

The Polycene - Lessons for Asia

by Tang Guang Xiang

What do we call the world we live in today?

In Elizabeth Kolbert's book *The Sixth Extinction*, she recounts in 13 chapters – each focusing on a different extinct or endangered species – how humanity is driving the largest mass extinction event in our planet's history. *Homo sapiens* are altering entire climates and creating ecological disasters, changing the very face of the Earth.

We live in truly epochal times.

Just as geologists use the term the Anthropocene to depict the incredible moment in natural history we find ourselves in, three-time Pulitzer Prize author Thomas Friedman describes our present day as the Polycene. In his words, the Polycene is a neologism derived from the Greek “poly”, meaning “many” – framing this moment in history as an extraordinary period of rapid and profound change.

Unlike the Anthropocene, which centres on humanity as a single dominant actor, the Polycene emphasises a multiplicity of actors, all intricately entwined in a complex web of oft-conflicting goals. Like the ever-evolving mind of a living creature, the many interconnected units of the Polycene overlap and interact simultaneously. Local outbursts or abnormalities ripple through the entire system, creating astonishing and oftentimes unpredictable outcomes.

When Russia invaded Ukraine in 2022, the disruption to the global oil and agricultural trade led to a record surge in inflation, already high from a post-pandemic economic rebound. At the same time, a small group of companies in Silicon Valley spearheaded major breakthroughs in Artificial Intelligence (AI) technology, creating hugely successful Large Language Models with the potential to automate entire sectors. Millions of workers are in the process of being displaced from traditional jobs, heralding the dawn of a new Industrial Revolution.

Now, War, Pandemics and Industrial Revolutions are no trivial matter, but this combination of local and global events has created a perfect storm for people throughout the world.

Headlines in the past two years have come to be dominated by themes of workers being pinned between opposing fronts of job insecurity and rising costs of living. And the cause of it all? Unrelated events that started in lands often thousands of miles from where they are, whose effects are felt all over the globe. In other words, a polycrisis.

Welcome to the Polycene.

Power is distributed

The People do not stand still. Voter disenchantment and fear led to a surging tide of populism globally, a well-documented phenomenon epitomised by the re-election of Donald Trump in the United States. In April 2025, Trump launched a global trade war, shaking the global economy to its core. Large multinational corporations were forced to remake entire supply chains, even as governments and industry groups lobbied for special exemptions from the wide-ranging tariffs. Widespread backlash materialised globally, with movements advocating for a boycott of American products exploding across Canada, Europe and China. The financial markets punished the United States heavily too; stock prices plummeted, bond investors fled, and the US dollar fell to its lowest levels in years. In the face of mounting pressure, Trump was eventually forced to reverse course, scaling down his most egregious tariffs and tempering many of the others.

The extent to which power is democratised and spread is a unique feature of the Polycene. Don't get me wrong – Power in the Polycene is by no means distributed equally. Yet, the number of actors with the ability to influence current affairs is unprecedented. In the Polycene, individuals shape governments, governments corral corporations, corporations dictate spending patterns and financial markets, which then change the behaviour of everyone. Throw the effects of an unpredictable climate into the mix, with the power to destabilise governments and devastate entire communities, and the complexity of the Polycene becomes apparent. Pockets of change and surprise can sprout up virtually anywhere and from anyone, and the effects of movements ricochet across the globe. The dynamics of power in the Polycene are layered and distributed, and no single actor possesses the ability to dictate the future.

Polyamorous relationships

Just as with neurons in the brain, relationships between agents (governments, corporations, individuals etc.) are polyamorous and fluid, with shifting loyalties and partnerships that change by the season.

The alienation of America's traditional allies in recent months have prompted countries in Asia to deepen economic partnerships and ties, even as geopolitical tensions between them have risen. As Asia grapples with the fallout from Trump's steep tariffs, China has been looking closer to home for new markets to export its goods. Already part of the Regional Comprehensive Economic Partnership (RCEP) – the world's largest trade bloc covering 15 nations in the Asia-Pacific – China is seeking to deepen regional economic cooperation in East Asia with its prosperous neighbours Japan and South Korea. Referred to as "RCEP plus", the Free Trade Agreement (FTA) between the 3 countries would encompass a fifth of the world's economy.

The fact that the traditionally American allies Tokyo and Seoul are willing to look past their longstanding differences with Beijing for deeper integration is surprising — even more so as conflicts among the 3 nations over territorial disputes in the South China Sea remain unresolved. When Japanese prime minister Sanae Takaichi made a statement in parliament on Nov 7, 2025 in support of militarily defending Taiwan against Chinese threats, China's harsh rebuff (notably including boycotts and export restrictions) may have led observers to believe that its earlier economic overtures would grind to a halt. Still, talks on the FTA remain well underway, a reminder of the bizarre relationships of the Polycene. Gone are the Bipolar or Multipolar worlds of days past, where trade and exchange only happened among ideologically homogenous partners; in the Polycene, countries do not assume stable "poles" with coherent interests. Instead, relationships vacillate depending on the situation and context. The geopolitical relationships of today are increasingly polymorphic and polydimensional, and spheres of influence no longer fixed.

Domain fragmentation

Deng Xiaoping once said, "The Middle East has oil, China has rare earths."

In 1958, China's leader Mao Zedong launched the Great Leap Forward, an industrialisation campaign aiming to transform the country from an agrarian society to an industrialised one. Aiming to surpass the steel production of Britain and the US, impossible steel production quotas were set for local provinces. The result was that simple peasants and farmers took to melting down everything from farm tools to cooking pots in rudimentary backyard furnaces, producing poor quality pig iron that was largely useless for industry. The result? A massive setback to China's development and a horrific famine that took the lives of millions. When Deng Xiaoping took over the reins in 1978, he made it his mission to fix China's iron and steel industry.

By the 1950s, metallurgists in the West had already discovered a simple way to improve the quality of iron. The trick was to add a tiny amount of the rare earth cerium. Rare earths are so named for their scarcity in the planet's ore. They are tightly bound to other chemicals naturally, and separating them into a useful form is incredibly challenging.

Unfortunately for China, it had almost zero rare earth know-how or production by then. Recognising that rare earths were essential to China's industrial success, Deng Xiaoping deployed the state's resources to tackle the problem. Universities were directed to its research, officers were sent abroad to learn from the best, and local regulations were relaxed to encourage rare earth mining. By the turn of the century, Chinese scientists had invented a cheaper way to extract even the rarest rare earths, and were producing them cheaper than any other mine in the world. They had won the rare earths race; nearly every mine in the West had closed from

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In 2025, when Trump's tariff spat with China reached an all-time high of 145%, China had an ace up its sleeve. It announced wide ranging export restrictions on rare earths, dealing a severe shock to US companies who rely on Chinese rare earths for everything from Electric Vehicles (EVs) to aircraft engines and missiles. The result? Trump folded, and both sides agreed to a temporary truce. Though adversaries in the moment, the two countries have come to rely on each other more than ever before. China depends on the US for its large consumer market to sell goods to, as well as for imports of advanced technology such as the latest AI chips. The US in turn has come to rely on China for its manufacturing might and rare earths.

This fragmentation of domains is a peculiar feature of the Polycene. Countries dominate a certain field, and are weak in others. China today dominates manufacturing and climate technology. The United States dominates militarily and in the creative service industries of technology and finance. South Korea is a big exporter of culture and entertainment, while Japan and Germany excel at precision manufacturing. In the Polycene, it is much harder to exclude someone when everyone brings something to the table.

Domain fragmentation is seen in politics as well. In Francis Fukuyama's 1992 book, *The end of history and the last man*, he argues that there were no serious ideological rivals to capitalism and liberal democracy after the cold war. Today, the rise of China's state capitalism, the resurgence of authoritarianism worldwide and the ascendancy of populist parties demonstrate that the *end of history* is far from settled. No one system of governance can claim to capture the zeitgeist of the Polycene – they coexist, in a strange new era of ideological plurality.

How though, did we get to the Polycene?

The Nuclear age

There was a flash, and there was nothing.

As Colonel Paul Tibbets piloted his B-29 Superfortress away from Hiroshima, a changed world remained in its wake. The 15-kiloton atomic bomb dropped on August 6, 1945 would forever change the course of world history. The bloody wars of the early 20th century were left behind, ushering in an era of superpower hegemony.

For a few years, America emerged as the true victor of World War II, with a mighty industrial base, deep pockets and the most advanced military to boast. The 'policeman' of the world wielded a large nuclear baton, and America's dominance brought about a new golden era, 'Pax Americana'.

As other nations joined the ranks of the exclusive nuclear club, this deterrence surprisingly held. A Unipolar world morphed into a Bipolar one, shaped by the competing ideologies of the US and USSR. Even as the world fractured into competing spheres of influence at the zenith of the Cold War – at times lurching dizzily close to disaster – the threat of nuclear armageddon to all sides successfully prevented World War III.

The relative peace created by the nuclear deterrent is the key development bringing us into the Polycene. In this era of decolonisation and superpower competition, hundreds of young, growing nations found a footing. Peacetime presented opportunities for trade and economic development – an unparalleled historical milieu paving the way forward. Many fledgling nations could move up the development ladder, setting the stage for a future pivot from a Bipolar world to a Multipolar one. This peace allowed nations to form and join coalitions that represented their needs. The 11 ASEAN member states in Southeast Asia today range from liberal democracies to communist states on the political spectrum. Despite this ideological diversity, they have managed to keep the peace, and collaborate on issues ranging from trade to climate policy.

India is a prime example of Polycene membership. Since gaining independence from Britain in 1947, it has been part of multiple overlapping and oftentimes contradictory groupings across domains. Today, it is part of the BRICS, QUAD, G20, Non-Aligned Movement, UN, WTO and Shanghai Cooperation Organisation (SCO), among others. Its' simultaneous participation in the BRICS and QUAD alliances is striking – the former aims to counter western dominance, while the latter seeks to contain China. Moreover, India also has a long-running territorial dispute with China in the Ladach and Arunachal Pradesh regions, often spiralling into conflict and violence. Yet its membership in the SCO, a

China-led organisation, is telling of the polyamorous nature of Polycene relationships.

Navigating future polycrisis

In the face of polycrises, how can we prepare ourselves for the Polycene?

First, nations need to form partnerships multilaterally to exercise real power. In the Polycene, power is no longer determined by the size of an army or the number of nuclear warheads you possess. Games of brinksmanship are vestiges of a bygone era, and nations can no longer prevail by unilaterally flexing their might against a perceived adversary. An isolationist or go-it-alone approach will inexorably end in disaster, as domain fragmentation means that no single entity alone holds all the winning cards in the game. By forming strategic alliances and fostering deep partnerships, countries like India and Singapore are able to punch well above their weight in the global arena. In today's world, it is not the lion with the sharpest fangs who rules the jungle; rather, he who can call upon the most friends to fight triumphs.

Next, it is imperative to prepare for the unexpected. Disruption is the new normal in the Polycene, and we must be ready to face it. After a collision between a Chinese fishing vessel and Japanese Coast Guard ships near the disputed Senkaku islands in September 2010, China imposed export restrictions on rare earths on Japan. At first, its significance was lost on the Japanese government, until Japanese automotive leaders frantically told officers that the entire automotive industry – a crown jewel in Japan's economy – could be shut down.

Since then, the Japanese government has partnered with industry to find an alternative source of this precious commodity, eventually acquiring the Australian mining firm Lynas. Diversifying from China's ironclad grip on the industry came with a hefty price tag, but it paid off years later in 2025 when China reimposed export restrictions on the world. Such examples illustrate that to thrive in the Polycene, buffers and redundancies must be incorporated into both government and industry. Universities and think tanks, who work independently and creatively to identify future polycrises, should be given full support and recognised for their vital role in safeguarding national security.

Finally, countries need to maintain domain supremacy to remain relevant in the Polycene. Amidst the Russo-Ukraine war, commentators have wondered if China would follow in Russia's lead and seize Taiwan by military force. However, Taiwan possessed something that Ukraine did not: the Taiwan Semiconductor Manufacturing Company (TSMC). Taiwan is the world's leading manufacturer of the silicon chips that power everything from phones to airplanes, producing over 60% of the world's output and over 90% of the most advanced chips; most of this is made by TSMC. This 'Silicon shield' means that Taiwan forms a key chokepoint in the

global economy, one that its allies are anxious to defend. Of course, having powerful military allies, as in Taiwan's case, goes a long way in deterring would-be aggressors. By maintaining a definitive lead in a particular domain, countries can fend off obsolescence and carve out a place in the Polycene.

The path forward

At the end of *The Sixth Extinction*, Elizabeth Kolbert visits the Svalbard Global Seed Vault. Built 150 metres below the surrounding permafrost, the Svalbard Vault is a heavily fortified location in Norway which serves as a repository of over 6000 plant species. Today, almost every country in the world has contributed to Svalbard's collection. A product of the nuclear age, this sanctuary of life was conceived as a means of safeguarding humanity's future in the event of nuclear winter — testament to our immense capacity for cooperation in the face of common danger.

History has led us into the Polycene. Having left our disparate pasts behind, humanity's future can only become more intertwined. How we navigate this brave new era will determine the winners in it. In the face of polycrises, we rise together and fall together. If there is any lesson to be learned from the tumult of past decades, it is that collaboration, preparedness and exceptionalism are timeless qualities that will carry us far into the future.

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