

7 Concepts for CS-ER



Seven Concepts for a *Critical Systems Existential Risk Studies* (CS-ER)

A heterodox alternative uniting critical theory and systems theory to identify the *generative mechanisms* of existential risk

by Max Ramsahoye

“Almost always the men who achieve these fundamental inventions of a new paradigm have been either very young or very new to the field whose paradigm they change. And perhaps that point need not have been made explicit, for obviously these are the men who, being little committed by prior practice to the traditional rules of normal science, are particularly likely to see that those rules no longer define a playable game and to conceive another set that can replace them.”

— Thomas Kuhn, *The Structure of Scientific Revolutions*

Introduction

Existential Risk Studies (ERS) is an emerging field concerned with mapping, managing and mitigating ‘extreme risks’ to human civilisation and sentient life. Over the past two decades, the field has developed into a global network (of research institutions, initiatives, conferences and fellowships), published a number of major books and entered into mainstream political discourse. Recently, a series of works have attempted to formalise the field as an academic discipline, reflect on its history and steer its future development. In particular, the subject of academic pluralism - the range of methodological approaches within the field - has been raised, with particular attention to the status of ‘systems’ and ‘critical’ approaches.

To frame this in Kuhnian terms, Existential Risk Studies (ERS) has passed into a new *research paradigm* of ‘seeing existential risk as a phenomena emergent from complex systems’ (Beard, 2021) and from systemic ‘drivers of risk generation’ (Kemp, 2021). This *complex systems turn* in ERS is, in large part, a critical rejection of the orthodox ‘etiological approach’ of attributing risks to their ‘principal direct cause’ (Beard, 2021) and the dominant ‘techno-determinist threat model’ of risk as arising ‘naturally and apolitically...from inevitable and near-autonomous technological progress’ (Kemp, 2021),

Sidenotes

The title of this piece is derived from the paper *Seven Questions for Existential Risk Studies*.

The acronym of the heterodox approach is a subversive mirror to CSER the *Cambridge Centre for the Study of Existential Risk*. That said, one of the foremost researchers within this strand of x-risk theory, Luke Kemp, is based at CSER.

with this re-orientation of the field towards *complex systems theory*, there has also been incorporating *critical theory*: a critical turn in ERS that contends that we should human ‘institutions – including corporations and governments’ (Jones, 2023) as a major role ‘in causing, preventing, and responding to catastrophe’ and ultimately the overall level of risk that arises from any particular socio-economic system’ (Kemp, 2021). Despite these calls, it has also been noted that there is still ‘limited interest in certain critical perspectives, such as those from heterodox economics’ and that the ‘critical ERS approach is still young, and...requires further work and discussion’ to ‘enhance more critical prioritization efforts for the field as a whole’ (Sundaram, 2022). Towards a synthesis of critical theory and systems theory in the context of existential risk, this short post aims to introduce and define seven concepts for a ‘Critical Systems Existential Risk (Studies)’ (CS-ER).

[Fables on the Great Sea of Life: A Brief History of Existential Risk Studies](#) by SJ Beard and Emile P. Torres (2022)

[Democratising Risk: In Search of a Methodology to Study Existential Risk](#) by Carla Zoe Cremer & Luke Kemp (2021)

Meaning

Conceptualisation captures the core dual meaning of the approach as systems-critical of systems.

Systems-Critical: the approach is critical of the capitalist world-system that generates extreme risks and conceptual language that conceals the systemic, ‘capitalogenic’ origins of risk.

Critical Systems: the approach is concerned with systems that are critical for the functioning, perpetuation and securitisation of global capitalism and human civilisation

l attuned to the trade-offs/misalignments between the two.

se two points, the ultimate conjecture of Critical Systems ERS is a global criticism or 'scepticism' that questions the possibility of (sufficient) risk mitigation, global existential security and civilisational sustainability within 'the capitalocene', under the 'paradigm' and concurrent with the capitalist world-system (or 'meta-system' defined by rationalism, exterminism, neorealism, militarism, imperialism, malthusianism, social Darwinism, military-economic adaptationism etc.).

Capital & Anthropogenic Risk? Problematising the Orthodox Risk Etiology

In the space of risks, constructing taxonomies, has been a foundational task of critical engineering for ERS. A conventional binary classification that structures and organises the ERS literature is the bifurcation of risks by their origin or cause (etiology) into 'natural' risks and 'anthropogenic' or 'technological' risks. These conceptual categories - that categorise and technologise risk - are an initial point of intervention for the Critical Systems Engineering approach which boldly proposes that most, if not all, risk is 'capitalogenic': generated by the dynamics and optimisation processes of the capitalist world-system

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Concepts (gemini)

Socio-Economic Orientation (Joseph)

by Peter Joseph, this concept identifies the fundamental "source code" or DNA of a system—specifically the market system's structural foundation—as the primary determinant of human and social outcomes. It refers to a social order based upon **competition, self-interest, and profit**, which creates a specific "thought syntax" that filters human perception. Joseph argues that this system acts as a hidden, operant conditioning mechanism that inevitably generates systemic inequality, oppression, and destabilization, overriding individual moral intent. Unless this root logic is dismantled, social and ecological decline are structurally guaranteed.

Manufactured Risk (Beck)

Ulrich Beck distinguishes between pre-modern "natural hazards" (plague, famine) and modern "manufactured risks" (nuclear proliferation, climate change, AI). These are risks born not from a lack of control over nature, but from the *success* of industrial modernization. They are the unintended, reflexively produced byproducts of our own technological and economic advancement, creating a "Risk Society" where the distribution of "bads" (pollution, radiation) becomes more central to politics than the production of "goods" (wealth).

Anthropogenic Risk (Moore)

A refinement of the term "Anthropogenic" (human-caused), this concept argues that extreme risks are not simply caused by "humans" in the abstract, but specifically by the logic of Capital. Jason W. Moore argues that the "Capitalocene" organizes nature and humanity into "Cheap Nature" to be exhausted for accumulation. Therefore, the drivers of ecological collapse and systemic fragility are specific to the optimization algorithms of the global market, not human nature itself.

Agents of Doom (Kemp)

Kemp challenges the narrative that existential risk comes primarily from "rogue actors" or terrorists. Instead, he identifies *Agents of Doom* as legitimate, powerful institutions—states, militaries, and corporations—acting rationally within their own incentive structures. These actors accelerate dangerous

ies (like autonomous weapons or gain-of-function research) not out of malice, but due to pressures, profit motives, or bureaucratic inertia, making the "system" the villain rather than a individual.

nism (Thompson)

Thompson used this term to describe the irrational logic of the Cold War nuclear arms race, where the industrial systems of opposing superpowers entered a "dance of death." It describes a condition where technological and institutional inertia of a weapons system overrides political agency and reason, driving the system autonomously toward mutual destruction (the "thrust towards annihilation") regardless of the desires of the populations involved.

(Hardt & Negri)

The concept describes the new, decentered form of global sovereignty that has replaced the nation-state. It is the boundless, supranational network of global capitalism that regulates the world order. In the context of risk, it implies that there is no single "control room" to shut down dangerous trends; the regulating mechanisms are distributed across a global, acephalous (headless) network that is resistant to national political intervention or regulation.

opolitics (Mbembe)

Mbembe expands on Foucault's biopolitics to define Necropolitics as the ultimate expression of power: the power to dictate who may live and who must die. In the face of existential threats (like climate change), the system manages risk by designating certain populations as "disposable" or "surplus," consigning them to "worlds of death" to maintain the security and comfort of the privileged few. It frames risk management as a brutal calculation of whose lives are worth saving.

More Concepts

Capital Acceleration (Land)

from Nick Land and accelerationism, this describes the positive feedback loop between technological innovation and capital accumulation. As tech speeds up, it generates more capital, which fuels further tech, creating a runaway cybernetic process. This acceleration eventually surpasses human control (the Singularity), rendering the future entirely unpredictable and potentially hostile to human life, as the market's "desire" for efficiency overrides human needs.

Economic Adaptationism (Dafoe) & The Military-Industrial Complex (Eisenhower)

Dafoe's "adaptationism" argues that in an anarchic global system, nations are structurally compelled to adopt dangerous technologies (like AI weapons) to avoid being overtaken by rivals—a "race to the bottom" on safety. This creates the **Military-Industrial Complex**, an "iron triangle" of legislators, defense officials, and arms manufacturers that creates a permanent war economy, ensuring that the development of destructive capacity is always prioritized and funded over safety or social well-being.

Surveillance Capitalism (Zuboff)

Zuboff identifies a mutant form of capitalism that claims human experience as free raw material and converts it into behavioral data. To mitigate the "risks" of market uncertainty, this system constructs a complex architecture of behavioral modification. In CS-ER, this represents the closure of human agency; the individual is rendered into predictable "automata," reducing the capacity for democratic resistance and creating systems endangering the species.

Shock Capitalism (Klein)

Klein's "Shock Doctrine" explains how the system instrumentalizes crises. Rather than uniting people, catastrophes (war, hurricanes, pandemics) are viewed as market opportunities to push through

neoliberal policies (privatization, deregulation) while the public is disoriented. It suggests that if systemic risks escalate, the system will not naturally pivot to safety, but will instead exploit the chaos to consolidate wealth and power.

How Megamachine (Mumford)

Mumford viewed modern technocratic society as a "Megamachine"—a social structure where individuals are reduced to mere servo-units within a vast, bureaucratic apparatus. This rigid, hierarchical system suppresses human autonomy and organic feedback in favor of mechanical order. In CS-ER, the megamachine is the vehicle of doom: a system so committed to its own operational parameters that it cannot find a way to avert the cliff.

Psychopolitics (Han)

Byung-Chul Han argues that modern power no longer operates through coercion (disciplinary power) but through seduction and "freedom." We voluntarily expose our data and exploit ourselves in the pursuit of a false freedom. This Psychopolitics creates a stabilized system where resistance is neutralized because the population is exhausted, depressed, and isolated, unable to form the collective political will necessary to challenge the system's systemic existential risks.

Spontaneous (Dis)order (Hayek)

A critical perspective on the subversion of Friedrich Hayek's "Spontaneous Order" (the idea that markets efficiently organize themselves without central planning). In the CS-ER context, this is reframed as Spontaneous Disorder. It argues that the uncoordinated actions of billions of market actors, each pursuing individual profit, do not lead to a harmonious equilibrium but to chaotic "tragedies of the commons" (e.g., carbon emissions, digital surveillance, and social fragmentation) where the rational individual choice leads to collective ruin.



Critical Systems Existential Risk

[Development Notes]

Earlier Versions

☰ Critical Systems Existential Risk Studies: A Map of Existing Materials | C...

☰ Seven Concepts for a Critical Systems ERS [DRAFT]

☰ Critical X-risk (PREVIOUS DRAFT)

☰ Critical Systems Existential Risk | Fearful Symmetries, Max Ramsahoye

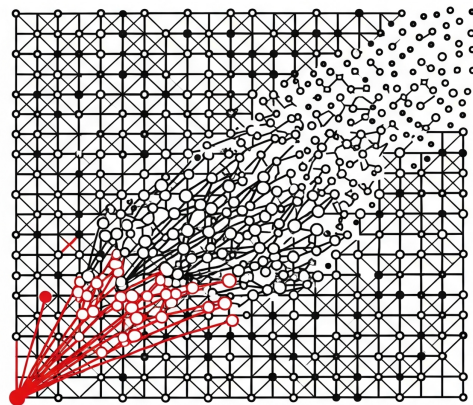
☰ [NOTES] Seven Concepts for a Critical Systems Existential Risk Studies...

Seven Concepts (gemini)

- Root Socio-Economic Orientation (Joseph)
- Manufactured Risk (Beck)
- Capitalogenic Risk (Moore)
- Agents of Doom (Kemp)
- Exterminism (Thompson)
- Empire (Hardt & Negri)
- Necropolitics (Mbembe)

Seven More Concepts

- Techno-Capital Acceleration (Land)
 - Military-Economic Adaptationism (Dafoe) & the Military-Industrial Complex (Eisenhower)
 - Surveillance Capitalism (Zuboff)
 - Disaster Capitalism (Kleine)
 - The New Megamachine (Mumford)
 - Psychopolitics (Han)
 - Spontaneous (Dis)order (Hayek)
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