

**Brazil 2026
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An Ecology for Beeing
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Summary (Ai response to paper)

This paper reflects on cybernetics as a lived praxis, shaped by the author's work as a honeybee steward and interest in complex systems. It argues that today's "polycrisis" may be better understood as "poly-disorder": a disorder rooted in dominant Western ways of thinking that emphasize separation, hierarchy, control, and dominance. Using honeybee colony losses as a warning, the author suggests that current crises emerge from ontological and linguistic patterns that disconnect humans from the broader ecology of living systems.

The paper draws on Gregory Bateson, Mary Catherine Bateson, Humberto Maturana, Ross Ashby, Stafford Beer, Herbert Brün, Larry Richards, Susan Parenti, and Thomas Seeley to explore how cybernetics can offer an alternative worldview grounded in circularity, ecological interdependence, and responsibility for the worlds we co-create.

A central theme is that changing language can change thinking, doing, epistemology, and ontology. The author presents "avoidance" as a cybernetic technique: intentionally avoiding language that reinforces hierarchy, competition, and violence. Honeybees serve as the guiding example. Rather than describing bees through terms like "caste system," "queen," or "superorganism," the author prefers language that emphasizes sacred unity, democracy, relational need, and mutual care. The paper concludes by asking readers to consider what they need, want, and desire—and what language they might avoid in order to help bring those desires into being.

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Introduction

For the 2026 American Society for Cybernetics (ASC) conference in Brazil, I was asked to share my current reflections on what I consider today's urgencies, and questions that emerge from my praxis of living while enacting cybernetics.

[Cybernetics is distinguished by the questions we ask.](#)

Much of my thinking is based on my experience as a honeybee steward and my research on the escalation and de-escalation of behavior in complex systems. It is through my [cybernetic praxis with honeybees](#) that I have come to understand more deeply that emotioning, languaging, thinking and doing generates an interconnected web of living that is currently full of dysfunctions. A not so sacred unity.¹

A Sacred Unity is an *ecology of mind* that entails a *way of thinking* about thinking about the interconnecting webs, patterns and forms that generate an interdependent ecological balance among all living things with our biosphere. - [Gregory Bateson](#)

I *know* there are many urgencies often referred to as a "[Polycrisis](#)". Poly meaning many and crisis usually means a significant LOSS. The first step in recovery in relation to a loss is to observe and interpret emotions in an attempt to ventilate feelings *before* any cognitive intervention can occur.

¹ In the late 1980s while working as a consultant and therapist for severely "emotionally disturbed" children, I attended a five-day training session by Allen King Cooper about a non-violent de-escalation process on how to talk kids down without putting hands on. It was during his training that I heard the term "cybernetics" for the first time. Through deep conversations with adult students, I developed a model for the de-escalation of behavior in complex systems which I call [Behavioral Cybernetics](#). It was through our conversations that I was provoked to distinguish the terms crisis from conflict and disorder, since each phenomenon requires a different response -- in order for de-escalation without violence to emerge.

Conflict involves some disagreement, usually related to desires.

Crisis always relates to LOSS and often cannot be prevented.

Disorder looks like chaos, yet not, since it is preventable.

Chaos, the unpredictable and inevitable in that moment.

While pursuing a doctorate in "Cybernetics and Human Relations" (Humane Cybernetics), I was provoked to add the term "contradiction" to this collection of terms, a result of conversations with Herbert Brun, a cybernetician, composer and language connoisseur, who claimed:

Conflict requires a change **in** a system.

Contradiction requires a change **of** the system.

I prefer the term “poly-disorder” because many of our current urgencies are a consequence of a worldview for thinking and explaining that generates solutions which go against our natural ways of being -- and beeing. Beeing - a state of being that embraces an ecology of mind when working with honeybees. A poly-disorder eventually generates a poly-crisis and ultimately poly-crises. For example, in 2025, United States' beekeepers reported a LOSS of 55% of the honeybee colonies. The highest number of reported losses in one year on record. A poly-crisis. Many project that the loss of honeybees will lead to other systemic losses, since honeybees are responsible for pollinating approximately 1/3 of the human diet.² A poly crises.

“As with any [loss of biodiversity](#), there is always a chain reaction felt in the wider environment. It is a vicious cycle: fewer flowering plants mean less bees, but fewer bees mean less flowers. Fewer plants mean less forage and shelter for a range of herbivores, and less herbivores means the secondary consumers that eat them would go without.”³

The current state of the honeybees is a warning and invitation to explore how we might think and act differently in the worlds we live daily.

From my epistemological stance, the term poly-disorder goes to the crux of the contradictions of our current urgencies, which are mostly nested in a worldview that perpetuates hierarchies, dominance, control and submission (violence). What Gregory Bateson referred to as an Occidental ontology. An ontology nested in separations excluding the observer from the observed. An ontology, according to [Mary Catherine Bateson](#), full of epistemological errors and assumptions that are literally killing us.

If you're looking, It's obvious that our interventions often make things worse – even wicked. I think (not believe) that many of our [wicked problems](#) generate wicked solutions that are related to our Occidental ontology that at its core speaks us not us it. A consequence of what Manni Brün referred to as the [inertia of language](#) based on paradigms gone by. An inertia that has generated centuries of our languaging, so that parts of nature were erased, along with the indigenous peoples that conserved them. Peoples that have long traditions for weaving language, languaging, culture and landscapes into their daily lives while generating cultures that conserved a deep praxis for understanding their natural ways of being humans, as a sacred ecology of mind.

Again: Conflict requires a change **in** a system
Contradiction requires a change **of** the system.

² *Secrets of the Bees: Revealing the sneaky genius of nature's master pollinators*. National Geographic Magazine, March 2026. A title that reflects a hierarchical occidental ontology when using terms like “master” to describe a living system.

³ [World Bee Day 2026: What Happens to Ecosystems When Bees Disappear?](#)

Many of us think the ways of living generated by indigenous peoples is a model for addressing the radical ontological shift necessary for the emergence of more equal relations between all living creatures and our environments. Both [Mary Catherine and Gregory Bateson](#) thought a cybernetic ontology might offer a language for developing an alternative worldview.⁴ An ecology of mind that might reflect a more natural way of being and beeing. An ontology that embraces the sacred unity of all living systems as a *part of, not apart from* the biosphere that sustains us all. An ecology of mind that reflects the fundamentals and practices of indigenous peoples.

Debunking Occidental myths is not easy

Some say that cybernetics has made little progress in generating alternative solutions. For example, [Stafford Beer](#) once stated that cyberneticians often use the term “feedback” in manners that don’t fit what it was designed to describe, so it does not enact cybernetics.

So how do we change the language so that we as cyberneticians speak it, thus opening spaces for a radical transformation of ideas to emerge? ⁵

“I am thinking of cybernetics as a science and technical method enabling us to tackle practical problems that would otherwise defeat us by their complexity.

All these methods must start with the question ‘What do you want?’

The cybernetician’s thoughts must start here.” - Ross Ashby

My Desire

I *want* to participate in creating responses to wicked problems in humane ways that embrace an ontology for enacting cybernetics. This requires a fundamental and often radical shift in our language and languaging in my daily discourse, research and being.⁶

Circularity

From the beginning the [concept of circularity](#) has been a fundamental of cybernetic thinking and doing. It led to the creation of a second-cybernetics, the cybernetics of

⁴ One possible cybernetic ontology suggests cybernetics is a transdisciplinary that generates ways of thinking and about ways of thinking and explaining experience that are never Objective and always include an observer. Language is never trivial. Dynamics, change is certain, and uncertainty certain. Circularity is recursive and relational. Recognizes the interdependence of all living things as part of our ecosystems as a mysterious sacred unity, that reflects an ecology of mind, A methodology for creating insights regarding radical ideas which require a curiosity and a willingness to change one’s mind, epistemology and thus praxis, doing.

⁵ Networks of languaging generate networks of conversations. Networks of conversations generate cultures. (From an unpublished paper by Humberto Maturana on The Biology of Violence.)

⁶ At the 1992 American Society for Cybernetics conference, Humberto Maturana declared that, [not all human relations are social relations](#) since it depends on the emotioning under which they arise.

cybernetics. Second cybernetics emphasizes the role of language, oneself, as well as each one's responsibility for co-creating the worlds we radically co-construct.⁷

Circularity of Language

Change the language, change the thinking. Change the thinking, change the doing.
Change the doing, change the thinking. Change the thinking, change
epistemologies. Change the epistemologies, change the ontology.
Change the ontology, change the language, change the doing.
Change the doing, change the language...

Avoidance -- A Cybernetic Technique for avoiding certain language

I consider *avoidance* a cybernetic tool for changing language. A technique that I first heard from Herbert Brün at my first ASC conference in 1992. [Larry Richards](#) wrote a paper about it after attending the 2011 ASC conference. [Susan Parenti](#) performed it when accepting the Warren McCulloch Award for achievement. Parenti called it the Warren McCulloch award for avoidance. Avoidance.

Telling Stories can help

One means for enacting cybernetics for me was when writing the book [The Bees' Needs](#). I intentionally *avoided* language that maintains a worldview, an ontology, that embraces separations, hierarchies, competition and violence as our natural ways of being. I found that in my desire to intentionally *avoid* certain language, I opened space for the emergence of a cybernetic ontological worldview to explain honeybee behaviors as a sacred unity not a super organism emerged. While remembering that any explanation, eliminates the dynamics at that moment. Two Domains of Humanness; 1. the domain of experience - dynamics, the unexplainable, 2. the domain of language – logics, rationality, and explanations.

A cybernetic ontology *rejects the idea of fixed hierarchies*

Avoidance is a cybernetic technique I used a LOT when writing [The Bees' Needs](#). For example, I wanted to avoid the term “caste system,” so I wrote about “types of bees” in an effort to avoid a language and hierarchical view that separates one type of Honeybee from another. All necessities for a healthy colony's “sacred unity” to emerge, traditionally described as a “super organism.” A concept I felt negates their autopoietic systemic natural way of being.

Thomas Seeley has spent 50 years researching honeybees. In his book [Honeybee Democracy](#) he suggests that honeybees function more like a democracy than an autocracy. A perspective I utilized a lot when choosing language describing honeybee behavior in my book. This also reflects my observations of the [bees that I steward](#).

⁷ [The Cybernetics of Cybernetics](#) by Heinz von Foerster

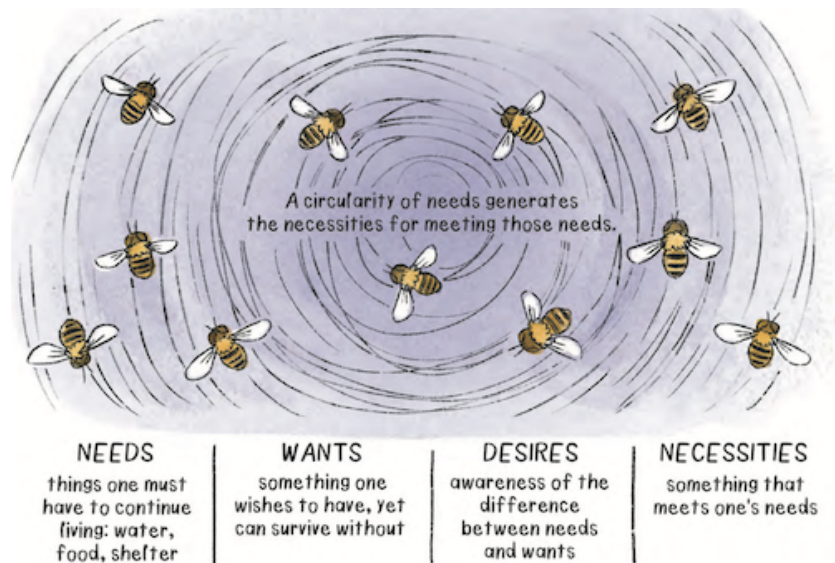
Democracy is a way of living together, not a political theory.
Humberto Maturana

A democracy is nested in equality whereas the traditional language for describing honeybee behavior is nested in hierarchies. For example, the so called Queen bee functions more like a mother than a queen. She spends her entire day laying eggs and fertilizes them all day long. Up to 2,000 eggs per day! Yes, the Workers bees fully care for the queen/mother, feeding her, keeping the hive at a certain temperature all year long, protecting the hive from intruders, and other activities necessary for maintaining a healthy colony. The honeybee worker bees also appear to decide which egg laid by the Mama is given a “special jelly,” traditionally known as the “royal jelly” which invites that embryo to transform into a mother/queen during the gestation processes.

I never mention the term ‘cybernetics’ in my book The Bees Needs, but many cybernetic concepts are implicit throughout the text. Although, there is one page you won’t find in any other book about honeybees. One age explicit to a cybernetic ontology. Herbert Brün’s idea of a circularity of needs.

A Circularity of Needs - and the necessities for meeting those needs.

The concept of a “circularity of needs” opens space for the emergence and articulation of the necessities for meeting a particular need. For example, in the book, the interviewer asks a honeybee: “What can humans do to help?” Her response: “First, learn about us and nature in general. Then learn the difference between what you need, what you want, and what you desire.”



So now I ask you, what do YOU need, want and desire? And what words might YOU choose to avoid in your doing to do so?

Bee well!