelerated. Thus, the future does not arrive in a temporal sense, rather, it arrives chiefly through the impacts of social fragmentation.

Furthermore, in order to effectively detect and navigate emerging postnormal phenomena, various methods and indicators can be utilised. These include lag, creep, tilt, and burst, which offer valuable insights into the shifting dynamics of postnormal times. These concepts serve as tools for identifying and understanding the complex and nonlinear nature of societal changes.

+ Lag



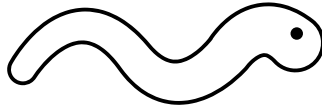
Lag refers to the delayed recognition and response to emerging issues or challenges. In postnormal times, traditional institutions and systems often struggle to adapt quickly enough to address the rapidly evolving complexities of the world. Lag can be observed when existing frameworks and policies fail to adequately address new or emerging issues, leading to a disconnect between the present reality and outdated approaches.

Postnormal lag can be witnessed in various domains where established systems and beliefs fail to keep up with emerging realities. One evident example within digital culture is the resistance of certain elements within the finance and banking sector to acknowledge and take seriously the growing significance of cryptocurrencies. Despite the increasing popularity and potential transformative impact of digital currencies like Bitcoin, there are those who dismiss or downplay their importance, potentially delaying the adoption of innovative financial systems. Similarly, lag can be seen in contexts such as climate change denial, where some individuals and institutions refuse to accept the overwhelming scientific consensus on the urgency of addressing global warming. Another manifestation of postnormal lag can be observed in the

resistance to embracing social change, such as universal basic income, despite tests and experiments clearly demonstrating its benefits to advanced capitalist societies.

These examples highlight how lag in acknowledging emerging phenomena can hinder progress and perpetuate outdated perspectives, underscoring the importance of recognising and addressing postnormal challenges in a timely and proactive manner.

+ Creep



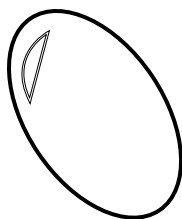
Creep signifies the gradual and incremental postnormal changes that occur over time. It involves subtle shifts in societal attitudes, values, and norms that may go unnoticed or be overlooked until they reach a critical point. Creep can be seen in the slow transformation of social, political, and cultural landscapes as well as in the emergence of new paradigms and ideas that challenge established ways of thinking.

Postnormal creep is evident in various aspects of our society, where emerging phenomena gradually infiltrate and reshape our norms and behaviours. Designers, for instance, play a crucial role in integrating new technologies seamlessly into our lives, making them feel indispensable and normal rather than strange or unfamiliar. Technological change, however, can arrive in ways that leave human behaviour largely unchanged, diverting our attention to the peculiar and novel instead of recognising the ongoing transformation of our future. This highlights the dynamic and non-uniform nature of postnormalcy, where the overlap between normalcy and postnormalcy continually shifts. Examples of postnormal creep

include the evolution of social media algorithms, constantly redefining what is considered normal in our online interactions, and the emergence of deepfakes challenging our perception of reality and authenticity.

Additionally, the philosophies of transhumanism and biohacking challenge traditional notions of human experience and behaviour by using technology to enhance and redefine our biological and cognitive boundaries. Movements like #MeToo and Black Lives Matter, facilitated by social media, also challenge existing power structures and cultural norms, contributing to postnormal creep. Furthermore, the anti-vaccination movement, amplified by social media echo chambers, challenges traditional expertise and authority in public health, potentially undermining efforts to control infectious diseases. These examples demonstrate how postnormal creep gradually redefines our understanding of normalcy, necessitating ongoing vigilance and critical engagement in the face of societal transformation.

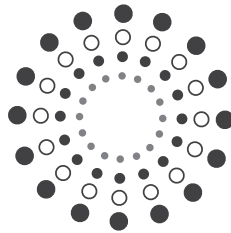
+ Tilt



The tilt is a perceptual jolt! It occurs when creep of postnormal phenomena reaches a point where we are forced to acknowledge its existence. Creep disrupts our cultural propensities and forces us to reassess the thinking that has influenced our worldviews. The tilt serves as a catalyst for us to acknowledge the multidimensionality of change and to better understand our position and role within that change. It represents an epistemological crisis that acts as a precursor to full blown postnormality. Examples such as fake news, deep fakes, and catfishing, which have become normalised in

digital culture, exemplify the postnormal creep that challenges our understanding of truth and authenticity. The tilt occurs, for example, when we discover that the person, we have been speaking to online is not really who they say they are, or that the news that we have been treating as truthful, and forwarding on social media to our friends and acquaintances, is exposed as fake. It is a phenomenon that pushes us to reassess our previous uncertainty or ignorance and prompts a broader assessment of how it is we are drawing the conclusions we are drawing. It signifies an improvement in our awareness of postnormal change and compels an assessment of the ongoing transformation.

+ Burst



Burst is when a postnormal phenomenon, moves beyond a creep and tilt and enters the realm of chaos. It is the culmination of various influences acting against systemic layers, leading to a irreversible alteration of a system. It represents the sudden and explosive emergence of new phenomena or events, propelled by factors that rapidly accelerate and amplify. Examples of bursts in postnormal times include the global financial crisis of 2008, the Arab Spring, and the COVID-19 pandemic.

The 2008 financial crisis resulted from a combination of influences that acted against systemic layers in the financial sector, leading to a bursting of the housing bubble and triggering a global financial meltdown. This event caused a profound shift in the system at every level, necessitating increased regulation, changes in public opinion, and a re-evaluation of the role of financial institutions in society.

The Arab Spring, which began in 2010, was another significant burst in postnormal times. It was a series of uprisings and protests across several countries in the Middle East and North Africa, sparked by a combination of political, economic, and social factors. The Arab Spring brought about major shifts in the political landscape of the region, with authoritarian regimes being challenged and, in some cases, overthrown. It highlighted the power of social media and grassroots movements in mobilising people for change and raised questions about governance, democracy, and human rights.

Similarly, the COVID-19 pandemic, characterised by the rapid spread of a novel virus, has had extensive impacts on health, society, and the economy. It moved quickly, from its origins in China, from creep to tilt to full burst, and became a global pandemic within six months. It has forced individuals, communities, and governments to confront complex challenges in areas such as public health, economic recovery, social inequality, and political polarisation. The pandemic has exposed vulnerabilities in various systems and has prompted significant shifts in healthcare, social safety nets, and global supply-chains.

The Menagerie of Postnormal Potentialities

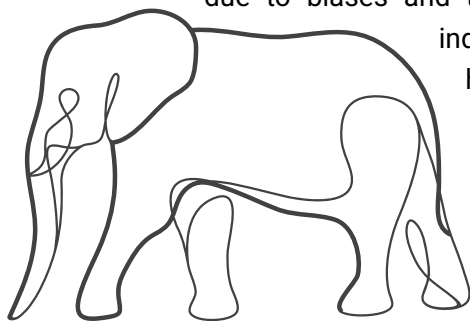
The menagerie of postnormal potentialities offers a framework for recognising and understanding the capacity of events, issues, and developments to transition into a postnormal state. It serves as a tool for studying the acceleration of change, exploring possibilities for the emergence of postnormality in the present and future, and navigating postnormal times. Within the menagerie, three specific animals serve as metaphors: the Black Elephant, the Black Swan, and the Black Jellyfish.

+ Black Elephant

The black elephant challenges the impact of our preferences on judgment. It is the obvious problem – the elephant in the room – that is all too evident but is ignored by everyone. It refers to events that have a high probability with high impact but low credibility, often due to biases, assumptions, preferences, or postnormal lag. We tend to assign higher likelihood to events we find desirable and discard those we consider negative. This bias can lead to underestimating the likelihood of significant events such as climate change or a global pandemic. Recognising the presence of the black elephant helps us become aware of our biases and better prepared to address potential risks and challenges.



For instance, the Fukushima Daiichi nuclear disaster in 2011 serves as an example of underestimating the likelihood of a significant event. Despite warnings from experts, the Japanese government and many citizens underestimated the possibility of such a disaster due to biases and the importance of the nuclear power

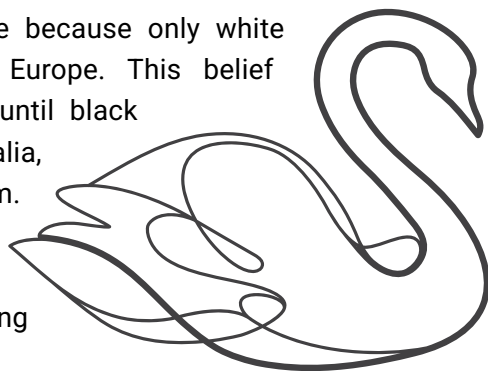


industry to Japan's economy. The disaster had profound consequences, raising questions about nuclear power and highlighting the need to consider low-probability, high-impact events.

+ Black Swan

The black swan, popularised by Nassim Nicholas Taleb, represents highly improbable events with extreme impacts. Black swans events are characterised by their extreme rarity, significant impact, and retrospective predictability. Taleb cautioned against the human tendency to simplify, narrativize, and categorise these occurrences after they happen, often overlooking their complex causality and dismissing their likelihood before they occur. Black swan warns against mistaking outcome for probability and highlights the need to remain open to revising conclusions based on new information.

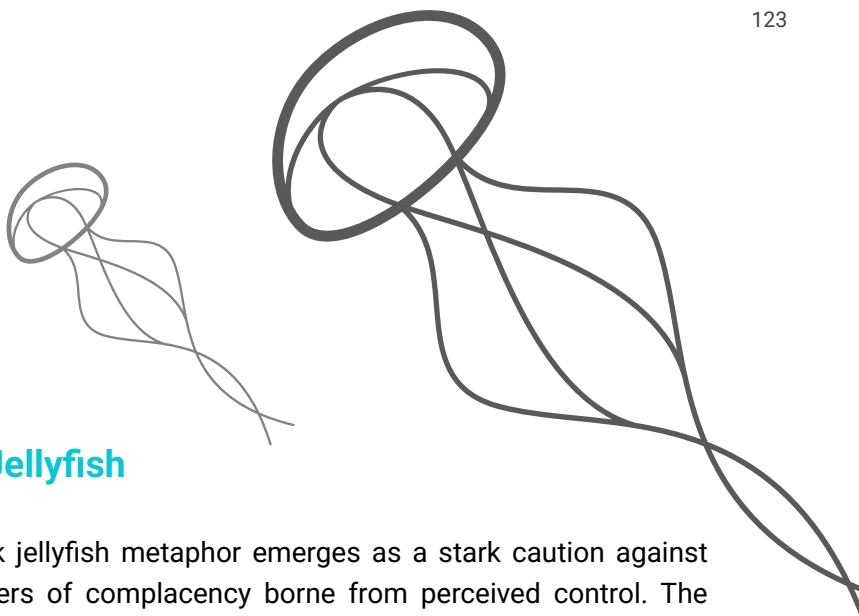
Historically, the term 'black swan' stems from the Western belief that all swans were white because only white swans had been observed in Europe. This belief was held as an absolute truth until black swans were discovered in Australia, challenging the existing paradigm. The metaphor illustrates the limitations of knowledge and the danger of making sweeping



generalisations based on limited observations. The black swan reminds us that even events with low probability can occur and have significant consequences.

The unpredicted fall of the Berlin Wall in 1989 and the subsequent rapid dissolution of the Soviet Union are prime examples of black swan events that had profound geopolitical ramifications. Similarly, the 9/11 terrorist attacks in the United States epitomise a black swan event. Prior to 11 September 2001, the notion of commercial airplanes being used as weapons to bring down skyscrapers seemed unfathomable to many. Yet, the attacks occurred and resulted in nearly 3,000 deaths, billions of dollars in damage, and far-reaching socio-political consequences. The aftermath saw sweeping changes in security protocols, foreign policy shifts, and ongoing military engagements – the destruction of Afghanistan and Iraq and destabilisation of Pakistan with hundreds of thousands of deaths and untold suffering. Another example is the unexpected victory of Donald Trump in the 2016 US presidential election, which defied most pre-election forecasts and had significant implications for international politics.

These events underscore the necessity for societies to maintain a degree of preparedness for improbable occurrences. They highlight the importance of fostering resilience and adaptability in systems ranging from national security to financial markets. The black swan theory advocates for robustness against negative events that are hard to predict but also recognises the potential for positive black swans – unexpected breakthroughs that can bring substantial benefits.



+ Black Jellyfish

The black jellyfish metaphor emerges as a stark caution against the dangers of complacency borne from perceived control. The jellyfish, seemingly insignificant and at the mercy of oceanic flows, epitomises those small, often-neglected factors that can unite, gain momentum rapidly, and transform into formidable entities. This symbol encourages us to embrace a comprehensive view, recognising every element, no matter how apparently insignificant or manageable, for their potential to set off chain reactions leading to unpredictable results.

Consider the scenario where a company decides to lay off a small group of employees. This decision might seem like a minor tweak in the grand scheme of things — a simple reduction in headcount for financial efficiency. Yet, such a move can initiate a cascade of negative effects: a decline in employee morale that leads to decreased productivity, financial decline, and eventually closure of the company. The black jellyfish warns us to be vigilant and considerate of all factors, recognising that even minor events can have significant impacts over time.

Another illustrative example of a black jellyfish event is the introduction of an invasive species into a new ecosystem. A single non-native plant or animal species might seem inconsequential. However, without natural predators or controls, it can proliferate

uncontrollably, disrupting local biodiversity, altering habitats, and causing extensive ecological and economic damage.

The black jellyfish concept also resonates with the butterfly effect in chaos theory, which suggests that a small change in one state of a deterministic nonlinear system can lead to significant differences in a later state. This idea is evident in various fields from meteorology to economics and highlights the interconnected nature of systems and the extensive impact of small actions.

The black jellyfish metaphor serves as an imperative for thorough analysis and wide-ranging consideration. It beckons us to reassess our decision-making processes by contemplating the long-term effects of our actions and acknowledging the potential for minor factors to become significant agents of change.

The menagerie, as a whole, helps purge our analysis of biases, blind spots, and hubris that may lead us to overlook emerging postnormality.

While it is not necessary to categorise, or associate particular events with, black elephants, black swans, or black jellyfish, different perspectives may bring different members of the menagerie to the fore. While an event or issue may be a black elephant from a particular perspective, it could also be a black swan or a black jellyfish from another perspective.

The menagerie is especially helpful when applied to frameworks like the Three Tomorrows (3T), enhancing awareness of postnormal change.

The Three Tomorrows

The Three Tomorrow (3T) framework is a structured approach to exploring alternative futures in postnormal times. The process assumes that the present is complex, pluralistic, constantly changing, and characterised by complexity and contradictions, on the edge of chaos, and hence, postnormal. The traits of postnormality indicate a transitional phase where old norms are being questioned and new ones have yet to be established.

In dissecting the future, the 3T framework delineates three distinct prospects: the first, second, and third tomorrow. Each 'tomorrow' represents a unique set of possibilities and challenges that may unfold independently or concurrently, reflecting the multifaceted nature of future developments.

The 'first tomorrow' is an extrapolation of current trends, where existing patterns and behaviours continue with incremental changes. This scenario often assumes a linear progression and is typically grounded in the belief that the future will largely resemble the present. It is a 'business as usual' model.

The 'second tomorrow' diverges from this path, envisioning significant shifts that disrupt current trajectories. This future is marked by transformative changes that alter the course of society, technology, and environment in profound ways; but it is still embedded on our familiar images and metaphors of the future.

Lastly, the 'third tomorrow' contemplates radical departures from known realities, introducing novel paradigms that redefine our understanding of normalcy. This vision of the future embraces unprecedented innovations and societal reconfigurations that challenge existing frameworks.

The 3T framework serves as a valuable tool for exploring the terrain of potential futures. It encourages us to consider a spectrum of outcomes ranging from the probable to the possible to the preferable, thereby equipping us with a more nuanced understanding of what lies ahead.

To explore these futures effectively, I will employ citations that anchor our assertions within a scholarly context. By doing so, we not only validate our exploration but also engage in a dialogue with existing literature on postnormal times and future studies.

Extended Present

In the 3Ts framework, the first tomorrow is called the 'Extended Present' because it refers to anticipations or scenarios that are constructed on the basis of past and present experience. It is based on empirical evidence and requires us to carefully and critically select the key variables, as well as gather all relevant information. As such, researching the manner with which an issue or topic has developed in the past provides insight into how it may evolve in the future. Provocative questions are asked: 'What do you know about this issue/topic?'; 'Where is it going?'; 'How much has it changed to date?'; 'How much of this understanding can we use to project change into the future?'

As such, the first tomorrow is simply an extension of the present into the future: the extended present. The extended present is the tomorrow we cannot miss; the future that everyone is expecting to happen; that is readily available; that can be formulated through trends. It is linear in nature and is solidly entangled in the current global crises and conjunctures. The extended present may be understood as our mental projection of the present onto the future; this is the tomorrow in which the manufactured normalcy

field works best as it operates on surface uncertainty and plain ignorance, and it is here that most people feel more comfortable. The first tomorrow is the most widespread image of the future in foresight analysis. The futurist Peter Schwartz, in his book *The Art of the Long View: Planning for the Future in an Uncertain World*, famously coined this as the 'official future'.

The extended present is also the domain where the future is colonised. Sardar has argued that the concept of a 'colonized future' refers to the ways in which the future is shaped and controlled by dominant groups or ideologies that are projected on the future. In other words, certain groups or individuals have the power to influence and shape the future according to their interests and values, while other perspectives or voices are marginalised or excluded.

One way in which the future is colonised is through the use of dominant discourses or narratives that shape how we think about the future. These narratives are often based on assumptions and values that reflect the interests of dominant groups, and may ignore or dismiss other perspectives or ways of knowing. For example, dominant narratives about progress and growth may prioritise economic development over environmental sustainability or social justice, and ignore alternative ways of thinking about progress or wellbeing.

Another way in which the future is colonised is through the use of technologies or other tools that reinforce existing power structures or inequalities. For example, certain technologies may be designed to benefit certain groups or interests at the expense of others or may reinforce biases or inequalities in society. The use of big data and algorithms may perpetuate discrimination and exclusion by relying on biased data or algorithms that reflect dominant perspectives.

The colonised future can be perpetuated through various means, including the use of institutions and policies that reinforce existing power structures and inequalities. This can be seen in the prioritisation of economic growth or private ownership of resources, which may further marginalise certain groups or perspectives. Institutions such as corporations or governments also perpetuate power dynamics that benefit some at the expense of others.

Additionally, the ways in which we think about the future, and our own agency to shape it, play a significant role in perpetuating a colonised future. Dominant discourses or narratives about the future can create a sense of inevitability or powerlessness, limiting alternative perspectives and actions. Challenging these dominant narratives and empowering diverse voices is essential to resisting the colonisation of the future and working towards more just and equitable futures.

In the context of specific future scenarios, there are several examples of the extended present that can be discussed:

1. **Technological Singularity:** this scenario envisions a future where artificial intelligence surpasses human intelligence, potentially leading to a post-scarcity society. Proponents argue that this could meet all human needs through advanced technology. However, critics caution that it could also result in job displacement and concentration of power among a few wealthy elites – something that is already happening.
2. **Mars Colonisation:** the idea of establishing a permanent human settlement on Mars has been explored by private companies and government agencies. Supporters suggest it as a means to ensure humanity's survival in the face of global catastrophes on Earth. However, critics argue that it could

enable the wealthy and powerful to escape while leaving others behind, exacerbating inequalities.

3. **Climate Engineering:** this involves large-scale interventions to modify the Earth's climate and mitigate the effects of climate change. Proponents suggest it could help prevent severe impacts and allow for a transition to more sustainable practices. Critics raise concerns about unintended consequences and the potential to avoid addressing the root causes of climate change.
4. **Transhumanism:** advocates for transhumanism argue that we should use technology to enhance human abilities and extend life. This may involve brain-computer interfaces, genetic engineering, and cybernetic implants. Supporters envision a future where humans transcend biological limitations. However, critics warn about exacerbating existing inequalities and creating new forms of discrimination between enhanced and unenhanced individuals.

These future scenarios represent complex debates and have both potential benefits and risks. In some case, we have to resist and thwart such scenarios. In any case, it is important to critically examine and discuss the implications of these scenarios to ensure they contribute to a more equitable and sustainable future for all.

Familiar Futures

The second tomorrow, the 'Familiar Futures', resonates with what Pakistani-Australian futurist, Sohail Inayatullah, describes as the 'used future'.¹¹⁶

Familiar images and metaphors serve as cognitive shortcuts that allow us to quickly understand and process complex ideas about the future. They act as bridges between the known and the unknown, helping us to envision what lies ahead through the lens of what we already comprehend. For instance, the metaphor of a 'journey' suggests a future that is an adventure, filled with obstacles and opportunities for growth. Similarly, the image of a 'crossroads' implies a future where critical decisions must be made, influencing our path forward.

These familiar concepts not only aid in our understanding but also influence our expectations and actions towards the future. They can inspire hope or fear, caution or boldness, shaping our approach to upcoming challenges and changes. However, it's important to recognise that while these images and metaphors can be helpful, they can also be limiting by constraining our imagination to predefined paths. To truly embrace the potential of what could be, we must sometimes step beyond the familiar and explore new metaphors and images that can expand our perception of what the future holds.

As a concept, the familiar future seeks to challenge and overcome the appeal of the dominant view of the future that lies within the extended present. Science fiction literature and film have generated a rich and diverse body of alternative possibilities for our collective imagination. Science fiction often explores and examines the consequences of technological and social changes, presenting scenarios that challenge our assumptions about what is possible or desirable. It is important to recognise that painters, poets, philosophers, writers, and artists have often been among the first to identify emerging issues of change precisely because of the ways they see reality in variance with the 'mainstream'. They can use their creativity and imagination to envision possibilities that others may not have considered, and

to explore the implications of these possibilities for our future; and offer critical perspectives on important issues such as social justice, environmental sustainability, and human rights, and can inspire people to think differently about the world and their place in it. In this way, science fiction literature and film, as well as other forms of artistic expression, play an important role in expanding our collective imagination and helping us to explore new ideas and possibilities for the future.

Notable examples of works that have explored alternative futures include:

1. *Brave New World* by Aldous Huxley: This dystopian novel, later made into two films and a US TV series, depicts a future society where human beings are genetically engineered and conditioned to conform to a strict social hierarchy, warning against totalitarianism and the loss of individual freedom.
2. *Blade Runner* directed by Ridley Scott: This film, based on the novel *Do Androids Dream of Electric Sheep* by Philip K Dick, explores the blurred lines between humans and artificial intelligence, raising ethical questions about creating life and the consequences of advanced technology.
3. *1984* by George Orwell: Orwell's novel, later made into a film of the same name, portrays a totalitarian society where individual freedom and privacy are eradicated, serving as a cautionary tale against authoritarianism and the power of propaganda.
4. *The Matrix* written and directed by the Wachowskis: This film challenges perceptions of reality and the role of technology through a dystopian future where humanity is enslaved by machines.

5. *The Handmaid's Tale* by Margaret Atwood: Atwood's novel, made into a film and later a highly influential TV series, depicts a dystopian future where a theocratic regime subjugates women as reproductive slaves, warning against religious extremism and the erosion of women's rights.

These examples demonstrate how artists, writers, and filmmakers have been able to identify emerging issues and offer alternative possibilities for us to think about. By exploring alternative pasts, presents, and futures, we can gain a deeper understanding of our basic assumptions and ontologies in a postnormal world.

The familiar future is the tomorrow that allows us to introduce and explore the impact of new things and disruptive change, moving us into the realms of shallow uncertainty and vincible ignorance. The use of, and scholarship around, counterfactual histories and alternative histories demonstrate the heuristic value of exploring alternative pasts, presents, and futures to better understand the basic assumptions and ontologies of postnormal times.

Unthought Futures

The 'unthought' refers to what is outside the assumptions and axioms of our worldview; those things that are difficult for us to grasp, precisely because they lie beyond the scope of what we consider imaginable. This is because our imagination is culturally bound, nested in time and space, and as such, we are unable to imagine that of which we have no experience.

For example, in his book *Capitalist Realism: Is There No Alternative?*, the British cultural theorist and philosopher Mark Fisher argued that capitalist ideology has become so pervasive in our culture that it has become difficult for us to imagine any

alternative to it. It is easier to imagine the end of the world than to imagine the end of capitalism.

This is because our imaginations are colonised by dominant visions of the future that prioritise economic growth and consumerism over other values.¹¹⁷ It is what is left when all belief is collapsed, and reduced to meaningless rituals.

Working in unthought futures, therefore, requires us to recognise the limitations of our cultural and personal imaginations, and to seek out new forms of engagement that can help us to decolonise our futures. This means acknowledging the plurality of voices and perspectives that exist in our societies and actively working to incorporate them into our discussions about the future. It also means recognising the agency of individuals and empowering them to take an active role in shaping their own futures.

To achieve this, we need to draw in and develop methodologies for engaging with the future that go beyond traditional forms of dialogue and debate. This may involve incorporating artistic and creative practices that allow individuals to explore alternative visions of the future and to challenge dominant ideologies. It also involves creating spaces for marginalised voices to be heard and for alternative futures to be imagined and explored.

The goal of working in unthought futures is to expand our collective imagination and to create new possibilities for the future, generate new paradigms of knowing, being and doing, that are more inclusive, equitable, and sustainable. This requires us to recognise and challenge the dominant visions of the future that currently shape our world and to actively work to create a more diverse and inclusive vision of what is possible.

PART 04

POTENTIAL **RESOLUTIONS**



‘But what is this “normal”
that is so desired
by so many people?’

ZIAUDDIN SARDAR

Understanding the Timeline

We like to divide history into neat periods. It helps us see how history moves, what progress has been made, and take account of paradigm shifts, if any. The tendency to categorise history has its own history and can be traced back to the Greek poet Hesiod who divided pre-history into the Golden Age, the Silver Age, the Bronze Age, the Heroic Age, and, finally, the Iron Age. Ovid, the Roman poet, concurred and produced similar myths in his *Metamorphoses*. However, justice and peace reigned during the Golden Age, perhaps because, as Ovid tells us, man could not navigate, was confined to where he was born, and did not encounter the Other. Astrologers, in contrast, shunned metals and opted for the signs of the Zodiac, giving us ages like Taurus, Aries, and Pisces.

Different cultures, civilisations, and nations have their own periodisation. For instance, the fourteenth-century sociologist Ibn Khaldun divided history into manifest and gist, focusing not on periodisation but on how history shaped social life and the local and world environment. German historian Oswald Spengler, in *The Decline of the West*, rejected linear history and suggested that history should be seen in terms of cultures growing organically into civilisations. He recognised eight 'high cultures': Babylonian, Egyptian, Chinese, Indian, Mexican (Mayan/Aztec), Classical (Greek/Roman), Arabian, and Western. More recently, British historian Eric Hobsbawm divided post-Enlightenment history into The Age of Revolution (1789–1848), The Age of Capital (1848–1875), The Age of Empire (1875–1914), and The Age of Extremes (1914–1991).

In his paper, 'Postnormal Artefacts', Sardar explores the artefacts that define periods of human history, as a way to highlight the unique features of postnormal times. These artefacts challenge traditional categories and push us to rethink our approaches to technology,

culture, and societal structures. By identifying and understanding these artefacts, we can better navigate the complexities and uncertainties of postnormal times.

Sardar divides the timeline into four categories: classic, modern, postmodern, and postnormal:

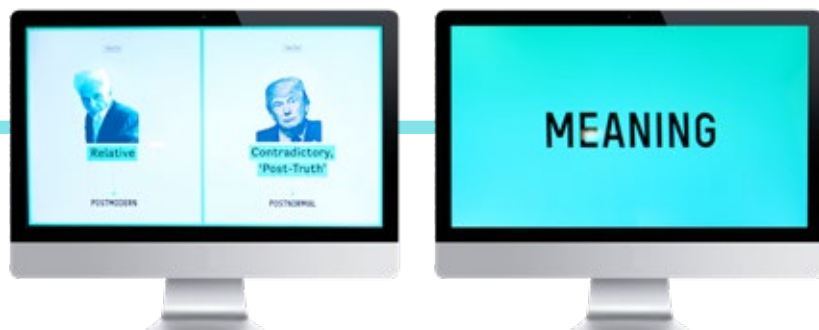
Classic: 1920 - 1950

Modern: 1950 - 1975

Postmodern: 1975 - 2005

Postnormal: 2005 -

The 'classic' here needs a little explanation. While it includes say, the classics of Greece and Enlightenment, it is largely focused on the 'roaring twenties' and beyond till 1950 because Sardar is mainly concerned with the last hundred years. It is a period where we find 'classic cars', silent films, art deco, the arrival of radio, telephones, and widely available consumer goods, jazz, and – not to forget – the emergence of America as a global power. The point is to make it a little distinct from full blown modernity ushered after the Second World War and the use of nuclear weapons in Hiroshima and Nagasaki.



Postnormal Artefacts

Meaning

Classic:	'I think, therefore I am'
Modern:	'I progress, therefore I am'
Postmodern:	'I shop, therefore I am'
Postnormal:	'I share, therefore I am'

Truth

Classic:	Monolithic
Modern:	Monolithic
Postmodern:	Relative and Pluralistic
Postnormal:	Contradictory

Identity

Classic:	'I am tradition and culture'
Modern:	'I am science and technology'
Postmodern:	'I am what I buy'
Postnormal:	'I am my Facebook page'

Change

Classic:	Quasi static, slow
Modern:	Fast
Postmodern:	Increasingly Rapid
Postnormal:	Accelerating, Chaotic

Systems

Classic:	Simple, Closed
Modern:	Complicated, Closed
Postmodern:	Complex, Open
Postnormal:	Open, Interconnected, Complex, Chaotic

Key Concepts

Classic:	Conquest, Supremacy, Progress
Modern:	Progress, Efficiency, Modernization
Postmodern:	Dissolution of 'Grand Narratives' (meaning), Multiple Truths, Plural Voices
Postnormal:	Complexity, Chaos, Contradictions, Uncertainty, Ignorance

World Order

Classic:	Competing Colonial Powers (Britain, France, Holland, US)
Modern:	Bi-Polar World; 'Cold War' (US, Soviet Union)
Postmodern:	Unipolar World (US)
Postnormal:	Multi-Polar World (US, China, Russia, EU, India, Brazil)

Knowledge

Classic:	Pursuit of Reasoned Inquiry...
Modern:	...Acquired through Scientific Progress and Development
Postmodern:	Socially Constructed and Relative, Wikipedia
Postnormal:	'Extended Facts', Embedded in Uncertainty and Ignorance

Technology

Classic:	Slow Application of Science to Make Work Easier
Modern:	Ideologically Driven to 'Improve Society', Antibiotics but also Nuclear Weapons
Postmodern:	Embedded in Politics; Genome Sequencing, Biotechnology, Information and Communication Technologies
Postnormal:	Human-Machine Synthesis, DNA editing, Drones, Cyborgs

Science

- Classic: Pursuit of Truth, funded largely by the State
- Modern: Scientific Method as Neutral, Objective Truth; funded by the State and Corporations (Military-Industrial Complex); Peer Reviewed Publication
- Postmodern: Socially Constructed; funded largely by Military-Industrial-Corporations Complex; Peer Reviewed Publication
- Postnormal: 'Facts are Uncertain, Values in Dispute, Stakes High and Decisions Urgent'; Driven by Mega Corporations (Google, Microsoft) and Billionaire Philanthropists; 'Extended Peer Communities' but still largely funded by Military-Industrial-Corporations Complex

Medicine

- Classic: No Antibiotics, or appropriate Anaesthetics
- Modern: 'Modern Surgery', Antibiotics, Electrocardiogram (EKG) Monitoring, Open Heart Surgery, Kidney Transplantation
- Postmodern: Electronic Monitoring of Patients, Microsurgery, Face Transplant
- Postnormal: Remote Surgery, Stem Cell Therapy, Synthetic Organs

Communication

- Classic: Telephone, Telegraph, Morse Code, Radio
- Modern: Microwave, Television
- Postmodern: Mobiles, e-mail, Internet, World Wide Web
- Postnormal: Instant, Perpetually Connected, 24-hour Global News Channels, Facebook, X, 'Internet of Things'

Political Organisation

- Classic: Empires
- Modern: Nation States
- Postmodern: Regional Groupings and Alliances (EC, ASEAN, OIC, NATO)
- Postnormal: Power shifts to South, Corporations, Billionaires, and Non-State Actors

Governance

- Classic: Representative Democracy
- Modern: Interest-Based Democracy (neo-liberal, hyper modern)
- Postmodern: Deliberative Democracy (diversity, plurality, 'politics of difference')
- Postnormal: Complex, Chaotic, Unmanageable

Economy

- Classic: Classical Macroeconomics (Adam Smith)
- Modern: Capitalist (free market), Communist (centrally controlled)
- Postmodern: Neoliberal Economic Globalisation (large-scale, corporate commerce and the privatisation of resources)
- Postnormal: Digital, Runway Monetarism

Equality

- Classic: Legislated discrimination, Poor Law,
- Modern: Welfare State, Equality before the Law (assumed), Trickle Down Effect will improve the lot of the poor
- Postmodern: Multiculturalism, Integration, Assimilation,
- Postnormal: Acceleration of Inequality, Rich Grow Richer at Lighting Speed

Boundaries

Classic:	Fixed
Modern:	Flexible
Postmodern:	Porous
Postnormal:	Dissolving

Nature

Classic:	To be Tamed, and Exploited
Modern:	Tamed, Under Control, but 'Limits to Growth'
Postmodern:	Social Construction of Nature, Eco-Politics
Postnormal:	Feral, Climate Change, Disappearing species

Environment

Classic:	Relatively Healthy
Modern:	Polluting
Postmodern:	Toxic
Postnormal:	Catastrophic, Climate Change

God

Classical:	God is Everywhere and Everywhere
Modern:	God is Truth (big T) (early Modern) God is Dead (Late Modern)
Postmodern:	God is the machine or God is me
Postnormal:	God is Ignorance

Religion

Classical:	Religion Explains the World
Modern:	Religion Helps Us Understand the World
Postmodern:	Religion was a Lie; Liberal Secularism is the new Theory of Salvation
Postnormal:	Religion is Uncertain, therefore must be Open to Multiple Interpretations and made Complex

War

- Classic: 'The First World War'
 Modern: 'Holocaust'
 Postmodern: 'The Gulf War' (as seen on tv)
 Postnormal: Drone Attacks, Cyber War, Militarised Robots,
 AI war machines

Protests

- Classic: Civil Disobedience (African American Civil Rights Movement), Non-Violent Resistance (Gandhi)
 Modern: Anarchist Subversion, Violent Demos (Black Panthers), Peaceful Marches (CND)
 Postmodern: Mass Mobilisation ('Gay Pride', Gulf War Protests)
 Postnormal: Propelled by Digital Media, Interconnected, Complex and Chaotic ('Arab Spring', Right wing flash mobs)

Body

- Classic: Muscular
 Modern: Athletic
 Postmodern: Androgenic
 Postnormal: Enhanced

Cities

- Classic: Mississippi, Cape Town (under apartheid)
 Modern: New York, London, Paris
 Postmodern: Tokyo, Dubai, Putra Jaya (Malaysia)
 Postnormal: Baghdad (after the Coalition withdrawal), Cairo (after two uprisings), Neom, Gaza after genocide

Films

- Classic: Mr Smith Goes to Washington, Gone with the Wind
 Modern: Invasion of the Body Snatchers, Citizen Kane
 Postmodern: Sex, Lies and Videotapes, Reality Bites
 Postnormal: Everything, Everywhere, All at Once

Television

- Classic: I Love Lucy
 Modern: Mission Impossible
 Postmodern: The Wire, Reality TV
 Postnormal: Westworld, Three Body Problem

Music

- Classic: Jazz, Big Band Swing
 Modern: Pop, Rock n Roll, Disco, Heavy Metal
 Postmodern: New Age, Psychedelic, East-West Fusion, Punk, Grunge, House
 Postnormal: Yet to make an appearance (but Canadian experimental band 'Post Normal' are making an effort)

Sex Symbol

- Classic: Mae West – 'Is that a gun, or are you just please to see me?'
 Modern: Marilyn Manro – 'Gentlemen Prefer Blonde'
 Postmodern: Modana – 'I am a material girl'
 Postnormal: Laverne Cox – 'Faking It'

Sex

- Classic: The Hayes Code (no double beds, no kisses lasting more than ten seconds, no nudity)
 Modern: 'Wham, Bam, Thank You Mam'
 Postmodern: Cybersex – Log on, Log up, Log off.
 Postnormal: Pornography is Normal

Marriage

Classic:	Monogamy
Modern:	Serial Monogamy
Postmodern:	Serial, Multiple Monogamy
Postnormal:	Hetro, Homo, Trans, Serial, Plural

Buildings

Classic:	The Empire State Building, New York
Modern:	The Guggenheim Museum, New York
Postmodern:	The Portman's Bonaventure Hotel, Los Angles
Postnormal:	The Clock Tower, Mecca

Painters

Classic:	Picasso
Modern:	Jackson Pollack
Postmodern:	Andy Warhol
Postnormal:	Banksy

Novels

Classic:	F Scott Fitzgerald, <i>The Great Gatsby</i>
Modern:	Albert Camus, <i>The Stranger</i>
Postmodern:	Salman Rushdie, <i>Midnight's Children</i> , Umberto Eco, <i>Foucault Pendulum</i> ,
Postnormal:	David Mitchell, <i>Cloud Atlas</i> , Nnedi Okorafor, <i>Who Fears Death</i>



Identity

I am
tradition and culture

CLASSIC

Identity

I am
Science and
technology

MODERN

Identity

I am
What I buy

POST MODERN

Identity

I am
Online

POST NORMAL

To understand the power of the myth of modernity, we need to go back to the aftermath of the Enlightenment, when the West found itself alone, free from the notion of a Creator or fear of condemnation. With a steadfast commitment to self-improvement and seemingly limitless resources and ingenuity, modernisation rapidly gained force and momentum. Modernity that followed, established a framework that exposed the fragility of things and then set about to reform them. This reform involved the rejection of traditional ways of life, the prioritisation of individualism, freedom, and formal equality, achieved through the advancement of industrialisation, secularisation, representative democracy, and the proliferation of market economy. Life, in modern times, was no longer seen as a given, owed to divinity and fate, rather a vocation for us all to face up to. As Bauman put it, one's identity exists only as an unfulfilled project.

This ideation for reform placed humans, specifically white men of the West, as the apex of wisdom and central to advancement. Principles were developed and disseminated to assure advancement and the maintenance of established power dynamics. Exploration, discovery, export and trade, and more recently, human rights, education, and development motivated colonialisation. Rationalism, order, and normative societal structure articulated purpose for patriarchy. In modern times linear time is necessity, the importance of the self-development celebrated, and values are disposable if they impede the advancement of self-interests. The modern world is essentially man centred. For Friedrich Nietzsche, modern society had found itself in possession of a remarkable abundance of possibilities, yet a distinct lack of morals and values. His response, the now infamous remark about the 'death of God' and the advent of nihilism.

The sociologist and philosopher Max Weber believed the inextricable order of society – with its economies and bureaucracies – meant that not only is society an 'iron cage' but all the people in it are shaped by its bars. For Weber, thanks to modernity, we are beings without

spirit. The social theorist and historian of ideas, Michel Foucault, believed there is no emancipation from societal institutions that shape us. These institutions are forces of power, they are all around us and they are within us. For Foucault, this profound enslavement is enacted through forms, which he calls 'normalising power', whereby societal ideologies not only inspire people to believe that the decisions that they make are their own, but convince them that they indeed possess a free will and that they are discharging this freedom with the manner in which they live their lives.

In a world devoid of divinity, the past becomes sacred; to be worshiped, revered, and adored. In modernity, the past provides us certainty through uncertainty. It assures us that our experiences are shared, not just across our lifetime, but by those who have lived before, all be it from a different temporal perspective. It also provides us a sense of responsibility, to continue to strive forth as our ancestors did. For their sake, as much as ours. Of course, the past can be controlled, framed and shaped. It can be put into a museum, a text book, cordoned off, and protected by government policy. A monument can be built in honour of it, a public holiday announced, and gift cards printed. The past is taught as a subject called 'history', written into curriculums, disseminated through schools and student progress is measured through a series of indicators that quantify their level of knowledge. The past is easily accessible, it sits in wait to reflect back to us the things we already know. The past is a relic we visit, not only to pay homage, but to fulfil cultural practise. In this way, we see, the past influences our images of the universe and our places in it.

Postmodernism, emerging in the late twentieth century, aimed at dismantling grand narratives and promoting a nihilistic worldview. It argued that the distinction between image and reality had evaporated, leaving everything as simulacrum. It sought to erase history and tradition, viewing them as meaningless. This led to a hegemony

of Western thought, marginalising other cultures and traditions. Postmodernism's cynicism and perpetual doubt resulted in a nihilist philosophy, ultimately becoming an imperialistic discourse that sought to subsume all non-Western people.

In contrast, postnormal times theory seeks to navigate the complexities and contradictions of our current era. While postmodernism promoted irony, ridicule, and cynicism, postnormal times recognise the value of history and tradition as sources of meaning, essential for transcending contradictions. Postnormal times theory addresses the legacy of postmodernism, acknowledging that while we are moving beyond postmodernism, its outlooks and trends continue to influence contemporary issues.

The overriding concern of postmodernism was with the demolition of the 'Grand Narratives' — Enlightenment Reason, Science, Religion, Marxism, Modernity, Tradition — anything that gives meaning and direction to our lives. Postnormal times suggest that grand narratives cannot be ignored: far from disappearing, they are deeply entrenched, and the countless contradictions we see around us are products of the clashes, conflicts, and differences that grand narratives throw up. Once you have deconstructed the postmodern onion, as Italian historian and philosopher Umberto Eco demonstrates in *Foucault's Pendulum*, there is nothing at the core: all is meaningless. Yet, in postnormal times, meaning is sought by everyone, everywhere — even at the extreme fringes of the political left and right.

Postmodernism argued that the distinction between image and reality, reality and image, had evaporated as demonstrated by French philosopher Jean Baudrillard in his article 'The Gulf War Did Not Take Place'. All is simulacrum. Postnormal times, on the other hand, takes the approach of critical realism, making specific distinctions between the self, the manufactured normalcy field, and reality, between perceptive and real change. Postmodernism sought to

give voice and representations to the 'Other' in history, anthropology, and politics, but this access was conditional: it was granted on postmodernism's own terms; the history, tradition, religions, and worldviews of the Other were already dismissed as meaningless.

Postmodernism was infatuated with irony, ridicule, and cynicism, exemplified by the 'magical realism' school of fiction of which Salman Rushdie's *The Satanic Verses* is a prime example; and promoted perpetual, all-around doubt. Cynicism and unbridled doubt become corrosive when they saturate a society or a worldview. Thus, postmodernism became a nihilist philosophy, as confirmed by Italian philosopher and politician Gianni Vattimo in his *The End of Modernity: Nihilism and Hermeneutics in Post-modern Culture*. In the final analysis, postmodernism became a hegemonic discourse, or as Sardar suggests, 'the new imperialism of western culture' that sought to subsume and consume all non-western people.

The postnormal times theory posits that we are in a transitional period between the 'no longer' and the 'not yet,' where the nature of change itself is changing. By understanding the unique artefacts and practices of postnormal times, such as selfies and deep fakes, clicktivism and slacktivism, real-time tracking, biohacking, AI, and others, we can better adapt to the rapid and unpredictable changes defining our world today.

The transition from postmodernism to postnormal times marks a departure from the fragmented, cynical outlook of postmodernism to a recognition of the need for new approaches to address the complexities of our era. By distinguishing postnormal artefacts from those of previous periods, we can better understand the specific characteristics of this unique epoch in history.

Thus, postmodernism and postnormal times theory must be distinguished from one another. Modernity and postmodernity

were two distinct epochs posited in a quite common, although by no means universal, philosophies of history. Unlike modernity and postmodernism, which were seen as the final goals of humanity, postnormal times are consciously perceived as a transitional period: 'an in-between period where old orthodoxies are dying, new ones have yet to be born, and very few things seem to make sense'.

While postmodernism and postnormal times are distinct periods, many contemporary problems and issues are a direct or indirect result of postmodernism. Through our transition, postmodernism perpetuates certain outlooks, desires, and trends. Postmodernism has preserved — or enhanced — all the classical and modern structures of oppression and domination; when 'anything goes', everything stays, and expediency guides thought and action. All postmodern traits worked towards depriving individuals of their conscience, trapping them in a system where neither the ends nor the means need moral justification. Ethics and morality are replaced with a perpetual and insatiable quest for consumption, an ever-present internal anxiety about choosing an identity wrapped in manufactured illusion, the inescapable bombardment of images and representations, and constant manipulation of/by all. Theory must address this legacy as it continues to consume us in postnormal times.

For example, our postnormal times are concomitant to digital culture; the omnipresent technologies, hyperconnectivity and vast societal structures that maintain, progress, and celebrate its place in our lives. We know that modernity asserted a single, objective truth, postmodernity revealed truth as a construct shaped by perception and power. With the emergence of digital culture, the reification of dominant forms of knowledge has become inadequate. Big data, the saturation of information, and heterogeneous claims to knowledge present a divergence from tradition. In our postnormal times we do not reject all truth claims. Rather, all truths have a claim: facts and

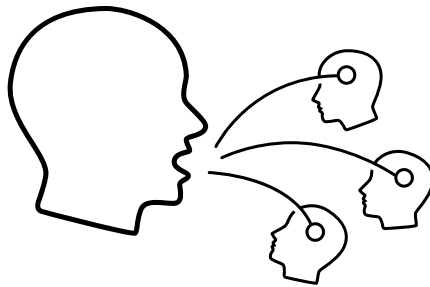
values are equal elements in the process of constructing knowledge. In our context, digital culture is a paradox of normality because of its epistemological intrusiveness. We cannot disconfirm that which is online; it is truth to someone somewhere and spreading.

Indeed, our flexible relationship with the truth (and insatiable appetite for titillation) both recognises and undermines the authority of the traditional arbiters of the truth: the scientist, the scholar, the expert, the professional. Online campaigns against established knowledge can be led by anyone, anywhere; all that is required are the readily available tools to transmit an agenda. At times, these campaigns represent a wry wink at truth conventions. At other times, they are erroneous and provoke malicious manifestations with a view to diverging communities and fostering mistrust.

New practices emerge as we creep toward total postnormality. For instance, the exercise of taking and sharing selfies with the use of mobile phones contrasts with the emergence of deep fakes – manufactured images or videos that create false realities. Social media actions like liking posts on Facebook or retweeting on X (formerly Twitter) become forms of clicktivism, often criticised as slacktivism and virtue signalling. The success of television shows involving viewer participation via mobile phones contrasts with Disney's research into facial expression recognition technology and machine learning to gather rich audience reaction data. Online dating services like Tinder, which facilitate connections through mobile phones, face the issue of catfishing as cybersex becomes normalised. Services like Amazon or Uber Eats provide real-time tracking of orders, while five-star rating systems embedded in mobile applications also allow vendors to rate customers, tracking purchasing behaviour for personalised recommendations. Personal mobile phones capturing videos shown on television news – as in cases of police brutality – now coexist with GPS systems that track and locate individuals, alerting them to incidents in real-time.

The distinctions made in Sardar's timeline — classic, modern, postmodern, and postnormal — are not rigid markers of historical determinism but conceptual tools for context and speculation. Rather than predicting an inevitable trajectory, they invite us to critically engage with the forces shaping our present and future. If postnormal times are defined by uncertainty, contradictions, and accelerating change, then what comes next is not preordained — it is open, contingent, and contested. This recognition places imagination at the centre of our inquiry. How we envision the future is not just a theoretical exercise but a political and epistemic act. In postnormal times, decolonizing the imagination becomes imperative, as the dominant visions of the future remain shaped by modernity's legacy — its hierarchies, assumptions, and power structures. To truly move beyond postnormality, we must question whose futures are being imagined, whose knowledge is legitimised, and how alternative ways of knowing and being can emerge.

Decolonising Imagination



The colonisation of imagination is a multifaceted concept that has been explored in various scholarly works. It refers to the way in which imperial powers imposed their own narratives, values, and beliefs on the colonised, shaping their perception of reality and self-identity. This process often involved the creation of a literature that justified racism, antisemitism, Islamophobia, and intolerance, works that reflected and reinforced the ideologies of

imperialism, producing stereotypes and affirming the superiority of the Western world. The enduring impact of colonialism on imagination is evident in the persistent echoes of colonial narratives in contemporary culture. Despite the physical end of empires, the colonial imagination continues to shape the way the West conceives of itself and the 'Other.'

Imagination is also colonised willingly by the colonised as Ashis Nandy, the noted Indian intellectual and futurist, shows in *The Intimate Enemy*. The Moroccan philosopher, Malek bin Nabbi, suggested that a culture has to be in a state of 'colonisability' before it can be colonised – meaning there is a vacuum where there ought to be imagination. I have already suggested that the extended present – the extension and projection of the present onto the future – is itself a way of colonising the future, and thus the imagination that shapes alternative futures.

Decolonising our imagination involves recognising the ways in which our cultural and personal imaginations have been shaped by colonialism, modernity, postmodernism, and other forms of domination. It requires us to challenge the dominant narratives and ideologies that shape our imaginations and to create space for alternative visions and perspectives. By embracing a diversity of voices and knowledge systems, particularly those previously sidelined by colonial discourses, we can begin to decolonise our imagination and envision futures that are inclusive and representative of a multiplicity of experiences and histories.

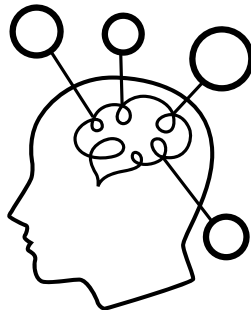
We must begin by actively seeking out and listening to marginalised voices and perspectives. This can involve engaging with communities and individuals who have been historically excluded or silenced from mainstream cultural and political discourse. By bringing their experiences and perspectives from the periphery to the centre, we can begin to expand our imaginations

beyond the dominant narratives that have traditionally shaped our understanding of the world.

Another way to decolonise our imagination is to engage with diverse forms of artistic and cultural expression. This can involve exploring works of literature, film, art, music, and other forms of creative expression that challenge dominant narratives and offer alternative perspectives. By engaging with these forms of expression, we can begin to expand our imaginations and explore new ways of understanding the world and our place in it.

Ultimately, decolonising our imagination requires a willingness to challenge the dominant narratives and ideologies that shape our culture, politics, and understanding of the world. This can involve engaging in political activism, advocating for social justice and equality, and working to create more inclusive and equitable communities. It means actively seeking out alternative perspectives and creating space for diverse voices and experiences to be heard. By doing so, we can begin to expand our imaginations and create new possibilities for futures that are more inclusive, equitable, and sustainable – and lay the foundation for postnormal imaginations.

Postnormal Imagination



Postnormal imagination offers a blueprint for developing a form of imagination that is attuned to the realities of our times. It is an imagination that is complex, ethical, and inclusive, capable of envisioning a future that is as rich and diverse as the world we live in.

The cultivation of postnormal imagination requires a fundamental shift in our approach to thinking and understanding the world. It is about moving beyond traditional frameworks that have long governed our societies and embracing a new paradigm better suited to the complexities and uncertainties of the modern era.

To cultivate a postnormal imagination, one must first embrace the inherent complexity of our world. This means recognising that simple, linear solutions are often inadequate for addressing the multifaceted challenges we face. It involves a willingness to engage with a variety of disciplines and perspectives, weaving together a tapestry of understanding that can accommodate the rich textures of global issues.

Accepting uncertainty is another cornerstone of postnormal imagination. The future is not a fixed destination but a horizon of possibilities, constantly reshaped by emerging information and events. Cultivating postnormal imagination requires an openness to new ideas and a readiness to adapt one's understanding in light of new developments. It is about being comfortable with not having all the answers and being prepared to navigate the unknown.

Challenging conventional wisdom is also essential. This involves questioning the established norms and beliefs that often go unexamined. It is about exploring alternative viewpoints and considering the validity of other paradigms, even those that may seem at odds with our own. By doing so, we can break free from the intellectual constraints that limit our ability to imagine different futures.

Ethical consideration is deeply embedded in Sardar's concept of postnormal imagination . Our imaginative endeavours should not only be creative but also responsible. We must reflect on how our ideas impact others and strive to envision futures that are inclusive and equitable. This ethical compass guides us to imagine not just what is possible, but what ought to be, what is just and right.

Interdisciplinary learning is another way to cultivate postnormal imagination. By drawing from different fields, cultures, and philosophies, we can expand our cognitive framework and integrate diverse knowledge systems. This broadened perspective allows us to see connections and patterns that might otherwise remain hidden. Creative collaboration is also vital. Working with others to combine skills and insights can lead to a richer and more nuanced imagination. Engaging in dialogues that challenge and refine our ideas helps us to develop a more robust and flexible imagination.

Finally, reflective practice is key to cultivating postnormal imagination. Regularly examining our thought processes and biases, being mindful of the limitations of our knowledge, and seeking to expand it are all practices that foster a postnormal imagination. It is about being aware of our position in the world and constantly striving to move beyond it.

Developing a postnormal imagination involves engaging in activities that challenge our usual patterns of thinking and encourage us to explore new possibilities. Here are some practical exercises that could promote postnormal imagination:

- **Mind Mapping:** Begin with a central idea and visually branch out to related concepts, allowing for unexpected connections and insights. This exercise encourages nonlinear thinking and can be applied to various scenarios, such as project planning or brainstorming for new ventures.

- **Active Imagination:** Inspired by Carl Jung's technique, this starts with an image from a dream or a strong emotion and letting your mind wander freely, expressing the resulting images through writing, drawing, or other creative mediums. This can help bridge the gap between your conscious and unconscious mind.
- **Improvisational Games:** Engage in activities where you are required to respond spontaneously, such as pretending to interact with imaginary objects. This can stretch your imagination and help you react creatively to unexpected scenarios.
- **Creative Writing:** Write stories or poems that transform the mundane into the beautiful. For example, take an ordinary event from your day and reimagine it unfolding in a completely different world.
- **Visualisation:** Practice visualisation exercises where you picture vivid scenarios or outcomes, enhancing your ability to imagine detailed and complex situations.
- **Role-Playing:** Assume different personas or roles in various contexts to explore perspectives and ideas that are not your own, fostering empathy and broader thinking.

By incorporating these exercises into your routine, you can strengthen your imaginative capabilities and better navigate the complexities and uncertainties of postnormal times.

Polylogues



The concept of polylogues can be traced back to the work of German theologian and philosopher Franz Rosenzweig, who developed the idea in the early 20th century. Rosenzweig believed that dialogue between different cultural and religious traditions was essential for overcoming the narrowness of a particular worldview and for achieving a more expansive and inclusive understanding of the world.

It has been further developed by a number of theorists, Russian philosopher Mikhail Bakhtin, who emphasised the importance of dialogue in creating new forms of meaning. Belgian French philosopher and literary critic Julia Kristeva has also contributed to the development of the concept, particularly in her work on intertextuality and the ways in which different cultural traditions can be woven together to create new meanings and understandings. Other theorists who have contributed to the development of the concept include American philosopher and political theorist Fred Dallmayr, who has written extensively on the role of dialogue in creating a more peaceful and just world, and Norwegian philosopher Arne Naess, who saw it as an essential component of deep ecology.

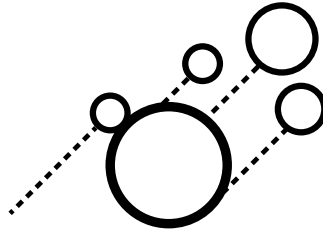
In the context of postnormal times theory, Sardar has emphasised the importance of polylogues as a tool for navigating complexity and uncertainty. In a world where traditional ways of understanding and resolving conflicts are no longer sufficient, polylogues offer a way to engage with multiple perspectives and draw on different ways of knowing to find new solutions and possibilities.

Polylogues recognise that there is no longer a single dominant worldview or way of knowing, and that we need to find new ways of engaging with each other and the world around us. By creating spaces for dialogue and multiple perspectives, we can better understand the complexity of the challenges we face, and work towards more inclusive and sustainable solutions.

To navigate postnormal times, there needs to be a diversity of thinking, the ability to see the world in all its plurality, from multiple perspectives. Polylogues is akin to, but not the same as, the concept of 'extended peer communities' described by Jerry Ravetz and Silvio Funtowicz with regard to post-normal science. Polylogues emphasise an approach to participation that is not only horizontal (the usual peer sense) but also vertical, embracing not just those affected or involved in the issue but a much broader range of viewpoints and a host of different perspectives. This means that participation is not only contains multitudes but is multifaceted too.

Polylogues seek to rethink deeply held traditions and practices of knowledge production and dissemination as a way to navigate postnormal times. Polylogues – conceptualised in both the business and community sectors – encourage multilevel communication, collective sense-making, and a cocreation of meanings to examine varied viewpoints, withholding decision making until shared agreements are reached and deep reflections enacted. In this way, rather than a cascade down of information and knowledge from those in authority or those in positions of hierarchical power, polylogues move new ideas from the local level, informed by lived experience or wisdom, upward in a way that ensures ownership of solutions are shared by all. This requires an approach to leadership that is collaborative and shared: transformative leadership that acknowledges that everyone can lead, and everybody, whether conscious of their agency or not, contributes to and cocreates the world we live in.

Transformative Leadership



Transformative leadership is a leadership approach that creates meaningful change through a process of personal and collective transformation. At its core, transformative leadership is about empowering individuals and communities to recognise their own potential for change and to act towards creating a better future.

According to Alfonso Montuori, a pioneer in the fields of creativity and integral studies, transformative leadership is a leadership approach that recognises the importance of personal and collective transformation, visionary thinking, collaboration, and action-oriented engagement. Transformative leaders begin by transforming themselves. They engage in a process of self-discovery, reflection, and growth that allows them to develop a deep sense of self-awareness and empathy. This process enables them to connect with others on a deeper level and to create more meaningful and authentic relationships.

Transformative leaders are able to think beyond the status quo and imagine new possibilities for the future. They are able to articulate a clear vision of what they want to achieve and inspire others to join them in working towards that vision.

More than this, they work collaboratively with others to create change. They seek to build inclusive and diverse communities that are able to work together towards a common goal. They recognise that meaningful change requires the input and participation of

many different perspectives and experiences. And finally, they are not content to simply talk about change; they are committed to taking action towards creating that change. They are willing to take embrace complexity and work to transcend contradictions to achieve their goals.

In this way, transformative leadership and polylogues dovetail conceptually. Polylogues are a devolution of decision making responsibilities and an evolution of a cadre of sense-makers and cocreators. Transformative leaders create and nurtures spaces for polylogues to occur. By providing participants the opportunity to express their opinions and work together towards potential solutions through negotiations, polylogues can become a focal experience that concurrently satisfies many of the existential dimensions of human experience.

In this way the postnormal polylogue is an aspirational process that, when applied to a system, collegiately embraces and values diverse opinions, whilst embracing commonality toward a shared and collaborative future.

Within this framework 'socially robust knowledge...capable of dealing with unknown and unforeseeable contexts' is fostered and tested.

Moving Beyond Postnormal Times

Where we go from here is entirely dependent on the actions we take today. Sardar tells us that to transition to the new, we should look to the age-old virtues of humility, modesty, and accountability to begin a coherent debate about the future we wish to have for ourselves. He says that 'modernisation, progress, bureaucracy, science and all the disciplines of modern knowledge emerged complete with a rich

sustaining mythology whose most basic tenet was the delusional notion that they were value neutral, universal and inherently good.' In these ignorant and uncertain times, it is the chaos, complexity, and contradiction where we must focus our attention. From here we must negotiate, with the diversity of voices, and their plurality of opinions, all invited, and all heard, toward an ethical response for our transitional dilemma.

As we transition to a new epoch, we must excavate the relics of modernity and find within them something for people to believe. While postmodernists may have believed to have announced the end of modernity, this thesis has now proven to be a fallacy. The grand narratives, characteristics, vices and virtues of modernity, remain – albeit ratcheted up to absurdity.

To be modern, the philosopher Marshall Berman argued, is to experience personal and social life as a maelstrom – to be modernist is to make oneself somehow at home in the maelstrom, 'to make its rhythms one's own, to move with its currents in search of the forms of reality, of beauty, of freedom, of justice, that its fervid and perilous flow allows'. This is good instruction – and provides us with a head-start in thinking about how we should be in postnormal times

Be Postnormal

We cannot control postnormal times. But postnormal times theory helps us to understand the landscape, insisting that our focus should be on the uncertain, unknown, and unthought to really understand how the world is changing. In doing so, it reframes the changes today that feel like crisis, as a period of transition, where old orthodoxies are dying, and new ones have yet to be created. In this regard postnormal times theory is nonbinary. It insists that the age-old Aristotelian logic is part of the problem and not the answer.

Some of the logic may remain, but we must be prepared to let go of some of it too.

Postnormal times theory moves us beyond binary reasoning to help us find new ways of thinking and analysing our current problems and test new methods for discovering viable solutions. And it emphasises agency, reminding us that what comes after this period of significant transformation can be consciously shaped to be more globally and ecologically relevant, more pluralistic, more humane, and more peaceful alternative. What this means is that, through the lens of postnormal times, we can produce new definitions of everything from art to architecture, politics to policy, science to spirituality, and even what it means to be human.

The futurist Allen Tough has said that our civilisation has profound potential to 'not only flourish happily but also to deteriorate appallingly. In fact, humanity literally has the capacity to exterminate itself, thus joining many other species that have become extinct. However, our civilisation has the capacity to avoid the worst dangers and flourish peacefully for thousands of years.' This is something we cannot lose sight of. If we can understand the ways in which we are victims of our own entrapment, we can develop an awareness of the collective sense of crisis that plagues society. It is not simply that we created this problem, so we need to create solutions to get ourselves out of the problem. Rather, we made the world the way it is, and we can just as easily make the world anew.

And what of our hero Shaun you ask? Was he able to survive the zombie apocalypse and win back Liz?

He does.

In a wonderful final scene, we find Shaun and Liz at home having a cup of tea on the couch planning their day ahead. Life after the apocalypse seems like domestic bliss. 'I might just pop down to the garden for a bit... only two seconds' Shaun says to Liz, before dashing out the back door. There, in his garden shed we find Ed, a zombie now, chained to bench playing video games. Shaun picks up a video game controller, drops down next to him on a wooden crate, and joins in the game. A lovely example of being postnormal, and perhaps a metaphor for how we may begin to think about commencing our navigation of postnormal times.

As we stand there, in the kitchen, hugging the zombie, perhaps we should try to reimagine our relationship with the zombie. The zombie fills us with fear as it reminds us of our fundamental deficits as a humanity. The zombie disciplines of modernity, as drivers that perpetuate these deficits, are proving obsolete to meet the challenges presented in these postnormal times. My proposition has been that, rather than ward off the zombie apocalypse, as we are taught to do in Hollywood movies and popular culture, we should embrace the Otherness of the zombie, uncover and embrace the intimacy that underlies our uncanny relationship with the flesh eating undead, and seek to navigate the future together. By examining images of the future – uncovering cultural assumptions, with a view toward transformation – a new approach to the future provides us with a tool-kit we can use to shape a 'better, saner, more globally and ecologically relevant, more pluralistic, more humane, and more peaceful alternative'. Zombies are not the enemy, rather, relics from a modernity that require excavation, revamping, and reframing to help us transition toward that which is to come after postnormal times. After all, the zombie is fundamentally – metaphorically – transformative. And it with this notion, we should commence our navigation of postnormal times.



NOTES AND REFERENCES

- ¹ Harari, Y. N. (2018). *21 lessons for the 21st century*. Spiegel & Grau.
- ² Hawking, S., 'This is the most dangerous time for our planet', *The Guardian*, (1 Dec 2016), <https://www.theguardian.com/commentisfree/2016/dec/01/stephen-hawking-dangerous-time-planet-inequality>
- ³ Rees, M., *Our Final Century: Will Civilization Survive the Twenty-First Century*, (Arrow, London, 2004).
- ⁴ Fraser, N., *The old is dying and the new cannot be born: From progressive neoliberalism to Trump and beyond*, (Verso Books, 2019)
- ⁵ T. Morton, *Dark ecology: For a logic of future coexistence*, (Columbia University Press, 2016).
- ⁶ Curtis, A. (Director). (2021). *Can't get you out of my head* [Documentary series]. BBC.
- ⁷ Zeihan, P. (2022). *Tāhe end of the world is just the beginning: Mapping the collapse of globalization*. Harper Business.
- ⁸ Robinson, K. S. (2020). *The ministry for the future*. Orbit.
- ⁹ Han, B.-C. (2020). *The disappearance of rituals: A topology of the present* (D. Steuer, Trans.). Polity Press.
- ¹⁰ Östlund, R. (Director). (2022). *Triangle of sadness* [Film]. Plattform Produktion, Coproduction Office.
- ¹¹ Garland, A. (Director). (2022). *Men* [Film]. DNA Films, A24.
- ¹² Solnit, R., & Lutunatabua, T. Y. (Eds.). (2023). *Not too late: Changing the climate story from despair to possibility*. Haymarket Books.
- ¹³ Chambers, B. (2015–2021). *Wayfarers series* [Book series]. Harper Voyager.
- ¹⁴ Norberg, J. (2023). *The capitalist manifesto: Why the global free market will save the world*. Atlantic Books.
- ¹⁵ Rosling, H., Rosling, O., & Rosling Rönnlund, A. (2018). *Factfulness: Ten reasons we're wrong about the world—and why things are better than you think*. Flatiron Books.

- ¹⁶ Sudeikis, J., Lawrence, B., Kelly, J., & Goldstein, B. (Creators). (2020–2023). *Ted Lasso* [TV series]. Apple TV+.
- ¹⁷ Gerwig, G. (Director). (2023). *Barbie* [Film]. Warner Bros. Pictures.
- ¹⁸ R. Wijnberg, 'The great paradox of our time: Everything is both better and worse than ever before', *The Correspondent*, (7 Nov 2019), <https://thecorrespondent.com/104/the-great-paradox-of-our-time-everything-is-both-better-and-worse-than-ever-before>
- ¹⁹ V. P. Glăveanu, 'Possibility studies: A manifesto', *Possibility Studies & Society*, 1(1–2), (19 Nov 2022) <https://doi.org/10.1177/27538699221127580>
- ²⁰ J. Vervaeke, C. Mastropietro & F. Miscevic, *Zombies in Western Culture: A Twenty-First Century Crisis*, (Open Book Publisher, 2017), 42.
- ²¹ Z. Bauman, *Liquid Times*, (Polity, 2007) pp. 96.
- ²² Z. Sardar, *Future: All That Matters*, (Hodder & Stoughton, 2013).
- ²³ Rushkoff, D. (2014). *Present shock: When everything happens now*. Penguin.
- ²⁴ K. Marx, 'The Poverty of Philosophy', Karl Marx and Frederick Engels, *Collected Works*, Volume 6, 1845–1848, (Lawrence & Wishart, London, 1976), 127. Translation altered to avoid the use of 'man' as a masculine collective singular.
- ²⁵ Z. Bauman, *Liquid Times*, (Polity, 2007), 11.
- ²⁶ Z. Bauman, *Liquid Modernity*, (Polity, 2000).
- ²⁷ J. Dator, 'Decolonizing the future', *Journal of Futures Studies*, 9(3), (Feb 2005), <https://jfsdigital.org/wp-content/uploads/2014/01/93-E04.pdf>
- ²⁸ T. Friedman, *Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations*, (Farrar, Straus and Giroux, 2016)
- ²⁹ E. McCormick, 'Tesla trial: did Musk's tweet affect the firm's stock price? Experts weigh in', *The Guardian* (19 Jan 2023), <https://www.theguardian.com/technology/2023/jan/28/tesla-trial-elon-musk-what-you-need-to-know-explainer>
- ³⁰ A. Durkee, 'Tesla Shareholders Go To Trial Over Elon Musk's Tweet – And These Lawsuits Could Be Next', *Forbes*, (17 Jan 2023), <https://www.forbes.com/sites/alisondurkee/2023/01/17/tesla-shareholders-go-to-trial-over-elon-musks-tweet--and-these-lawsuits-could-be-next/?sh=64f56b3f2cc0>
- ³¹ E. McCormick, 'Tesla trial: did Musk's tweet affect the firm's stock price? Experts weigh in', *The Guardian* (19 Jan 2023), <https://www.theguardian.com/technology/2023/jan/28/tesla-trial-elon-musk-what-you-need-to-know-explainer>
- ³² M. Berman, *All That Is Solid Melts Into Air: The Experience Of Modernity*, (Penguin Books, 1988).

- ³³ R. Muirhead & N. L. Rosenblum, *A lot of people are saying*, (Princeton University Press, 2019).
- ³⁴ M. Thomas & V. Venema, 'Neom: What's the green truth behind a planned eco-city in the Saudi Desert?', *BBC News*, (22 Feb 2022), <https://www.bbc.co.uk/news/blogs-trending-59601335>
- ³⁵ *Journal of Consumer Culture*, 'Interview with Ulrich Beck', 1 / 2 (July 2001), 261-277 <https://doi.org/10.1177/146954050100100209>
- ³⁶ U. Beck, *Risk Society: Towards a New Modernity*, (University of Munich, Germany, 1992).
- ³⁷ U. Beck, 'The Silence of Words: On Terror and War', *Security Dialogue*, 34 / 3 (Sept 2003), 255-267.
- ³⁸ J. Rutherford, 'Zombie categories: interview with Ulrich Beck', *Art of Life*, (London: Lawrence & Wishart, 2000).
- ³⁹ *Transcripts*, 'Pentagon Briefing', (Feb 2002), <https://transcripts.cnn.com/show/se/date/2002-02-12/segment/04> .
- ⁴⁰ L. Mayo & S. Miah, 'Zombie Disciplines: Knowledge, Anticipatory Imagination, and Becoming in Postnormal Times', *World Futures Review*, 13 / 2 (July 2021), 157-171. <https://doi.org/10.1177/19467567211025546>.
- ⁴¹ See Ziauddin Sardar, *The Namesake: Futures, futures studies, futurology, futuristic, foresight – What's in a name?* *Futures* 42 (3) 177-184 April 2010.
- ⁴² Z., Bauman, *Liquid Modernity*, (Polity, 2000).
- ⁴³ R. Braidotti, *The Posthuman*, (Polity Press, 2013).
- ⁴⁴ R. Braidotti, *Posthuman Knowledge*, (Polity Press, 2019).
- ⁴⁵ Z. Sardar, 'Welcome to Postnormal Times', *Futures*, 42 / 5, (June 2010), 435-444. <https://DOI.Org/10.1016/J.Futures.2009.11.028>
- ⁴⁶ *Futures: For the interdisciplinary Study of Futures, Anticipation and Foresight*. <https://journals.elsevier.com/futures>
- ⁴⁷ Z. Sardar, 'Postnormal Times Revisited', *Futures*, 67 (March 2015), 26-39. <https://DOI.Org/10.1016/J.Futures.2015.02.003>
- ⁴⁸ S. O. Funtowicz & J.R. Ravetz, 'Science for The Post-Normal Age', *Futures*, 25 / 7 (September 1993), 739-755. doi:[https://doi.org/10.1016/00163287\(93\)90022-L](https://doi.org/10.1016/00163287(93)90022-L)
- ⁴⁹ Funtowicz, S. O., & Ravetz, J. R. (1993). Science for the post-normal age. *Futures*, 25(7), 739-755. [https://doi.org/10.1016/0016-3287\(93\)90022-L](https://doi.org/10.1016/0016-3287(93)90022-L)
- ⁵⁰ D. Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting*, (New York: Basic Books, 1973).

- ⁵¹ J.F. Lyotard, *The Postmodern Condition: A Report on Knowledge*, (Manchester University Press, 1984).
- ⁵² Z. Bauman, *Liquid Modernity*. (Polity, 2000).
- ⁵³ A. Montuori & G. Donnelly, 'Transformative leadership', *Handbook of Personal and Organizational Transformation*, (Springer, 2017), 319-350.
- ⁵⁴ L. McIntyre, 'Post-Truth', *European Journal of Communication*, 33 / 5 (Sept 2018), 574-575. doi:10.1177/0267323118799184
- ⁵⁵ James Birdle, *The New Dark Age*, Verso, 2018
- ⁵⁶ Shoshana Zuboff, *The Age of Surveillance Capitalism*, Profile Books, 2019
- ⁵⁷ Beginning with Ravetz and Funtowicz, 'post-normal' had been written with a hyphen. The CPPFS has stressed postnormal (without the hyphen) as a way to discuss this phenomenon. The worry was that this would become another buzzword simply made by adding a 'post-' before something that has only slightly changed. Postnormal Times are indeed about something not before seen in history, but since we do not know what the next epoch will be at this time, the transition required a name that did not denote 'more of the same' but with a different hat. Those working in post-normal science will often still use the hyphen, but most serious postnormal times research uses the word without the hyphen.
- ⁵⁸ L. Mayo & S. Miah, 'Zombie Disciplines: Knowledge, Anticipatory Imagination, and Becoming in Postnormal Times', *World Futures Review*, 13 / 2 (July 2021), 157–171. <https://doi.org/10.1177/19467567211025546>
- ⁵⁹ A neo-liberal assertion laid out by many, but most famously and articulately by F. Fukuyama in 'The End of History?', *The National Interest*, 16 (1989), 3–18. <http://www.jstor.org/stable/24027184>
- ⁶⁰ For further reading on the experience of the Other, you may wish to start with Ziauddin Sardar's *Postmodernism and the Other*, Pluto Press. 1998
- ⁶¹ J. Serra & Z. Sardar, 'Intelligence in Postnormal Times', *World Futures Review*. 9 / 4 (May 2017) DOI: 194675671770927. 10.1177/1946756717709277.
- ⁶² A. Montuori & G. Donnelly, 'Transformative leadership', *Handbook of Personal and Organizational Transformation*, (Springer, 2017), 319-350.
- ⁶³ Z. Sardar, 'The smog of ignorance: Knowledge and Wisdom in Postnormal Times', *Futures*, 120 (June 2020), <https://www.sciencedirect.com/science/article/pii/S0016328720300446>
- ⁶⁴ There has been much written about this characteristic of the global system, however Thomas Piketty articulates this very clearly in his book *Capital and ideology*.
- ⁶⁵ Z. Sardar, 'Postnormal Times Revisited', *Futures*, 67 (March 201), 26-39. <https://DOI.Org/10.1016/J.Futures.2015.02.003>

- ⁶⁶ L. Mayo, 'The Postnormal Condition: A Report of Digital Knowledge, *Journal of Futures Studies*, 24 / 4 (April 2020), 61-72.
- ⁶⁷ M. W. Davies, 'Postmodern times: Are we there yet?', *Futures*, 43 /2, (March 2011), 136-141, <https://doi.org/10.1016/j.futures.2010.10.001>
- ⁶⁸ S. Cole, 'Alliterative Logic: A Theory for Postnormal Times, *Futures*, 43 /2, (March 2011), 209-215, <https://doi.org/10.1016/j.futures.2010.10.010>
- ⁶⁹ S. Cubitt, R. Hassan & I. Volkmer, 'Postnormal Network Futures: A Rejoinder to Ziauddin Sardar', *Futures*, 42 /6, (Aug 2010), 617-624, <https://doi.org/10.1016/j.futures.2010.04.021>
- ⁷⁰ R. Kapoor, 'Is There a Postnormal Time? From the Illusion of Normality to the Design for a New Normality', *Futures*, 43 /2, (March 2011), 216-220, <https://doi.org/10.1016/j.futures.2010.10.012>
- ⁷¹ J. M. Gidley, 'Postformal Priorities for Postnormal Times: A Rejoinder to Ziauddin Sardar', *Futures*, 42 / 6, (Aug 2010), 625-632, [10.1016/j.futures.2010.04.022](https://doi.org/10.1016/j.futures.2010.04.022)
- ⁷² See Ziauddin Sardar, Shamim Miah, C Scott Jordan, *The Postnormal Times Reader* volume 2, IIIT/CPFFS, 2024.
- ⁷³ See CPPFS website: <http://www.cppfs.org>
- ⁷⁴ *Futures Studies* is a well established field of research. If you would like to gain a good foundational understanding of *Futures Studies* you may like to look at Jennifer Gidley's *The Future: A Very Short Introduction* (Oxford University Press, 2017) or Ziauddin Sardar's *Future: All That Matters*, (Hodder & Stoughton, 2013)
- ⁷⁵ Z. Sardar, 'Welcome to Postnormal Times', *Futures*, 42 / 5, (June 2010), 435-444, <https://DOI.Org/10.1016/J.Futures.2009.11.028>
- ⁷⁶ Z. Sardar, 'Postnormal Times Revisited', *Futures*, 67 (March 2015), 26-39, <https://DOI.Org/10.1016/J.Futures.2015.02.003>
- ⁷⁷ See Anne Alexander, 'Digital Generation', *Critical Muslim 1: The Arabs Are Alive*, Hurst, 2012, p85-104
- ⁷⁸ S. Al-Arshani, 'Before and after photos show how stay-at-home orders helped Los Angeles significantly reduce its notorious smog', *Insider* (April 2020), <https://www.businessinsider.com/photos-stay-at-home-order-reduced-los-angeles-notorious-smog-2020-4>
- ⁷⁹ Q. Liu, J. T Harris, L. S Chiu, D. Sun, P. R Houser, M. Yu, D. Q Duffy, M. M Little & C. Yang, 'Spatiotemporal impacts of COVID-19 on Air Pollution in California, USA', *Science of the Total Environment*, 1 / 750 (Jan 2021), 141592. doi:10.1016/j.scitotenv.2020.141592
- ⁸⁰ 'Venice's canals run clear as coronavirus lockdown eases pollution' by The Guardian, published on March 30, 2020. – 'Nature is taking back Venice': wildlife

returns to tourist-free city <https://www.theguardian.com/environment/2020/mar/20/nature-is-taking-back-venice-wildlife-returns-to-tourist-free-city>

- ⁸¹ 'Lockdowns around the world are dramatically cutting pollution' by National Geographic, published on April 22, 2020. – 'Pollution made COVID-19 worse. Now, lockdowns are clearing the air'.
- ⁸² McKinsey & Company. (2020, October 5). How COVID-19 has pushed companies over the technology tipping point—and transformed business forever. McKinsey & Company. <https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/charts/digital-fast-forward-homebound-consumers-forced-companies-to-jump-years-ahead>
- ⁸³ A. Whitman, 'It's Time to drop 'new normal' from your vocabulary', *CEOWORLD Magazine*, (July 2021), <https://ceoworld.biz/2021/07/27/its-time-to-drop-new-normal-from-your-vocabulary/>
- ⁸⁴ Sardar, Z., & Abrams, I. (1999). *Introducing Chaos* (2nd ed.). Icon Books.
- ⁸⁵ Sam Cole (2011). Alliterative logic: A theory of postnormal times. *Futures* 43: 209-215.
- ⁸⁶ Axel Bruns (2019). *Are Filter Bubbles Real?* Polity Press.
- ⁸⁷ Donatella della Porta (2015). *Social Movements in Times of Austerity: Bringing Capitalism Back into Protest Analysis*. Polity Press.
- ⁸⁸ Nick Bostrom (2014). *Superintelligence: Paths, Dangers, Strategies*. Oxford University Press.
- ⁸⁹ David Wallace-Wells (2019). *The Uninhabitable Earth: Life After Warming*. Tim Duggan Books.
- ⁹⁰ Thomas Piketty (2020). *Capital and Ideology*. Harvard University Press.
- ⁹¹ Jones C., Serra del Pino J., Mayo L. (2021). The Perfect Postnormal Storm: COVID-19 Chronicles (2020 Edition). *World Futures Review* 13(2): 71–85. <https://journals.sagepub.com/doi/pdf/10.1177/19467567211027345>
- ⁹² L. Mayo, 'The Postnormal Condition: A Report of Digital Knowledge, *Journal of Futures Studies*, 24 / 4 (April 2020), 61-72.
- ⁹³ Holling C.S., Gunderson L.H., & Peterson G.D. (2002). Sustainability and panarchies. In Gunderson L.H., & Holling C.S. (Eds.), *Panarchy: Understanding transformations in human and natural systems* (pp. 63-102). Island Press.
- ⁹⁴ Morin E. (2008). *On complexity*. Hampton Press.
- ⁹⁵ Capra F., & Luisi P.L. (2014). *The systems view of life: A unifying vision*. Cambridge University Press.
- ⁹⁶ Jack, I. (2019, November 23). News ignorance is bliss – but only for the moment.

- The Guardian. Retrieved from <https://www.theguardian.com/commentisfree/2019/nov/23/news-ignorance-is-bliss-but-only-for-the-moment>
- ⁹⁷ Pankaj Mishra, you can use this book: Mishra, P. (2017). *Age of anger: A history of the present*. Penguin Books.
- ⁹⁸ Gross, M., & McGoey, L. (Eds.). (2015). *Routledge international handbook of ignorance studies*. Routledge.
- ⁹⁹ Proctor R., Schiebinger L., eds. (2008). *Agnotology: The Making and Unmaking of Ignorance*. Stanford University Press.
- ¹⁰⁰ T. Nichols, 'How America Lost Faith in Expertise: And Why That's a Giant Problem', *Foreign Affairs*, (March / April 2017), <https://www.foreignaffairs.com/articles/united-states/2017-02-13/how-america-lost-faith-expertise> .
- ¹⁰¹ L. Mayo & S. Miah, 'Zombie Disciplines: Knowledge, Anticipatory Imagination, and Becoming in Postnormal Times', *World Futures Review*, 13 / 2 (July 2021), 157–171. <https://doi.org/10.1177/19467567211025546>
- ¹⁰² IPCC. (2014). *Climate change 2014: Synthesis report. Contribution of Working Groups I, II and III to the fifth assessment report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri & L.A. Meyer (eds.)]. IPCC.
- ¹⁰³ Steger M.B. (2017). *Globalization: A very short introduction* (4th ed.). Oxford University Press.
- ¹⁰⁴ Mallapaty, S. (2021). The coronavirus is here to stay — here's what that means. *Nature News Feature*. <https://www.nature.com/articles/d41586-021-00396-2>
- ¹⁰⁵ Dhingra, S., Ottaviano, G., Sampson, T., & Van Reenen, J. (2017). The consequences of Brexit for UK trade and living standards. *The Economic Journal*, 127(604), F593-F618.
- ¹⁰⁶ Silver N., Bacon P., Bycoffe A., Enten H., Frostenson S., Rakich N., Thompson E., & Wilson K. (2020). How FiveThirtyEight's 2020 presidential forecast works — And what's different because of COVID-19. *FiveThirtyEight Methodology*. <https://projects.fivethirtyeight.com/2020-methodology/>
- ¹⁰⁷ Smith et al., "The Impact of Autonomous Vehicles on Urban Planning," *Journal of Urban Technology*, 2021.
- ¹⁰⁸ Jones & Williams, "Economic Shifts in the Age of Automation," *Economic Review*, 2020.
- ¹⁰⁹ V. Rao, 'Welcome to the Future Nauseous', *Ribbonfarm* [blog post] (9 May 2012) <https://www.ribbonfarm.com/2012/05/09/Welcome-To-The-Future-Nauseous/>
- ¹¹⁰ E. S Herman & N. Chomsky, *Manufacturing Consent: The Political Economy of the Mass Media*, (Random House, 1988)
- ¹¹¹ See James Brooks, 'In Love and Rage', *Critical Muslim* 31: *Climate*, Hurst, 2019, pp47-62

- ¹¹² N. N. Taleb, *The Black Swan: the Impact of the Highly Improbable*, (New York : Random House, 2007).
- ¹¹³ Lorenz EN (1963) Deterministic nonperiodic flow. *Journal of the Atmospheric Sciences* 20: 130–141.
- ¹¹⁴ P. Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World*, (Currency, 1996).
- ¹¹⁵ Ziauddin Sardar, 'Colonizing the Future: The "Other" Dimension of Futures Studies', *Futures* March 1993 179-187
- ¹¹⁶ S. Inayatullah, 'Six Pillars: Futures thinking for transforming', *Foresight*, 10 / 1 (Feb 2008), 4-21. <https://doi.org/10.1108/14636680810855991>. The used future asked the question: 'Is your image of the future, your desired future, yours or is it unconsciously borrowed from someone else?'
- ¹¹⁷ M. Fisher, *Capitalist realism: Is there no alternative?*, (John Hunt Publishing, 2009).
- ¹¹⁸ Z Sardar, 'Postnormal Artefacts' *World Future Review* 7 (4) 342-350 2015
- ¹¹⁹ Umberto Eco, *Foucault's Pendulum*, Vintage, 2001.
- ¹²⁰ Jean Baudrillard, *The Gulf War Did Not Take Place*, Power Institute of Fine Arts, 1995
- ¹²¹ Salman Rushdie, *The Satanic Verses*, Penguin, 1998
- ¹²² Gianni Vattimo, *The End of Modernity: Nihilism and Hermeneutics in Post-modern Culture*, Polity Press, 1998
- ¹²³ Z. Sardar, *Postmodernism and the Other: The New Imperialism of Western Culture*, (London, Pluto Press, 1998).
- ¹²⁴ Z. Sardar, 'Welcome to Postnormal Times', *Futures*, 42 / 5, (June 2010), 435-444, <https://DOI.Org/10.1016/J.Futures.2009.11.028>
- ¹²⁵ Nandy, A. (1983). *The intimate enemy: Loss and recovery of self under colonialism*. Oxford University Press.
- ¹²⁶ Bennabi, M. (1954). *Vocation de l'islam*. Paris: Éditions du Seuil.
- ¹²⁷ Z Sardar, 'Postnormal Imagination', in Gabrielle Donnelly and Alfonso Montuori, editors, *Routledge Handbook for Creative Futures*, Routledge, London, 2023.
- ¹²⁸ Julia Kristeva, *Polylogues*, Compagnons, Paris 2-24 (In French)
- ¹²⁹ Z Sardar, 'Polylogues: Connecting Minds to Create the Future' in *Future: World Majlis - The Essays*, World Expo 2020, Dubai, UAE, 2021
- ¹³⁰ A. Montuori & G. Donnelly, 'Transformative leadership', *Handbook of Personal and Organizational Transformation*, (Springer, 2017), 319-350.

- ¹³¹ Z. Sardar & J. Sweeney, 'The Three Tomorrows of Postnormal Times', *Futures*, 75, (January 2016) 1-13. <https://www.sciencedirect.com/science/article/abs/pii/S001632871500138X>
- ¹³² H. Nowotny, P. B. Scott, & M.T. Gibbons, *Re-thinking science: knowledge and the public in an age of uncertainty*, (Polity, 2001).
- ¹³³ Z. Sardar, 'Welcome to Postnormal Times', *Futures*, 42 / 5, (June 2010), 435-444, <https://DOI.Org/10.1016/J.Futures.2009.11.028>
- ¹³⁴ A. Tough, *Crucial Questions About the Future*, (University Press of America, 1991).
- ¹³⁵ Z. Sardar, 'Postnormal Times Revisited', *Futures*, 67 (March 2015), 26-39. <https://DOI.Org/10.1016/J.Futures.2015.02.003>
- ¹³⁶ L. Mayo, 'Last Word: On Relics of Modernity', *Critical Muslim*, 33.3, <https://www.Criticalmuslim.io/Last-Word-On-Relics-of-Modernity/>

FURTHER READING

- Pranab Bardhan, *A World of Insecurity*, Harvard University Press, 2022.
- Zygmunt Bauman, *Liquid Times*, Polity, 2007.
- Gordon Brown, *Seven Ways to Change the World*, Simon & Schuster, London, 2012.
- Tomas Chamorro-Premuzic, *I, Human: AI, Automation, and the Quest to Reclaim What Makes Us Unique*, Harvard Business Review Press, 2023.
- Paul Collier, *The Future of Capitalism*, Allan Lane, London, 2018.
- Robert Colville, *The Great Acceleration*, Bloomsbury, 2016.
- Virginia Eubank, *Automating Inequality*, St Martin's Press, New York, 2017.
- Mark Fisher, *Capitalist Realism: Is There No Alternative?* Zero Books, London, 2009.
- Nancy Fraser, *The Old is Dying and the New Cannot be Born*, Verso, 2019.
- Adam Greenfield, *Radical Technologies*, Verso, London, 2017.
- Matthias Gross and Linsey McGoe, editors, *Routledge International Handbook of Ignorance Studies*, Routledge, 2015.
- Anwar Ibrahim, *Rethinking Ourselves: Justice, Reform and Ignorance in Postnormal Times*, Hurst, London, 2025.
- Walter Isaacson, *The Code Breaker*, Simon and Schuster, London, 2021.
- Vinay Lal, *Empires of Knowledge*, Pluto, London, 2002.
- Debora Valentina Malito and Evangelos Fanoulis, editors, *Decentring Global Challenges in International Relations: Interdisciplinary Perspectives Beyond the West*, Routledge, 2025.
- Paul Mason, *PostCapitalism: A Guide to Our Future*, Allan Lane, London, 2015.
- Linsey McGoe, editor, *An Introduction to the Sociology of Ignorance*, Routledge, 2014.
- Linsey McGoe, *The Unknowners: How Strategic Ignorance Rules the World*, Zed Books, London, 2016.
- Alfonso Montuori and Gabrielle Donnelly, 'Transformative Leadership', in

- Handbook of Personal and Organisational Transformation, edited by J. Neal, Springer, New York, 2017.
- Alfonso Montuori and Gabrielle Donnelly, *Routledge Handbook of Creative Futures*, Routledge, 2022.
- Sofiya Umoja Noble, *Algorithms of Oppression*, New York University Press, New York, 2018.
- Cathy O'Neil, *Weapons of Math Destruction*, Allan Lane, London, 2017.
- Toby Ord, *The Precipice: Existential Risk and the Future of Humanity*, Bloomsbury, 2020
- Ziauddin Sardar, *Postmodernism and the Other: The New Imperialism of Wester Culture*, Pluto, London, 1997.
- Ziauddin Sardar, editor, *The Postnormal Times Reader*, CPPFS/IIIT, 2019
- Ziauddin Sardar, Shamim Miah and Scott Jordan, *The Postnormal Times Reader Volume 2*, CPPFS/IIIT, 2024
- Ziauddin Sardar, editor, *Emerging Epistemologies: The Fabric of Knowledge in Postnormal Times*, CPPFS/IIIT, 2022,
- Mustafa Suleyman, *The Coming Wave*, Crown, 2024.
- Rupert Read and Samuel Alexander, *This Civilization is Finished*, Simplicity Institute, Malborne, 2019.
- Elizabeth Stephens and Peter Cryle, *Normality: A Critical Genealogy*. Chicago: University of Chicago Press, 2017.
- Tony Tan, *Future Human: Consciousness, Cognition and the Role of Human Insight in an AI Future*, WSPC, 2024
- Max Tegmark, *Being Human in the Age of Artificial Intelligence*, Penguin, 2018.
- Colin Tudge, *The Great Re-Think*, Pari Publishing, Tuscany, 2020.
- Shannon Vallor, *Technology and the Virtues*, Oxford University Press, 2018.
- Amy Webb, *The Big Nine*, Public Affairs, New York, 2019.
- Paul Wilmott and Davie Orrell, *The Money Formula*, Wiley, Chichester, 2017.
- Shoshana Zuboff, *The Age of Surveillance Capitalism*, Profile Books, 2019.

CREDITS

- Pg 11 <https://screenrant.com/shaun-dead-movie-zombie-mary-practical-effects-reaction/>
- Pg24 Graffiti *"We can't return to normal, because the normal that we had was precisely the problem."*
https://www.reddit.com/r/HongKong/comments/efggfw/graffiti_reads_we_cant_return_to_normal_because/
- Pg28 <https://x.com/jonronson/status/998242008786489344>
Justin Sacco December 2013
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WHAT JUST HAPPENED?

It isn't just one thing that has just happened – it is many things, colliding, compounding, and accelerating all at once. The more we try to make sense of it all, the more we feel the ground shifting beneath us. Things no longer feel normal – not necessarily abnormal, just... not normal. The world we once knew still exists, but its familiar patterns seem to be unravelling, leaving us moving towards – what, exactly?'.

Postnormal times is both a description of the zeitgeist and a theory of change. It is an in-between period where the old paradigms are dying and new ones have not been born – hence, we can make little sense of what is going on. In this wide-ranging introduction, Liam Mayo elegantly describes the postnormal condition, and traces the historic background to the emergence of the postnormal times theory. He explains the main features of theory: from speed, scope, scale, and simultaneity (4S's) to complexity, contradictions, and chaos (3C's), to varieties of ignorances and uncertainties; and elucidates the methods and tools for charting postnormality, such as the black elephant, black swan, and black jellyfish – the menagerie of postnormal potentialities. An Introduction to Postnormal Theory is a devastating critique of modernity and postmodernism as well as an essential guide for navigating our turbulent and complex epoch towards more positive and humane futures.

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