

MÉTODO MIAH

Artificial intelligence governance working paper

Cognitive Orthosis

From a clinical concept to person-centered AI governance

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Conceptual working paper, not peer-reviewed

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Abstract

This paper introduces the Cognitive Orthosis™, a concept that defines artificial intelligence as an amplification of human thought rather than its replacement, and shows that this concept is, in itself, an act of governance. It argues that naming AI correctly relocates responsibility onto an identifiable human being, and that this relocation is the core of person-centered AI governance. The text integrates three layers: the foundation of the concept, its governance character, and health as its field of origin and its most demanding test. It draws on established literature on the extended mind, the responsibility gap, meaningful human control, and AI governance in health, and proposes the MIAH Method™ as its operationalization, anchored in Chile's Law 21.719. This is a conceptual working paper, version 1.1, not peer-reviewed.

Nature and method of this document

This document is a conceptual framework for person-centered AI governance. It does not present experimental results, nor does it claim to be a systematic review of the literature. Its contribution is terminological, clinical, and normative: to propose a precise name for AI, to anchor it in a clinical distinction, and to derive from it an attribution of responsibility and a set of governance instruments. References are cited in support of the conceptual argument, not as primary empirical evidence.

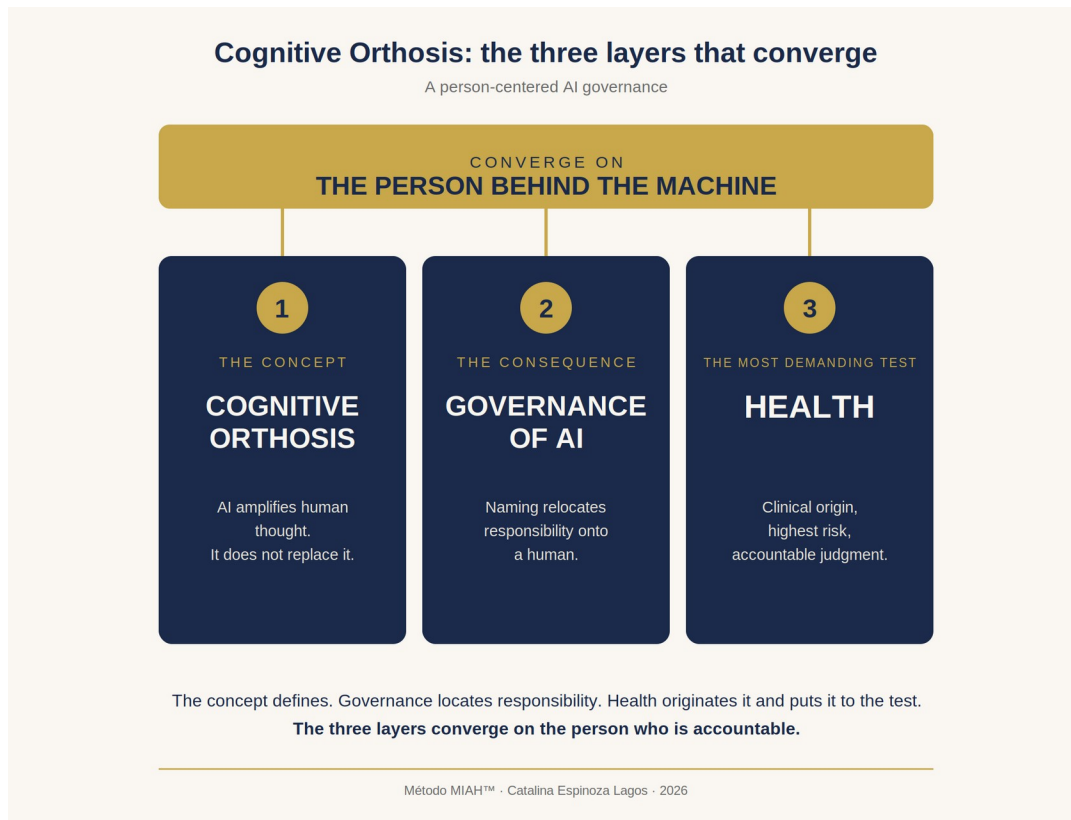


Figure 1. The three layers of person-centered AI governance and their convergence on the responsible human.

1. The problem of the name

When we call artificial intelligence autonomous, we install a false and dangerous idea: that of a machine that decides on its own. That idea creates a responsibility vacuum, because if no one directs it, no one answers for it. The thesis of this paper begins with an act that seems minor and is in fact foundational: naming. Calling AI a Cognitive Orthosis™ defines it as what it is: the amplification of a function that remains human, with a person who answers for it. Naming well is the first act of governance.

2. From the extended mind to the cognitive orthosis

The idea that human thought relies on external tools is not new, and that should be acknowledged honestly. Clark and Chalmers (1998) proposed the extended mind, the thesis that certain external supports are part of the cognitive process. Clark (2003) took it further with the natural-born cyborg, the human being who is constituted by merging with their technologies. Artificial intelligence is today the most powerful case of that extension. But the extended mind describes how we

think with tools, not who answers for what we decide with them. That is where the Cognitive Orthosis adds what is missing, and it does so from the clinic.

In rehabilitation, a prosthesis replaces a lost function, while an orthosis supports and amplifies a function the person retains. The distinction is not rhetorical but technical. Applied to artificial intelligence it yields a precise consequence: the brain admits no prosthesis, because thinking is not a function that can be delegated, so AI can only be an orthosis, never a replacement. And every orthosis presupposes a body that carries and governs it. Transferred to thought, it always presupposes a person who directs the AI and answers for its output. That is the distinctive contribution of this framework: not the idea of amplification, which already existed, but its clinical anchoring and its consequence for responsibility.

3. Calculomanifestation, why AI does not decide

AI has neither desire nor will. What it delivers is a Calculomanifestation™, a calculation manifested in a human modality, whether verbal, visual, acoustic, or audiovisual. It may resemble criterion or judgment, but at its origin it is a mathematical operation over patterns. From this it follows that there are three human substrates that no model computes. The living or carbon substrate: the body, pain, consciousness, and the hunger to live. The relational substrate: the bond and trust. And judgment that assumes consequences: responsibility. AI can amplify the work surrounding these three, but it cannot inhabit them.

4. Why the cognitive orthosis is governance

Governing artificial intelligence is not a matter of controlling the machine; it is a matter of locating and exercising responsibility. The literature has been warning of this. Matthias (2004) described the responsibility gap, the risk that no one answers for the actions of systems that learn on their own. Santoni de Sio and van den Hoven (2018) proposed meaningful human control as a response, and Santoni de Sio and Mecacci (2021) identified four ways in which that responsibility can be lost. The European Artificial Intelligence Regulation captured the concern in its Article 14, which requires effective human oversight of high-risk systems, and the ISO/IEC 42001 standard (2023) did the same at the organizational level.

The Cognitive Orthosis intervenes one step before all of them. It does not first regulate the system or the company, it regulates the cognitive relationship between the person and the AI, and establishes from the name itself that this relationship has a human who is responsible. It is therefore, at once, a concept and a mode of governance, a person-centered AI governance, because its object is not

the machine but the human judgment that operates it. The European Regulation requires human oversight, but it does not say how to train and certify the human who oversees. ISO 42001 certifies the organization, not the person. The Cognitive Orthosis, and the MIAH Method derived from it, govern precisely that, the person behind the machine.

5. Health, its origin and its most demanding test

Health occupies a special place in this framework, for four reasons, without the framework being reduced to it.

By origin. The concept is born in the clinic. The distinction between orthosis and prosthesis belongs to rehabilitation, and that is why a health professional can name artificial intelligence with a precision that other fields do not reach.

By risk. Health is the domain where an automated decision without a responsible human can cost a life. The World Health Organization, in its 2021 guidance, set as its first principle protecting autonomy: human beings must remain in control of health-care systems and medical decisions. In its 2024 guidance on generative models, it warned of the risk that decisions belonging to professionals and patients be transferred to machines the human does not understand. That is, almost word for word, the problem the Cognitive Orthosis names.

By model. Clinical judgment is the living example of the non-computable substrate. A health professional does not only read data, they inspect, palpate, percuss, auscultate, sustain a bond with the patient, and assume responsibility for the act. Those capacities, the body, the bond, and judgment, are the three that no model computes, and the clinic exercises them every day.

By known failure. Medicine has already documented how human oversight breaks down, it is called automation bias, the tendency to accept what the system suggests without genuinely verifying it (Goddard, Roudsari, and Wyatt, 2012). It is the clinical version of rubber-stamping. If the framework works in health, the most demanding domain, it works in any sector.

6. The risks the framework prevents

The Cognitive Orthosis prevents three risks. The first is apparent autonomy, believing that AI governs itself when it always operates on a human commission. The second is dehumanization by convenience: surrendering judgment because the AI delivers everything ready-made and effortless, until one ceases to exercise what is human without noticing. The third is cognitive debt, the weakening of one's own capacities by delegating them. A study from the MIT Media Lab (Kosmyna et al.,

2025), available as a preprint, found that intensive use of AI for writing is associated with lower brain activity and connectivity linked to one's own effort. An orthosis, by definition, requires that the function keep being exercised, not that it atrophy.

7. The MIAH Method, how it is operated

Two operational instruments derive from the Cognitive Orthosis. The Comprehensible Limit™ defines how far a person understands the AI's output and can take responsibility for it, and if they do not understand it, they cannot use AI in that role, which is a condition of the position and not a judgment on the person. Meaningful Human Oversight™ distinguishes genuine control from the empty formality of rubber-stamping. Both have legal anchoring in Chile: Article 8 bis of Law 21.719 recognizes the right to an explanation, to human intervention, and to review of automated decisions with significant effects.

8. Conclusion

The Cognitive Orthosis is, at once, a definition and a governance. It defines artificial intelligence as an amplification of the human, and in doing so it relocates responsibility onto a person, which is the central act of governing. That is why it is a person-centered AI governance, one born in the clinic and tested there under the greatest demands, where judgment, the body, and the bond are not theory but daily practice. The world is governing the machine. This framework governs the person who operates it and answers for it. That is the missing layer, and it is the one this paper proposes to occupy.

Note on the legal status of Law 21.719

Chile's Law 21.719 on the protection and processing of personal data was published in December 2024, and its general entry into force is scheduled for December 2026, with the creation of the Personal Data Protection Agency. References in this document to its Article 8 bis should be read in light of that entry-into-force timeline.

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