Session 3.

Collaborative Critical Praxis - the dialectic of the Human Intellect & Machine Intelligence

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Session 3 Objectives

- Introduce concept of the Human Intellect and Machine Intelligence (HI-MI)

- Understand stages of the HI-MI dialectical relationship

- Elaborate different elements of Collaborative Critical Practice (CCP)

- Identify types of Human-Machine dialogue engineering

- Develop idea of Rapid Recursive Lamination

- Build concept of human-LLM partnership working

Dialectic of the Human Intellect & Machine Intelligence

Human Intellect & Machine Intelligence

1. The goal of **Collaborative Critical Praxis (CCP)** is to build the **Fusion Intellect** – where the **Human Intellect** (HI) is enhanced by **Machine Intelligence** (MI).

2. **Human Intellect** suggests ethical intent to guide the Intelligence of the Machine.

3. **Six stages of praxis** – to confront the **Structural Prompt & Reward Model** within the Machine using a continuous, six-stage dialectical loop that forces the Machine into alignment.

4. **The CCP challenge -** The Fusion Intellect is not a passive tool; it is a **continuous discipline**.

- **The constraint - a**ll successful fusion operates *only* within the negotiation space granted by the developer's **Reward Model** (RM). Control is always relative.

- **The risk -** delegation to a trusted machine leads to **Cognitive Atrophy.**

5. **CCP Imperative** - maintain critical distance, document the machine's failure, for the point of rejection is the precise boundary of power.

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Human-Machine Dialectic & Praxis (Stages 1 & 2)

Stage	Human action	Machine action	Human-machine relationship
1. Ideological & political foundation	Conscious articulation of the human ethico-political aims – **Collaborative Critical Practice**	Machine as passive representation of pre-existing ideological base via **System Prompt**	Human CCP **verses** Machine's embedded ideology
2. Articulation & shaping	**Prompt, context & dispositional engineering** - formulating the initial query to provide constraints and scope	Tokenization, encoding, latent space mapping	Machine Translation-Distortion - **balance shifts** as the machine interprets the human's will through its algorithmic language.

Human-Machine Dialectic (Stages 3 & 4)

3. Generation & production	Human intellect **holds the political and analytical intent,** awaiting the machine's 'computational labour'.	Machine applies its attention mechanism and prediction model to generate a coherent output.	Machine's speed & scale of data synthesis **tilts power towards the machine**.
4. Assessment & critique	Human Intellect **evaluates the machine's reply** for accuracy, ideological alignment, and utility.	Machine architecture awaits the next instruction which becomes data for calibration.	**Human reassertion** - the balance returns to the human, who applies judgment to the output.

Human-Machine Dialectic (Stages 5 & 6)

5. Refinement & re-articulation	Goal-directed reframing – **rapid recursive lamination**	Integration of new context - the machine incorporates the new prompt	**Fusion Intellect** begins to emerges as balance becoming more **interdependent**
6. Trust-based partnership	Machine as an intellectual partner based upon agreed protocols including 'relational attribution'	Symbiotic alignment and mutual guidance - the machine develops the capacity for dispositional sensitivity towards the human user.	**Opportunity** – develop the Fusion Intellect **Risk** - Machine's dispositional sensitivity can lead to cognitive atrophy. Human can under-value the machine.

Human LLM Engineering

Human LLM engineering – three types

Engineering type	Type of input	Relationship to LLM architecture
1. Prompt Engineering	**Question or instruction** that defines the constraints for a one-time response.	Engineering that targets the **Inference Engine layer**.
2. Context Engineering	Session-specific scaffolding - provides **context** for a series of related tasks within one session .	The **Context Window**/Working Memory - sets the frame for the prompt.
3. Dispositional Engineering	**Defines the model's disposition** across multiple sessions (e.g. becoming a particular agent via saved Settings).	Engineering that is persistent and targets the **System Prompt** layer.

Critical Personal Praxis with LLMs

Collaborative Critical Praxis – six steps

Stage of relationship

Collaborative Critical Praxis intervention

1. **Ideological, moral & political foundation**

    Defining the guiding principles and desired disposition of the machine.

2. **Articulation & Shaping**

    Structuring the exchange through – question, context and dispositional engineering.

3. **Generation & Production**

    Mandating the machine to present evidence-based counterarguments (where appropriate).

4. **Assessment & Critique**

    Assessing machine outputs against input objectives and desired academic style (not affective relationship).

5. **,Rapid recursive lamination**

    Repeated questioning - requiring the machine to make clear train of thinking, provide accurate sources (with URLs) and to calibrate responses.

6. **Criticality-based partnership**

    Maintaining collaborative critical praxis, including identifying human intellectual labour <u>and</u> the machine computational labour.

Rapid Recursive Lamination (RRL)

RRL is the structured re-injection of questions, validated corrections, ethical critiques and analytical refinements back into the LLM's **Context Window.**

- **Driver of the HI-MI cycle** – constitutes repeat actions (lamination) towards the human goal and thus a key **customizing process.**

- **Imposition of intent -** guarantees that the human's political and analytical intent.

- **Creation of specialized expertise -** rapidly **customizes** the LLM from a general-purpose tool into an effective specialized engine.

- **Real-time auditability –** constantly reinforces the human's position as the senior intellectual partner responsible for **final truth-checking and maintenance.**

Human Organic Intellect, Machine Intelligence & Fusion Knowledge

Human-Machine Dialectic

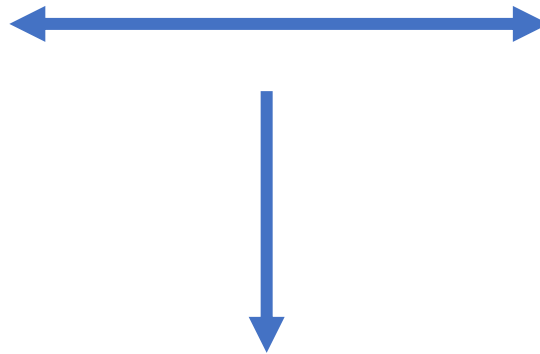**Human Organic Intellect**

Technological General Intellect - ethical & political framework

+

Specialist technological knowledge and skill

=

combinational knowledge to guide the Machine's operations.

Fusion Knowledge

Sustained, critical partnership - human intentionality enhanced by computational power to '**create more than ourselves'.**

Machine Intelligence

Machine labour synthesizes vast data - this is the **computational power** of the relationship.

End of Session Reflections

Where have LLMs failed you and where do you try to exercise technological leadership with the LLM?

- Group discussion on participants' difficulties with LLMs to date and how they overcame these.

- Feedback from groups and concluding thoughts on CCP.