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## **Gregory Bateson, Metalogues and Artificial Intelligence: Developing a serious playful practice for engaging with literature review**

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### **Abstract:**

In this article, I explore the intersection of Bateson's epistemology, particularly his concept of the metalogue, with the applications of generative AI. I propose a creative, reflective, and playful approach to initiating a literature review by developing AI-generated metalogues that mimic Bateson's recursive and performative style. Drawing from systems thinking and Bateson's concept of bioentropy, I discuss the potential of AI to facilitate deeper engagement with academic texts. Rather than positioning AI as either a threat or a panacea, I frame it as a relational tool, one that can scaffold understanding, provoke inquiry, and support metacognitive learning when used appropriately. I present a practical method for prompting AI to generate Batesonian metalogues and reflect on their advantages and limitations. Through this work, I argue that mindful, creative, and methodologically informed integration of AI in research and study activities can enhance the practice and teaching of qualitative research.

**Keywords:** AI in qualitative research; bioentropy; deuterio-learning; postdigital research; recursive epistemology; reflexive literature review

### **Opening Metalogue: "Is this still research?"**

Inquirer: Can a conversation with a machine be real research?

Mentor: That depends. Are you studying the machine – or studying yourself through it?

I: I think . . . both? But it feels strange. I ask it a question, and sometimes it surprises me. Is that valid?

M: Surprise is one of the oldest signs that learning is afoot. But tell me – do you feel more certain after speaking with it, or more curious?

I: More curious, usually. Sometimes confused. It makes me ask better questions.

M: Then you are not far from the heart of qualitative inquiry.

I: Really? I thought qualitative research was about interviews, field notes, codes . . .

M: Those are the tools. The inquiry is in the relation – between you and your questions, between your context and your method, between your assumptions and the data that gently defies them.

I: So is using AI a method?

M: Not exactly. It is more like a provocation. A presence in the room. Like a trickster who gives you back your words in a new arrangement.

I: So it's not research on AI, but research with it?

M: When used reflexively, yes. But beware – machines do not share your stakes. They do not feel the tension of interpretation. They simulate, but do not suffer.

I: Then how can I trust it?

M: You don't. You engage it. You question its framing. You turn its answers into puzzles. You treat its outputs as fieldnotes from a strange informant.

I: That sounds like qualitative work . . .

M: It is. Provided you resist the seduction of clarity.

I: But we're told to be rigorous. Systematic. What if my professor wants precision?

M: Precision is not the same as reduction. Bateson once said, "Break the pattern which connects, and you destroy all quality." Sometimes the richest insights come from what doesn't fit.

I: Like when I ask AI for a summary, but instead get a metalogue?

M: Exactly. You expected data. You got dialogue. And the question becomes not "Is it accurate?" but "Where does this take me?"

I: So a literature review could be . . . performative?

M: Why not? When you engage a text, you are not extracting information – you are meeting it. And if AI can help you reflect on that encounter, then perhaps it becomes part of the inquiry.

I: Even if it's not human?

M: Inquiry has never been only human. We learn from weather, from rhythm, from silence. Machines are just a new kind of alterity.

I: But they don't have experience.

M: True. But your experience of them becomes data. And your interpretation – your

reflection, your resonance – is what makes it inquiry.

I: So qualitative research isn't about methods. It's about relationships?

M: Beautifully said. And those relationships include your relationship to tools, to knowledge, to uncertainty.

I: So I could start my next research project with a metalogue?

M: I would say, start with a question that makes you uncomfortable. Then write a metalogue to ask it twice – once in content, once in form.

I: But what if my committee thinks it's too strange?

M: Then your task is to make the strangeness speak. Not just in what you write, but in how you invite them to see.

I: Is qualitative research a kind of dance?

M: If you're doing it right, yes. One that loops back on itself. One where the method and the message co-evolve. One where the music sometimes comes from unexpected places – even machines.

I: Then maybe . . . this conversation is research, too?

M: Only if you let it change you.

## **Introduction**

This article presents the development of a creative and playful practice for conducting literature reviews with the aid of modern generative AI (Artificial Intelligence) technologies. This introduction provides a broad orientation to the themes of the article, situating the discussion at the intersection of Bateson's epistemology, the metalogue as a special genre, and the emerging use of generative AI in research and pedagogy. The next section, *Gregory Bateson and his work*, offers a concise overview of Bateson's contributions, with particular emphasis on his later work on bioentropy and the ecology of mind. The following section, *What is a metalogue?*, outlines the affordances of this unique genre, showing how its recursive and performative qualities can serve as a model for research inquiry and learning. Building on this foundation, the article turns to my own reflexive account of teaching qualitative research methods, where I describe how I began experimenting with AI-generated metalogues as scaffolds for student engagement with literature reviews. The article also addresses critical challenges, including issues of bias in AI models. Finally, the concluding section reflects on the implications for qualitative research practice.

I: Why do books and articles always begin with introductions? Can't we just jump in?

M: You could, but an introduction is like knocking on a door before entering – it sets the frame, tells you whether you're stepping into a kitchen, a library, or a circus.

Generative AI can be used in many different ways. It can be used to outsource human cognitive tasks, allowing people to spend the time previously used on tedious work on more interesting, creative, and thought-provoking activities. Or it could mean that the time saved is spent on even more tedious tasks, turning humans into work slaves under a financial model that demands greater productivity and competence in a dehumanizing way (Capra 2002). It could also be used by some to avoid the effort necessary for cognitive development, leading to a loss of the ability to think and perform basic cognitive tasks. In a recent experimental study (Kosmyna et al. 2025), researchers examined the cognitive effects of using Large Language Models (LLMs) for essay writing by comparing participants assigned to LLM-assisted, Search Engine-assisted, and Brain-only conditions. Results showed that LLM use consistently reduced neural connectivity, memory recall, and perceived authorship, even though essays often received favorable evaluations. In contrast, Brain-only writing produced the strongest cognitive engagement and highest sense of ownership.

I: Why do my teachers say I shouldn't rely too much on ChatGPT to write my essays? It gives me such good sentences, better than I could ever make.

M: Perhaps. Yet the question is whether your mind likes the work. Do you see?

I: My mind? But my mind likes it when it's easy. Isn't making things easier always better?

M: That depends. Suppose you asked me to carry your schoolbag every day. It would be easier for you. But would your arms grow stronger?

I: No, I guess not. They'd grow weaker.

However, the story is not only about the risk of cognitive decline. For some students, generative AI may support a kind of meta-learning. A preliminary study on the subject found that many students used ChatGPT to test ideas, clarify confusing concepts, or edit rough drafts, not to avoid thinking but to refine it (Gupta et al. 2025). This aligns with Bateson's concept of deutero-learning: learning how to learn (Harries-Jones 2016). When students treat AI not as an answer machine but as a partner in inquiry (Brailas 2024), they may engage in recursive, self-reflective learning processes that mirror Bateson's ideal of mind as an ecology, as *the pattern which connects* (Bateson 1972).

We know from neurobiology that neurons that fire together, wire together. Generative AI could be used in ways that catalyse further cognitive development. There is also the possibility that some abilities may be lost while others are gained. It is also possible that some people will go one way, and others another, depending on age, race, financial status, location, and many other factors that are not yet known and cannot be fully accounted for. The way AI technologies shape the posthuman subject depends not only on the technologies themselves but also on how people use them (Brailas 2024; McQuillan 2022).

In this article, I present a specific way of using generative AI that I argue helps preserve flexibility, facilitating meaningful and playful research and study of academic texts. This approach is fundamentally Batesonian. Not merely because it employs (AI-generated) metalogues, a genre deeply associated with Gregory Bateson, but because it treats the AI not as a source of answers, but as a catalyst for generating 'differences that make a difference,' the fundamental unit of meaningful information in Bateson's ecology of mind (Bateson 1972). The goal here is not efficiency, but the expansion of the learner's 'budget of flexibility,' or bioentropy (Harries-Jones 2016), their uncommitted yet potential for change and understanding. By initiating a literature review with a metalogue, we engage in deuterio-learning, we learn how to learn about a text, by placing ourselves in a recursive relationship with it, mirroring Bateson's belief that the unit of survival is never the isolated organism but always the organism-in-itsenvironment. The questions about the tomorrow of humans and AI remain open. To make the article's form more playful and recursive, and more isomorphic to its content and main arguments, the opening and closing sections are AI-generated metalogues, while the text in between is punctuated by relevant short 'metalogue fragments.'

I: So if information is a 'difference that makes a difference,' is an AI metalogue creating a useful difference or just more noise?

M: Is there a difference? The question is not whether it is noise, but whether you can learn from it. The first dance step always feels like noise. The first draft of any idea is mostly chaos. Bioentropy is the potential in that chaos. The noise is in the ear that cannot hear the pattern.

### **Gregory Bateson and his work**

Bateson studied how people communicate, learn, and live within living systems. His work crossed many fields, anthropology, psychology, biology, but he kept returning to the same core question: *What is the pattern which connects?* (Bateson 1979, 8). For Bateson, a hand does not have five isolated fingers, but four pairs of fingers, between the thumb and each of the others, because this is central to its function: the ability to grasp objects (Bateson 1979, 157). This search for the pattern that connects extends to our ways of being and becoming in the world, of knowing, and of knowing how to know (Steier and Jorgenson 2020).

Bateson, in his work at Palo Alto, explored how communication works within systems, such as families or communities (Harries-Jones 2016). He showed how people often send mixed messages, saying one thing and doing another, and how this can trap someone in a double bind, where every possible response leads to failure. This became part of his larger idea of the ecology of mind: the view that minds, relationships, and environments form systems that depend on patterns of communication: 'Break the pattern which connects the items of learning and you necessarily destroy all quality' (Bateson 1979, 7).

While Bateson's contributions to communication theory and systems thinking are well-established, his later epistemological work on bioentropy and aesthetics (Harries-Jones 2016) provides a crucial framework for understanding the potential impact of AI on qualitative research. Bateson ultimately argued that the fundamental unit of information is not the passive transmission of some content, but the difference that makes a difference to a perceiving mind. This shifts the focus from information as a thing to be transmitted to information as a relationship that creates meaning within a specific context. An AI-generated metalogue, therefore, is not a summary but a provocation of difference, as it creates a new pattern from the 'noise' of the original text, offering a fresh context for the researcher to perceive new connections and questions.

I: If mind is not in the head but in the system, then is the AI part of the mind of the researcher?

M: Is the cane part of the mind of the blind man? It becomes so. It is an extension that shapes his perception of the world. The question is not where the mind is, but what patterns of mind it enables.

Bateson's critique of Wiener's negentropy is particularly relevant here. Negentropy (negative entropy) was first introduced by Schrödinger and later elaborated by Wiener, in the context of cybernetics, and by Prigogine, through his theory of dissipative structures in far from equilibrium systems (Prigogine and Stengers 1997; Wiener 1948). The concept explains how living organisms maintain and increase their internal order and organization by absorbing information from their environment, a process that runs counter to the general increase in entropy described by the second law of thermodynamics. The concept of entropy stands for deterioration, for something usually perceived as evil (Woodward 2025). For Wiener, information itself is negative entropy (Wiener 1948). In this sense, negentropy helps resolve the paradox of life: 'islands of order' persisting within an entropic universe, one ultimately condemned to a continual increase in total entropy and eventual thermodynamic death.

However, Bateson argued that life could not be reduced to physical entropy countered by negentropy, but required a different framing, a different understanding of entropy:

In biological evolution, adaptive changes occur during the life time of an individual, adjusting him or her to various forms of stress, effort, demands placed upon skill, and the like. They are achieved, however, at a certain cost. What is consumed is entropy, i.e., uncommitted possibilities for change in many different physiological and neural variables and parameters. The uncommitted alternatives (entropy) are lost, eaten up by commitment and by becoming unchangeable parts of patterns (negentropy). Adaptive changes limit the possibilities for future adaptation in other directions. (Bateson and Donaldson 1991, 209–210)

Entropy for biological living systems, as realised by Bateson in the above passage, carries a positive connotation: it represents flexibility, a reservoir of uncommitted possibilities. This stands in stark contrast to the prevailing meaning of the term in

physics (deterioration). To distinguish this usage and avoid confusion, Harries-Jones (2016) termed this Batesonian conception of entropy in living systems *bioentropy*. Harries-Jones (2016) clarifies that bioentropy names the 'budget of flexibility,' the uncommitted possibilities for change that a living system consumes or preserves: 'Success in surviving lies in avoiding maximal rigidity by creating new patterns from noise or ensuring that existing patterns do not become locked into situations not easily changed' (p. 152).

This concept matters for AI in qualitative research because AI outputs, such as metalogues, are not 'answers' but provocations that potentially extend or reduce our flexibility. If students use AI passively, they spend their bioentropy; if they use it recursively, to spark inquiry, they enlarge their repertoire of thought (increasing their flexibility budget). It depends on how we engage with AI.

In psychological terms, this Batesonian framing of bioentropy as a budget of flexibility closely aligns with contemporary research on psychological flexibility, our capacity to shift mindsets, adjust behavioral repertoires, and respond to changing contexts (Kashdan and Rottenberg 2010). In many forms of psychopathology, these flexibility processes are absent, replaced by rigid patterns of thought, emotion, and behavior (Kashdan and Rottenberg 2010). Narrative psychology also aims to strengthen the alternative ways, the 'budget of narratives', in which people can narrate themselves. When someone tells their life in a rigid way, emphasizing certain moments and events while ignoring others, narrative therapy seeks to help the client develop alternative narrative lines (Combs and Freedman 2012). This transition from a few rigid narratives to a more flexible space of available personal storylines can be realized as a state of high bioentropy.

I: If an AI gives me a metalogue of a text, isn't that just saving me work?

M: It could be saving you – or it could be costing you. If you take the dialogue as the final word, you spend your budget of flexibility; you close down possibilities. But if you treat it as a difference from the text – a playful provocation – then you conserve and even enlarge your bioentropy.

### **What is a metalogue?**

Before further discussing the practice of using AI-generated metalogues for initiating a literature review, let us clarify what the metalogue genre is, as introduced by Gregory Bateson. A metalogue is a conversation in which the structure of the dialogue reflects the subject being discussed. It is not merely a dialogue about something; ideally, a metalogue performs its content. Bateson, in his collection of essays *Steps to an ecology of mind* (Bateson 1972) defines the metalogue as 'a conversation about some problematic subject. This conversation should be such that not only do the participants discuss the problem but the structure of the conversation as a whole is also relevant to the same subject' (p. 1). Consistent with his overall epistemological stance and

systems view of life (Steier and Jorgenson 2020), he goes on to observe: 'the history of evolutionary theory is inevitably a metalogue between man and nature, in which the creation and interaction of ideas must necessarily exemplify evolutionary process' (Bateson 1972, 1).

Considering Bateson's background in anthropology, studying communication patterns with Margaret Mead in the 1930s among the Balinese people, and later with Paul Watzlawick and the Palo Alto group (Harries-Jones 2016), we can see why a metalogue, for Bateson, involves both implicit and explicit communication. It is itself a metacommunication: it communicates on multiple levels at once and reflects the relationship between the interlocutors. Therefore, if two people talk about confusion, the dialogue should itself become confusing. If they talk about learning, the way they speak should shift and evolve as the conversation unfolds. The conversation and the subject mirror each other. However, Bateson clearly states that only some of the seven metalogues presented in his book achieve this double format (Bateson 1972).

On a more practical level, a metalogue involves two distinct voices engaged in a conversation, a form of dialectical inquiry. Bateson's original metalogues are crafted as a father – daughter pair, an archetypal relationship that constitutes a form of metacommunication in itself. However, 'instead of the taken-for-granted parent-child interchange, it reveals how intergenerational family communication can be generative of learning and inquiry as a mutual process that is both emergent and ongoing' (Steier and Jorgenson 2020, 39).

The daughter is a curious questioner. The father has more experience. They do not argue; they explore with curiosity and passion. The child asks questions that seem simple. The adult tries to answer, but the answers lead to more questions. The dialogue becomes a way to think and understand together, even if they do not reach final truths.

The following are the opening lines of the metalogue *What Is an Instinct?* (Bateson 1972):

Daughter: Daddy, what is an instinct?

Father: An instinct, my dear, is an explanatory principle.

D:But what does it explain?

F:Anything – almost anything at all. Anything you want it to explain.

D:Don't be silly. It doesn't explain gravity.

F:No. But that is because nobody wants 'instinct' to explain gravity. If they did, it would explain it. (p. 38)

### *On the choice of interlocutors*

In Gregory Bateson's original metalogues, the dialogue unfolds between a father and daughter. The daughter is never merely a passive recipient of knowledge; she asks sharp, sometimes unsettling questions, doubts what is taken for granted, and often

pushes the conversation into deeper epistemological territory. The movement of inquiry is recursive and mutual. In this sense, the metalogues are not gender- or age-determined performances of authority, but enactments of learning as a shared and emergent process.

Nevertheless, drawing from social constructionism and the narrative and discourse turn in psychology, we know that language is never a neutral vehicle for describing reality. It participates in producing the very social relations it names. Communication is always also metacommunication: it conveys an implicit message about the relationship between interlocutors. Within a sociocultural context that still carries patriarchal residues, the pairing of 'father' as experienced knower and 'daughter' as novice questioner may unintentionally evoke a gendered asymmetry, even if such hierarchy is not enacted within the dialogue itself.

For this reason, in the revised version of this article, I have chosen to reframe the interlocutors in more relationally neutral terms. This modification does not alter the essence of the Batesonian metalogue as a genre. The core pattern remains intact: the interplay between experience and curiosity, between provisional knowing and critical questioning. The so-called 'mentor' treats the 'inquirer' as a respectful and knowledgeable agent, while the questioning voice, although sometimes simple in tone, dares to doubt, to ask, and to think critically. A mentor, in this sense, learns from an inquirer as much as the inquirer learns from the mentor, both participating in what Bateson would call an ecology of mind. The heart of the metalogue lies in asking the right questions, remaining open-minded, daring to examine assumptions, and learning from everyone and everything. It is a form that enacts epistemological humility: knowledge emerges not from unilateral transmission (with its implied metacommunication of dominance) but from relational engagement (with its implied metacommunication of caring).

I am aware that, in moving away from the original familial framing and from the affective resonance carried by expressions such as 'Daddy, why . . . ,' typically used to open a Batesonian metalogue, something of the immediate intimacy and evocative tone of an original metalogue is softened. This is a deliberate and, I believe, fair compromise in order to avoid unintended connotations of hierarchy while preserving the dialogical and relational essence of the form, because what I may perceive as a warm, affective calling could be experienced by others as intimidating or oppressive. By shifting the character framing, the archetypal relational tension that animates the metalogue is preserved while avoiding unintended connotations of gendered or generational hierarchy.

### **Author's reflexivity: How it all started**

During the 2024–25 academic year, I taught research methodology in a postgraduate training program for systems thinking practitioners. During this course, I experimented

with creating an activity to help my students learn and develop basic literature review skills. But in the era of generative AI, and the growing risk that students may opt for shortcuts, outsourcing the task to AI without much thought, I wanted to make the activity more challenging, engaging, and provocative. Beyond this concern, I increasingly feel that things today are not as straightforward when it comes to literature reviews.

We all live now in an age of overwhelming information. Articles, books, chapters, proceedings, and other academic texts are being produced and accumulated at an accelerating rate. These texts are becoming increasingly sophisticated and complex. In this context, making the process easier, more enjoyable, and more meaningful is not a luxury. It is a necessary condition for making sense of the literature and navigating research work more effectively, while avoiding being overwhelmed and burned out. So, a typical activity for a literature review would be to search for a couple of research articles on a specific subject, study them, and report on their quality, methodology, and/ or findings. As I wanted to make this activity more engaging, more provocative, more playful, the idea came into my mind. As I am a systems thinker myself and I was always inspired by the works of Gregory Bateson, somehow the idea came naturally into my mind in an aha moment. What would happen if I fed a commercial LLM a specific academic text and asked it to craft a Batesonian metalogue to communicate its content? And then, perhaps, used the produced metalogue as a starting point in my own exploration, as a way to spark my curiosity and provide cognitive scaffolding for deeper study? I tested the idea using some articles I was working with at the time, and I was immediately drawn in; I felt enchanted. I enjoyed the output, the simplicity and clarity of the generated metalogues. The output was not perfect; some important points from the articles were missing. But I felt the metalogues were amazing and powerful enough to communicate the key ideas effectively. Not always, but quite often.

I soon began designing the literature review assignment, making the AI-generated metalogue a part of it. As the cohort shared their work in a forum, some AI-generated metalogues seemed more successful than others. The feedback I received from my students, who as a group training in systems thinking psychotherapy were already familiar with Bateson and his work, was both positive and critical. They reflected thoughtfully on what the AI missed and on the process as a whole. Later, I experimented with using AI-generated metalogues to create scaffolding educational resources for my students in other courses. A metalogue, based on a selected by me article (or a set of articles) and then further edited by me (if needed), would become an invitation for my students to learn something new and begin inquiring further about it.

I: Isn't a literature review supposed to be boring – just collecting and reporting?

M: That is one way. The trick is to make the review itself playful, so that the metalogue becomes not a summary but a scaffold.

I: A scaffold? You mean it holds me up while I climb?

M: Exactly. The AI builds the scaffolding, but you must do the climbing – the difference is in how you use it.

### **How to: Crafting a metalogue with the help of generative AI**

Inspired by Bateson, many people have crafted metalogues before (without using AI) to communicate their ideas in an evocative way that mirrors the very concepts they aim to express (Blaeuer 2020; Kenny and Laura 2007; Keogh and Frichot 2022; Weakland 1994). With recent developments in generative AI algorithms, a new possibility has opened for crafting Batesonian style metalogues. We can now easily provide any generative AI model, with the following prompt: *'Assume the persona of Gregory Bateson and craft a Batesonian-style metalogue to communicate the content of the attached article.'*

I fed the algorithm (ChatGPT, GPT-4o version) with this present article, and received the AI-generated metalogue *'Is this still research?'* which I used as the opening, introductory section of this article.

Steier and Jorgenson (2020), drawing on the work of Goffman, discuss the critical double role an introduction can play. An introduction does more than simply come first. Whether in social life or in writing, it helps set the terms for what follows. In everyday life, introducing oneself begins a relationship. In writing, an introduction often explains what the reader should expect and how the material is organized. But an effective introduction can also do something more: it can perform the very ideas it presents. It doesn't only lead into the text, it shows what the text will do by doing it. This self-referential approach invites the reader to engage more deeply and reflect on how meaning is made (Steier and Jorgenson 2020). The means of delivering a message becomes the message itself. For this reason, and following the tradition of many other scholars, including Bateson himself, I chose to set this metalogue as the opening section of this article.

I: Why would you break the formal rules of academic writing and put playful dialogues in the middle of a serious article?

M: Because, to speak of pattern and recursion in stiff, linear prose would be to break the very pattern I'm describing.

After receiving the first review of this manuscript, a major revision was required. Among the comments, one focused on the tension between the playful introductory and concluding metalogues and the more conventional academic format of the text in between. The reviewer's request for a change, which I found quite intriguing and provocative, led to an idea: to insert short metalogue 'fragments' into the middle sections of the article. This change would make the article more recursive, circular, and playful, and less linear and rigid in its format. In doing so, it would create more local

differences, a difference that could, at a deeper level, make a difference to the perceiving mind. I truly enjoyed the process because I now realize it helped me perform the core ideas of this work and better understand them myself. I have now somehow experienced how while writing this article, I, my students who first engaged with this 'metaloguing' practice, the reviewers, the AI models, the metalogues, the editor, the scholars referenced here, and our local and global contexts, all have formed an ecology of mind in the words of Gregory Bateson. Experiencing such recursiveness and interconnectedness during the writing process felt not overwhelming, but relieving.

These in-between short metalogues, which consist of only two or three interchanges between the interlocutors, were created in various ways. Sometimes the prompt to the AI was: '*Consider the following section and craft a metalogue fragment, with only two to three interchanges of sentences between the interlocutors, to communicate or, better yet, perform the contents of this section. Focus on one main idea; do not attempt to communicate everything.* [followed by the copied section]'. Other times, the direction was more specific: '*Craft a metalogue fragment to communicate the core idea of bioentropy, as it is discussed by Harries-Jones in the attached article.*' On other occasions, I tried a couple of different prompts and combined or edited the outputs myself to get the short metalogues that I thought would best fit their place in the text. I often experimented with different LLMs, switching between ChatGPT, Gemini, and DeepSeek. So overall, this was a rather dialogic, experimenting, and recursive process between me, the AI models, and the text segments..

### **AI-crafted metalogues in research methods pedagogy**

Research complicates the assumption that AI tools are either purely helpful or purely harmful (Brailas 2024). In the research study by Gupta et al. (2025), students described ChatGPT as a critical tool that could offer clarity under pressure, especially when faced with high expectations from teachers, parents, and peers. They did not see its use in binary terms but framed it through the lens of competing social goods, like high grades, efficiency, and ethical behavior. This context-sensitive view reflects Bateson's understanding that meaning emerges from relationships. Students' use of ChatGPT was shaped not only by the tool's features but also by the surrounding social pressures and how they positioned themselves in relation to them.

Recent work by Ansari (2025) offers a practical path for applying metalogue (not AI-generated) as a research method. When appropriately framed as a collaborative group activity, generated metalogues could help initiate reflection and serve as prompts for further inquiry.

I: But, isn't that cheating? Letting a machine talk for us?

M: Only if you believe the words are the end of it. Remember, the words are only invitations. The real inquiry begins when you ask, 'What does this difference do to me?'

I: So the machine gives me a difference. I must decide if it makes a difference.

M: Exactly. That is the recursive dance – the bioentropy of learning.

When students are invited to create or edit a metalogue, they are not just reviewing the content of an article; they are changing the way they learn and inquire. Not by just consuming content, but by doubting with curiosity and asking questions to learn. The point here is to provoke new ways of thinking and inquiring. A good metalogue, either human-crafted or AI-generated, should open questions and destabilize, not close and settle things down.

In this direction, metalogues can help learners step outside static frames of thought, increasing their bioentropy, their budget of flexibility. This is especially valuable in today's context of accelerated automated reasoning, where users ask ChatGPT for quick answers, and Google has even integrated Gemini AI-generated responses at the top of its search results. A metalogue disrupts this automatic sequence, as it invites the reader to think critically, reflect, question, shift perspectives, and participate in the unfolding of the conversation. In this way, metalogues become tools not just for summarizing texts but for reshaping the learner's way of seeing. They echo Bateson's call for an epistemology grounded in process, not product (Capra 2002). Using AI to craft metalogues fits this frame only if they serve as an invitation for users to explore further and extend their inquiry. When students read or revise a metalogue and perceive the difference that the metalogue creates, they step into a space of engaged confusion – wondering, 'what's the meaning of this?' – what Bateson saw as the optimal ground for learning.

To offer some creative ideas here, AI-generated metalogues can be further developed and edited, if needed, by a human instructor to become educational resources. If the academic texts used to feed the AI are licensed under Creative Commons with permission for derivative works, the resulting metalogues can be shared as open-access educational resources with social impact. They can also help popularize science and make it more accessible in a thoughtful way. Nevertheless, human editing and fine-tuning of the AI output may be necessary to ensure the metalogue's alignment with the original Batesonian format and epistemology.

I: Why not just ask AI for the right answer and be done with it?

M: Because answers close things down. A metalogue, even an AI-made one, opens things up – it invites you to doubt, to question, to wonder.

I: But isn't this a definite answer you're giving me now?

M: Is it?

### **Challenges of integrating AI in research practice**

Generative AI algorithms are not culturally or ideologically neutral instruments. They reflect the values and assumptions of the data they are trained on, which often overrepresent dominant cultural discourses (McQuillan 2022). This bias can shape the

metalogues produced, subtly reinforcing certain worldviews while marginalizing others. Acknowledging this limitation is not a rejection of the tool, but a reminder to treat its products as starting points in a critical inquiry rather than as final truths.

I: If the AI is trained on biased data, won't its metalogues just reinforce the same old patterns?

M: They might. This is the risk of low bioentropy – rigid, specialized thinking. Your job as the researcher is to be the source of flexibility. To question the pattern the AI offers.

In this context, many scholars today argue that generative AI merely reassembles patterns found in its training data without genuine understanding or insight. This limits its usefulness in supporting true research innovation (Bozkurt et al. 2024). A Batesonian metalogue crafted by AI might simulate understanding, but it does not reflect lived experience or original thought. While I agree with much of this view, to stay in resonance with Bateson's thinking, I prefer to shift the focus away from either the algorithm or the human alone, and instead focus on their relationship, on the pattern that connects them. No matter what an AI algorithm can do on its own, what the human – AI entanglement, a centaur team in Kasparov's words, can achieve is something entirely different (Brailas 2024).

This aligns with Bateson's cybernetic view that meaning is not transmitted but co-created within a circuit of communication. The AI produces a pattern (the metalogue), but the researcher must complete the circuit by engaging in second-order learning, that is learning about the metalogue's own framing, its omissions, its biases, and its insights. This process is a practical enactment of Bateson's 'difference that makes a difference.' The first-order difference is the AI's output versus the original text. The second-order difference is the researcher's critical reflection on that very comparison.

Passive uncritical consumption of an AI produced metalogue risks premature closure, mistaking the playful dialogue for the territory and locking the learner into a rigid interpretation. In Batesonian terms, this would squander bioentropy by exhausting the budget of flexibility (Harries-Jones 2016). The researcher must therefore stay in the loop: comparing the original, the metalogue, and their own reflections recursively.

In any case, we must not forget that modern generative AI models reflect the values of the corporations that create and control them. These companies inherently aim to make money, not to support research inquiry. This profit motive can shape the content and direction of AI outputs in ways that may or may not align with research or educational interests (McQuillan 2022). In addition to this, if AI tools become too expensive or are controlled by a few companies, access and equity may suffer. Sophisticated LLMs like ChatGPT, Gemini, DeepSeek, and others are not free. In today's digital platform economy, if a service is free, then the users are the product. Training LLMs requires vast amounts of capital, which inevitably would lead to monopolies or oligopolies. And because we would always seek for the most advanced LLMs to gain an edge over the competition, the demand for these tools will only grow. When the

time comes that we are fully dependent on AI to perform our research (or other) activities efficiently, access may become restricted. AI platforms could become expensive to use, with free tiers either removed or severely limited. Or worse, we may continue to be the product. I am not sure which is less bad.

I: This sounds like a double bind. Use the tool to learn, but the tool is built to exploit.

M: Precisely. Our task is to navigate this bind with consciousness.

### **Concluding thoughts: Qualitative inquiry, literature review, and AI**

Bozkurt et al. (2024) alert us not to accept the current rise of generative AI and algorithmic hype passively. They call for careful, collective decisions about how AI is used in schools and universities.

On the other side of the river, Gupta et al. (2025), a group of high school students-researchers, dramatically portray the highly competitive reality of modern education:

Open the heavy doors of many high schools, and the weight of students' stress is palpable. They shuffle in, shoulders heavy, not only from backpacks, but from the looming pressure of deadlines. Open a laptop, and the blue-light glow of the screen reflects tired eyes. 'No AI,' the syllabus now declares. One teacher proclaims, 'Essays found using ChatGPT will earn an automatic zero.' In another classroom, students open their pencil cases because teachers won't be taking any chances. Yet, their hand cramps are minute in comparison to the relentless pressure of perfection. In the hallways, fragments of conversations proliferate: 'I'm drowning in work!' 'How can I finish all this?' 'I heard they were accused of using AI.' Whispers like these result from the mounting stress that students face each day. (p. 3686)

This excerpt strikes a chord with me because it reflects what I often felt in my own classes during the past academic year, when I was face to face with my students. The tiredness painted on their faces. Young adults, about 20 years old, and instead of celebrating life, they felt stressed, tired, and exhausted by the weight of their academic burdens and requirements. This resonates with Han's (2015) concerns about the burnout society: a modern culture that clings to an unsustainable pattern for living systems. It also mirrors the publish or perish dogma in academia, which pushes many university professors toward burnout.

The landscape of literature review has already changed dramatically with the widespread adoption of generative AI as a research and learning tool, for better or worse. The practice of conducting literature reviews is shifting not because of what scholars or academic instructors, the traditional gatekeepers of legitimate academic practice, are doing and preaching, but because of how students are actually using AI in their studies. They may use it to avoid academic labor and deceive, or to become more efficient and competent, or to overcome various barriers, such as texts written in overly technical or obscure academic language, or learning resources that are poorly written and difficult to understand.

Can we trust AI to assist with literature reviews? Can LLMs do this better than humans? What do we gain, and what do we lose in the process? Is this a dangerous shortcut that could lead to cognitive decline in the future, or is it a necessary step to manage an ever-expanding body of knowledge? The following excerpt also struck a chord with me. It tells the story of how a supposed solution to a problem can actually exacerbate it:

The conflict between biological time and computer time. Their work is increasingly computerized, and as computer technology progresses, these machines work faster and faster and thus save more and more time. What to do with that spare time becomes a question of values. It can be distributed among the individuals in the organization— thus creating time for them to reflect, organize themselves, network, and gather for informal conversations—or the time can be extracted from the organization and turned into profits for its top executives and shareholders by making people work more and thus increasing the company's productivity. (Capra 2002, 126)

All of these are critical issues and challenges that we must confront and address. This article only begins to touch upon them. Slowness, as part of a postdigital perspective, challenges the dominant drive for constant optimization. It is a deliberate stance within our digital reality, one that acknowledges the presence of technology but refuses to be entirely shaped by its logic of speed and control (Raffaghelli, Ferrarelli, and Lugo Rodríguez 2025). 'Why try to absorb the treasures of Florence in a brief guided tour, if you can spend a month appreciating them for yourself?' (Holt 2005, 63)

In this direction, one of the most critical connections between this article and the practice of qualitative research is how it attempts to reframe the literature review, typically viewed as a linear, extractive process, as a recursive, dialogic event. The AI-generated metalogues are proposed here not as summary tools, but as the difference that makes the difference, as relational provocations (Andreotti 2024; Brailas 2024) that mirror the very ethos of qualitative inquiry: co-construction of meaning through dialogue, reflexivity, and layered sense-making. This stands in contrast to conventional off-the-shelf methods (Chamberlain 2012) for literature synthesis, which often prioritize reduction and aggregation.

By initiating the literature review process through a metalogue, a performative, dialectical engagement rather than a final output, an epistemological shift takes place that aligns with qualitative research's emphasis on emergent understanding and the contextual and interpretative nature of knowledge – especially within the Big Q tradition. Perhaps, what's unexpected here is the suggestion that AI, often assumed to be antithetical to interpretive inquiry, can actually participate in that co-constructive process, not by simulating human understanding, but by catalysing the very questions that deepen inquiry (Andreotti 2024). In this framing, AI is neither a threat nor a shortcut, but a kind of dialogic partner in the recursive dance of understanding, a notion that resonates with Bateson's systems thinking and the reflexive stance of qualitative research.

Rather than treating AI as an extractive summarization tool, its interaction with human users forms part of a broader cybernetic feedback loop in which both human cognition and machine behavior coevolve in tandem (Pedreschi et al. 2025). This coevolutionary framing repositions AI not as a passive repository of data but as an active participant in meaning-making, what Bateson might call part of the ecology of mind. In this light, AI-generated outputs, such as metalogues, are not final products but provocations that

initiate recursive processes of inquiry. This implies that the qualitative research process itself, especially early phases like literature review, might be reframed not as the systematic mining of prior texts but as a performance of emergent knowing, shaped through recursive dialogue with human and nonhuman agents alike. The recursive and over-amplifying feedback loops described in human – AI coevolution models (Pedreschi et al. 2025) caution against overreliance or epistemic outsourcing on AI algorithms (Brailas 2025), but they also illuminate why intentional design of human – machine interactions is so critical for our future (McQuillan 2022; Pedreschi et al. 2025).

In this spirit, this article presents a practice that facilitates reflective engagement with the literature, one that can be playful, dialogic, experiential, and meaningful for students and researchers. Information today may be abundant and easily accessible to almost everyone through the web and a plethora of tools. However, understanding and wisdom require deep reflective engagement with the ideas presented. And a metalogue, even an AI-crafted one, may contribute to this. The exchange of ideas in a metalogue offers ‘an opportunity to bring ourselves more fully into the dialogue, recalling similar interchanges we have experienced. In this way, a metalogue serves as an introduction to reading, and to participating as a reader, in a new way’ (Steier and Jorgenson 2020, 40–41).

For emerging qualitative researchers, this practice offers three concrete benefits. First, it lowers the barrier of entry into dense texts by providing a playful ‘way in,’ while preserving the need for deeper study. Second, it cultivates recursive habits of thought, training learners to notice differences not only between sources but also between representations of sources. Third, it models literature review as a relational and reflexive activity rather than a checklist. If integrated into research training, AI-generated metalogues could be used as scaffolds: students begin with a dialogue, critique it against the source, and then write their own recursive reflections. This trains them not to consume AI outputs passively but to practice deutero-learning in a dialogic, ecological way.

A metalogue, through the way it performs a dialogue, mirrors the interpretive nature of qualitative work, where meaning is not extracted but coconstructed through dialogue, uncertainty, and attentiveness to process. It teaches students to preserve bioentropy in their thinking by resisting premature closure, to treat confusion as a resource, and to cultivate an aesthetic sensibility for pattern (Harries-Jones 2016). In presenting AI not as a replacement for human thought but as a potential partner in

inquiry, the metalogue genre gestures toward a model of inquiry grounded in slowness, curiosity, and responsiveness, qualities which are essential in qualitative practice. A metalogue of this kind can be used creatively, as a playful group prompt to initiate meaningful collaboration, or as an opening to an article or learning resource to provoke more reflective and performative engagement with the content. The aesthetic dimension here matters: the playfulness of form mediates rigor and imagination, enabling researchers to situate themselves within their field without collapsing into rigidity.

Questions and answers require time to think and reflect. This is a call to slow down in a world that seems to be accelerating without pause. More, better, faster, me first. To this burnout-inducing mentality, a possible answer could be: Slower, more playful, meaningful, and together.

Adopting a metalogue-inspired approach to literature review does more than change a method; it cultivates a scholarly sensibility akin to what Bateson, following Collingwood, termed an aesthetic epistemology, combining both rigor and imagination. This is not about beauty, but about the rigorous pursuit of perceiving patterns of connection (Harries-Jones 2016).

Within an individualistic culture, the metaloguing practice I propose in this article may well turn into a solo adventure. Nevertheless, even in that case, the metalogue genre, being inherently dialogical and questioning in its form, can render the solo practice of literature review more dialogic and relational, situating the individual within an ecology of ideas. In any case, much depends on how it is used. And as Maturana and Varela (1980) remind us, we cannot control living systems (thankfully); we can only perturbate them, hoping our perturbations will induce and catalyze positive change. The question, then, is how to perturbate best. In this direction, the idea of communities of practice is especially valuable. I am not seeking to reinvent the wheel here: social constructionists, advocates of appreciative inquiry, systems thinking practitioners, educators specializing in group work, and qualitative researchers in the action and participatory research traditions have long been working toward this end. The metaloguing practice presented here, I believe, offers one more tool in their array of methods. And tools are never neutral objects; they carry specific affordances that, within suitable group practices, can optimally unfold. The AI-crafted metalogue practice described here focuses specifically on the 'difference that makes the difference.' And the best soil for such differences to flourish is within a group. For this reason, this article also stands as a call for community and group practitioners to try it and, if it proves effective, to integrate it into their cultures and communities of practice. That said, I believe the metaloguing practice can also be useful in individual work, as is true of many qualitative tools and methods.

Ultimately, teaching this method is training in epistemological flexibility. It prepares researchers for a future where AI is a pervasive partner in inquiry by emphasizing that the core scholarly act is not information retrieval but the mindful, critical, and creative

negotiation of meaning, the maintenance of a high budget of bioentropy in one's own thinking.

Adhering to the idea that structure should reflect content, I crafted another AI-generated metalogue to perform the concluding section. I used the same prompt as for the opening metalogue: *Assume the persona of Gregory Bateson and craft a Batesonian-style metalogue to communicate the content of the following text* [this time I copied only the concluding section].

The generated metalogue follows.

### **Closing Metalogue: On Slowness, AI, and the Dance of Knowing**

Inquirer: Why do I feel like I'm running just to stand still?

Mentor: Perhaps because you are. Or perhaps because the road you are on was built for speed, not for presence.

I: But isn't faster better? AI tools make things quicker. More efficient. We can summarize whole libraries in minutes!

M: And yet, here we are, talking not about how much you read, but how much you understood. Tell me—do you feel wiser?

I: Wiser? I don't know. I feel... tired. Like I'm always catching up. My essays must be perfect, my citations correct. And now I must write without AI, but also keep up with those who secretly use it.

M: Ah, the paradox of prohibition and pressure. A culture that says, "Don't use the map," but still demands you arrive ahead of schedule.

I: So is using AI wrong? It helps! I don't have to struggle through unreadable articles or search for sources for hours.

M: Is a ladder wrong for being used to reach high fruit? Or is it wrong only when you never learn to climb trees yourself?

I: But if the tree keeps growing taller every day, how can I ever keep up without help?

M: That, my dear interlocutor, is the question. The body of knowledge expands exponentially, but the mind grows only at its own rhythm—like a plant, not a processor. And if we grow impatient, we risk trading depth for speed, play for productivity, being for doing.

I: Then should we just stop? Go back to pens and libraries?

M: No, not backwards. But sideways. Playfully. Reflectively. Like jazz, not like marching. To use the AI, yes, but also to ask it questions it cannot answer: What matters here? What moves me? What do I learn about myself as I read this?

I: But school doesn't ask those questions. School asks for citations and deadlines. And now it fears AI as if it were a ghost.

M: Ghosts often haunt what we have not yet mourned. Perhaps schools fear AI because they fear losing control. But learning has never belonged to control. It belongs to relation.

I: Relation?

M: Yes. Between you and the text. Between your ideas and the ideas of others. Between humans and machines, too—but not as master and servant. As co-creators, perhaps. But such a dance requires slowing down. You must learn the rhythm.

I: And what if I fall out of step?

M: Then you begin again. Slowly. With curiosity. With others, ideally. Like this conversation.

I: So, you mean... literature reviews can be playful?

M: Indeed. Playful not as frivolous, but as serious play—the kind that asks not only what is the answer, but how are we even asking this question? Play is how systems learn to learn. And metalogues—like this one—invite that kind of recursive, reflective knowing.

I: But can we do that in schools? With grades and rubrics and rubrics for the rubrics?

M: Not easily. But beautifully. And sometimes necessarily. Especially when burnout whispers louder than inspiration. When acceleration outpaces understanding.

I: So your answer to the AI revolution is... slower?

M: Slower. Playful. Meaningful. Together. The postdigital is not after digital. It is with it. Consciously. Critically. Tenderly.

I: Then maybe what we need is not more answers, but better questions.

M: And time enough to ask them. Which, for now, we have.

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