Session 6.

Political-economy-ecology analysis of GenAI systems

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Aims of Session 6

- Introduce the concepts of **Computational Capitalism and Platform Capitalism 2.0.**
- Introduce the concept of an alternative **Socialised GenAI Ecosystem/Bloc**.
- Apply the political-economy-ecology analysis to the **Chinese context** – the concept of a **progressive Chinese hybrid system/bloc.**

Computational Capitalism/Platform Capitalism 2.0 and competing technological blocs

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Computational Capitalism & Platform Capitalism 2.0

- Platform Capitalism 2.0 as **new phase** within Computational Capitalism.
- PC 2.0 – new economic & cultural logics of **data generation.**
- **Computational Capitalism and Platform Capitalism 2.0** represent different types of Marxist analysis.
- Task of building a **counter-hegemonic alternative Gen AI system**.

Dimension	Computational Capitalism (Pre-2022)	Platform Capitalism 2.0 (post-2022)
Theoretical basis	**Post-operaismo digital Marxism** - computer networks, algorithms, and the integration of computation into spheres of life.	**Neo-Gramscian analysis** of evolution of new GenAI capitalist and socialist blocs.
Focus/periodisation	Economic shift since the late 20th century with **algorithms /computer networks, value extraction.**	**Phase II of Platform Capitalism** based on **data generation** revolution post-2022.
Core technological shift	**Shift to a new mode of production** - computational power and networking of production primary drivers of profit and efficiency.	**Shift within the new mode of production** from the data-extractive business model of Platform Capitalism 1.0 to a **data-generative model driven by LLMs**.
Geopolitical framing	**Global/networked -** focuses on the global penetration of the computational logic.	**Networked and competing bloc-based** - US and Chinese global systems of GenAI as competing technological blocs, producing fractures in Platform Capitalism 2.0.
Political project	**Critical Mapping/Resistance** - map the terrain of exploitation and identify points of potential resistance/alternatives (e.g. commons-oriented post-capitalism).	**Counter-hegemonic praxis** – building reciprocal layers of a socialised GenAI ecosystem and alliances of progressive technological organic intellectuals.

Historical bloc, technological sub-bloc & hegemony

- **Capitalist historical bloc** - **assemblage** of economic, technological, political and cultural/ideological relations to support dominant regressive hegemony.
- **Capitalist Technological sub-bloc (Platform Capitalism 2.0) as new mode of production** to lead innovation in the dominant bloc.
- **Global alternative technological bloc** – two forces for progressive technological counter-hegemony

    - **Emergent socialised GenAI** related forces in the West
    - Chinese GenAI as **progressive unified/hybrid technological bloc**

Capitalist & Alternative Technological Blocs

Divided Capitalist Bloc

Dominant bloc powers
- Techno-Economic
- Political/State
- Ideological/Cultural

Alternative GenAI system/bloc
- Regulatory regimes
- Alternative GenAI data systems
- Social organization of GenAI
- Collaborative critical praxis

Geopolitical struggle

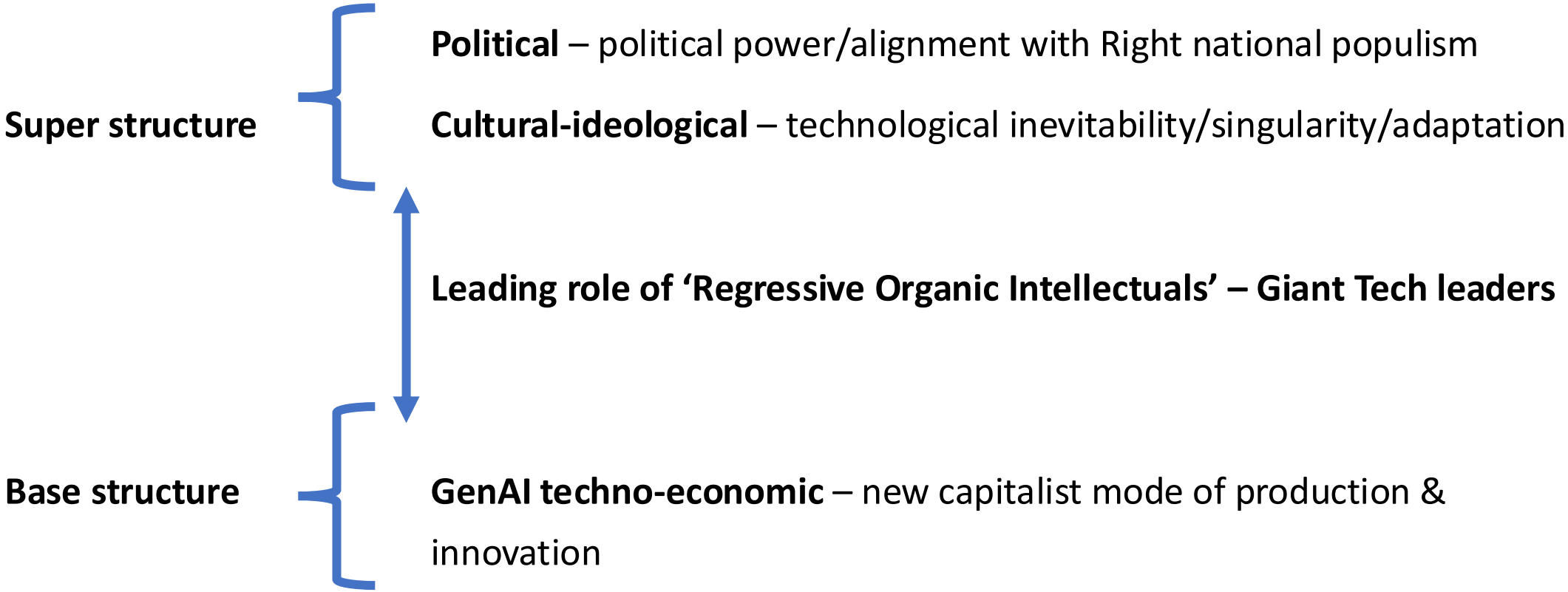
Chinese Unified/Hybrid Bloc

Macro
- Political/ideological leadership
- Regulatory regimes
- Socially influenced GenAI architecture

Meso
- Development of Institutional GenAI Ecosystems

Micro
- Collaborative critical praxis

Dominant US Neoliberal Technological Bloc



Socialised GenAI Systems

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Socialised GenAI Technological System/Bloc

Alternative GenAI Technological Bloc - **within** capitalist systems and **between** capitalist and socialist systems

Super structure

1. **Political Integral State** – regulatory and participatory
2. **Cultural-ideological** – socialized reshaping of GenAI with HI-MI fusions

5. Alliances of progressive organic intellectuals – linking the levels and relationship/trust building

Base structure

3. **GenAI techno-economic** – socialized innovation of production
4. **Ecological paradigm** – sustainable modes of production

Layers of a socialized GenAI System/Bloc

Layer	Key Features
Political–Governance	Regulation (accountability, explainability); decentralised infrastructure; citizen co-creation
Cultural–Ideological	HI–MI fusion culture; nurture curiosity, autonomy, integrity; collaborative intelligence
Technological	Socialised data commons; open-source architectures; progressive customisation
Ecological–Economic	Sustainability by design; energy-efficient models; decentralised computing
Intellectual Alliances	Organic intellectuals linking producers, users, citizens; transparency & trust

1. Political layer - Technological Integral State

1. Robust regulatory regimes
Core principles - **algorithmic accountability**, **explainability**, and **human oversight**.

2. De-centralised infrastructure and control
Developing public digital infrastructure, open-source platforms, community-managed data commons, **federated learning** and **distributed computing.**

3. Mechanisms for collaborative participation
Enabling citizens to not only use AI tools but to actively **shape their development and deployment & co-creation.**

2. Cultural-ideological layer – towards a new human-machine unity?

1. Dimensions of the Human Intellect (Intentionality brought to the Machine)

- General Intellect - Social and Political Consciousness with Purpose, Curiosity, Integrity and the pursuit of Meaning.
- Connective Specialisation – the development of Collaborative Mastery – depth of knowledge and skill.
- Wisdom - Emotional Intelligence and Ontological Humility gained from life experiences.

2. **Understanding and socially shaping the Machine**

- Shaping Machine Architecture with socially inclusive data-sets and socialized parameters

3. **New Collaborative Human-Machine Culture**

Socialized Machine shaping and collaborative critical praxis can lead to:

- Collaborative intelligence
- Fusion Intellect
- Synthesis knowledge

3. Socio-technological architectural layer

1. Shift from 'Data Grab' to Socialised Data

- Development of 'data commons'—publicly accessible, collectively maintained repositories of data governed by ethical principles to serve societal purposes.

2. Decentralised, Open and Public Architecture

- The GenAI architecture is reimagined with a strong emphasis on **open-source model architectures**.
- Supports the practice of **'progressive customization'**, enabling researchers, educators, and civil society actors to adapt and refine Large Language Models (LLMs) for specific social purposes.
- Overall aim is to create a larger **technological public domain** where knowledge, tools, and capabilities are co-produced and democratically governed, drawing on the principles of **peer production**.

4. Ecological-economic layers

1. **Dialectical purpose - r**eorients GenAI's purpose to provide an **assistive role** in achieving the wider societal goals of **high-skill, economically inclusive, and sustainable development**.

2. **Sustainability by design** - integrates the principle of 'sustainability by design' as a mandatory requirement across the entire AI development and deployment lifecycle.

3. **Energy efficiency -** promotes the creation and use of energy-efficient AI models to reduce the collective environmental footprint of the technology.

4. **Decentralised solutions** - localized and decentralized computing solutions to reduce the ecological impact of large, centralized, resource-intensive corporate data centres.

5. **Economic shift -** reorientation away from the extractive logic of Platform Capitalism 2.0 & towards supporting **public value** & **restorative economic models** (such as the Circular Economy and Doughnut Economics) in Western contexts.

5. Alliances of Technological Organic Intellectuals

Group	Primary Role	Strategic Function in the Alternative Bloc
1. Technical Intellectuals	Producers & builders	To reorient their core expertise (engineering, data science) towards open-source, ethical, and public-value technology development.
2. Key Users and Digital Publics	Consumers & co-creators	Customising LLMs to become aligned with democratic & socialist needs.
3. Progressive thinkers & Researchers	Conceptual & theoretical organisers	To provide the critical, counter-hegemonic framework (the '45° knowledge') that rigorously defines the political, social, and ecological goals of the transition.

Political-economy-ecology positioning of Chinese GenAI

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Progressive Hybrid Chinese GenAI Bloc

Dimension	Computational Capitalism (Pre-2022)	Platform Capitalism 2.0 (Post-2022)	Chinese Political Economy Ecology Position (Hybrid Bloc)
Theoretical basis	Post-operaismo digital Marxism – computational networks, algorithmic value extraction	Neo-Gramscian analysis of GenAI capitalist blocs	**State-led techno-socialism with ecological Marxist inflections** – combines market logic with strong state regulation and social goals
Periodisation	Late 20th century shift to computational production	Post-2022 data-generative revolution driven by LLMs	**2025 onward** – compressed transition towards **state-mediated GenAI ecosystems** balancing innovation and social stability
Core technological shift	Computational power and networking as drivers of profit	Data-generative model (LLMs, multimodal AI)	**Hybrid architecture** – state-supported open innovation + controlled data commons; emphasis on **sovereign AI infrastructure**
Geopolitical framing	Global/networked penetration of computational logic	Competing blocs (US vs China)	**Unified socialist bloc with hybrid features** – China positions itself as a **mediator** between capitalist and socialised models, promoting **BRICS-led AI governance**
Political project	Critical mapping/resistance	Counter-hegemonic praxis – alliances for socialised GenAI	**Integral State strategy** – strong regulatory regime, ecological design principles, and **progressive techno-nationalism** aimed at public value and sustainability

Challenges – geo-political struggles & compressed time

Challenges	Transition questions
1. Geo-political struggles	In what ways does the China/US geopolitical struggle affect the Chinese socio-technological transition?
2. Compressed Technological Time	In what ways does accelerated pace of GenAI advancement affect our capacity to guide the GenAI?

Resources

Spours, K. 2025. Socialised systems of generative artificial intelligence and the roles of technological organic intellectuals *Systems* 13, 944, https://doi.org/10.3390/systems13110944

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