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Language, nature and entrapped cognition

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Abstract
As a subfield of ecolinguistics, cognitive ecolinguistics is concerned with the impact of language and cognition on our way and quality of life by approaching language as a medium in and off which a human lives, with which she operates. This paper focuses on linguistically traceable patterns of knowing (perception and thought) that have negative environmental outcomes. It argues that these patterns result from what I call 'entrapped cognition' — a human-specific mode of cognition when ways of knowing naturally supersede the known, but at the same time, unnaturally reduce adaptivity to the changing environmental conditions. The study aims to prove that cognitive entrapment is not the fault of the brain or body or environment alone, but rather our brain-body-environment engagement that we harness in and through language. To achieve this aim, I bring methods of systems thinking along to cognitive ecolinguistics and describe four major factors that account for entrapped cognition: a constraint on human agency that creates an illusion of control; the derivative structure of cognition whereby one deals with novelties through older ways of understanding; the observer fallacy by which one phenomenological experience, although occurring post factum, is taken to explain another in hindsight; the confusion of orders of abstraction in understanding experiences due to the 'sameness' of linguistic form. An investigation of entrapped cognition in discursive practices reveals four patterns of understanding: traps of allness, stillness, symmetry and sameness. All these ways of cognitive entrapment pose ecological dangers for human flourishing and a healthy, sustainable development of the environment.
Key words: *ecosystem engineering, human agency, languaging, cognitive ecology, cognitive system, semiotic modeling*

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Язык, природа и ловушки познания

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Аннотация
Когнитивная эколингвистика, являющаяся подобластью эколингвистики, занимается изучением влияния языка и познания на наш образ жизни и ее качество, рассматривая язык как среду, в которой живет человек и с которой он вступает в физическое, операционное и эмоциональное взаимодействие. В данной статье анализируются лингвистически определяемые паттерны познания (т.е. восприятия и мышления), которые оказывают пагубное влияние на окружающую социальную, природную и материальную среду. Данные паттерны являются результатом «ловушек познания», т.е. специфичной для биологического вида человека познавательной деятельности, в ходе которой естественным образом происходит замещение познаваемого способами познания, однако при этом неестественным образом снижается адаптивность к меняющимся условиям окружающей среды. Цель статьи — доказать, что ловушки познания обусловлены не столько особенностями мозга, тела или окружающей среды человека, сколько взаимодействием этих трех компонентов когнитивной системы, которое осуществляется посредством и внутри языка. Для достижения данной цели используются методы системного мышления в рамках когнитивной эколингвистики и описываются основные факторы ловушек познания: социокультурные ограничения, создающие иллюзию контроля; деривативная структура когниции и склонность полагаться на прежний опыт при взаимодействии с новым; иллюзия наблюдателя и феноменологическая подмена процесса его результатом; смешение уровней абстракции в процессе осмысления опыта из-за идентичности языковой формы. Выделяются четыре типа ловушек познания: ловушка «всещности», ловушка одинаковости, ловушка симметрии и ловушка статичности. Данные ловушки представляют существенную экологическую угрозу для человека, а также здоровью и устойчивому развитию окружающей среды.
Ключевые слова: *эдификация, человеческая агентивность, ориентирующее взаимодействие, когнитивная экология, когнитивная система, семиотическое моделирование*

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1. Introduction

Is language eco-friendly? In addressing this question, one will probably recognize its figurativeness as language proper cannot be either eco-friendly or not — human practices can. It is commonly believed that physically, not linguistically, we can and should be effective in working for life-sustaining relations. Yet, language can be linked to ecology by a more meaningful relationship. Our attitudes to the nature of the human and more-than-human world depends on the language we use. This use and its environmental consequences became a

subject-matter of natural ecolinguistic and econarrative studies (Chawla 2001, Schultz 2001, Ponton 2023, Stibbe 2024).

However, there is more than just language use in how we treat life and environmental conditions. As living beings, we are not placed into our environment and given the task of treating it in a certain way, we find ourselves in and of nature (Johnson & Shulkin 2023) and come to know it by means of engaging (with) it the way this (or better, our) nature affords. The role that language plays on such a deeper, experiential level of acting on, in and with nature has become central to cognitive ecolinguistics (Steffensen 2008). This subfield of ecolinguistics builds on a third-generation of cognitive science inspired by Gregory Bateson's ecological epistemology (1972) and James Gibson's ecological psychology (1979). It approaches language as a *cognitive extension* (and even a distribution (Thibault 2021)), rather than a mere description, of life and a lived world. This, in turn, takes cognition one step further than knowing. Cognition is a system, life-sustaining process that binds bodies, brains and extracorporeal environment linked together in a functional systemic whole. Meaning that humans construct in this ecology of life (or cognition) is a mesh of material and biotic, bodily and environmental, natural and artificial factors (Steffensen & Fill 2014, Cowley & Gahrn-Andersen 2022, Cowley 2021, 2024a, 2024b, Kravchenko 2024a).

Yet, why can our language and cognition be destructive? Why do people die by suicides and engage in mass psychosis, wage wars and escalate ecological crisis? In this paper, I will attempt to answer these questions by focusing on the environmentally damaging and destructive effects of human cognition that are perpetuated through and in linguistic practices. I aim to trace the roots of this ecological inadequacy of cognition to neither precarious environment nor any neurological or bodily pathology, but rather to how our bodily doings enable patterns of knowing (or, in a broader cognitive sense, patterns of perception and thought) that may be dangerously incompatible with the (un)known. To achieve this aim, I will elaborate on how language gives rise to cognitive entrapment, what theories account for entrapped cognition as well as outline four main cognitive traps rooted in language.

2. Rise of entrapped cognition

2.1. Language in and of nature

Over the past century, across multiple scientific disciplines (cf. Knyazeva 2023), it has been demonstrated that animals and human beings share some basic means of ecosystem engineering. They shape their surrounding world by means of their actions and come to live in and through what they do. Drawing on their bodily resources, living creatures create and navigate their place of living (niche) to be who (and what) they are. The environment which situates an organism extends the organism, its needs and their satisfaction, just as, of course, the organism is part of the environment's affordable resources and situated domains (Johnson & Shulkin

2023). Along these ecological lines, a living being is integrated with its medium that can be understood both as a means by which a life is lived and as a habitat in which the life is lived. Given that a human's body is linguistic (Di Paolo 2021), the medium off and in which it lives must also be linguistic. Indeed, without these consistent relations we humans would lack the environmental affordances to understand ourselves and our surroundings in ways that enable us to become both who and where we are.

Such a natural integration, meshing, or conflation of the where, who and how can be described in terms of *modeling* (Yu 2021) — an ecosystemic process that marks all living beings and in humans enables linguistic construction of a habitat. Modeling occurs on multiple levels of organization of life, from cellular to semiotic. Its most important feature is that it has an adaptive function for a living being who does not need to go beyond its biological capacity to act in sync with the environment because the environment becomes an appropriated version of what the living creature can do as well as what these doings lead to. This type of the organism-environment symbiosis can be called *supersession*:

> In any act or instance of modeling, the model supersedes and, in a manner of speaking, is brought to the front for salience, accessibility, and operability, whereas at the same time the modeled recedes and "exists" in the background, inaccessible and inoperable… The model is taken to be or lived as the only reality, physical or not (Yu 2021: 650ff).

We humans come to live in a (model of the) world that is an extension of ourselves (Casey 2001) and become who we are by virtue of our worldmaking tools and techniques that derive from our biological ability and bodily capacity for (self-)construction. In other words, our environment is enlanguaged (Cowley & Gahrn-Andresen 2022a) and we, without being fully aware of it at all times of our functioning, are linguistic constructors of where we live, how we live and what we live for. This functional, ecological, cycle of life and language has neither beginning nor end: we both come from and find ourselves in nature by becoming part of material contingencies that change its course. However, part is *not* the whole, and as much of the contingencies and nature remain hidden behind what we reach, know and use, we face a cognitive problem. Our ways of knowing may become not good enough for what is known and, as a consequence, for what is not. In many cases, the supersession of the known by ways of knowing loses an adaptive value for humans because our knowing is faulted by our ways of knowing. To describe this occurrence I choose the term 'cognitive entrapment.' In what follows, I will explain why all our human cognition can be called entrapped and what language has to do with it.

2.2. When entrapped and why language?

On the one hand, a human, like every other living being, is conservative by nature. She relies on the recurrence and repeatability of what she experiences and

functions by relying on predictive means: what happened once will occur again (Gash 2020). Engagement in text and talk ensures this predictability of functioning in a most energy-efficient way.

On the other hand, a human is a conversing creature by virtue of her pragmatic living in nature. As humans engage with one another (and even themselves), they change their bodyhoods (actions and emotions) and personhoods (explanations of actions and emotions). The results transform their experience and enable new understandings of who, where and what they are.

Such a mode of epistemic functioning, when one's linguistic medium brings conservative pattern to one's perception and thought under the conversing conditions, gives rise to cognitive entrapment. We converse and set off innovation by means of, and for the sake of, conserving and stabilizing. We construct and conceptualize change in patterns that are not meant to construct and conceptualize change at all. In our linguistic construction of experience, conducive to change and innovation, we draw on patterns that are not easy to change.

The ecological problem of limitations of how we know the world is similar to Michael A. K. Halliday's critical concern with "a metalanguage by which we live" (2001: 195). According to Halliday, we have reached a certain life crisis — a crisis in our semiotic praxis that makes us "no longer equipped to deal with the kinds of change that are happening now" (ibid: 192). Hence, our "strategies for survival" should change and this change should involve a much deeper layer of action, namely "ways of meaning" — grammatical construals of reality that guide our actions. According to Halliday, if we are to combat classism, growthism, species destruction, pollution and the like, we should explore and transform how "work of meaning" is done to make it healthier for the living world.

Although Halliday's perspective on ways of meaning illuminates what I understand by entrapped cognition, there are several important differences that I would like to discuss. First, Halliday views language dualistically — as a system "about which we have no choice" and as an actual exercise of choice within this system (ibid: 198). This Chomsky-Saussurean partitioning is irrelevant to cognitive ecology where language is action and knowledge at the same time, a prerequisite and/or the outcome of much of what humans do. That is why entrapment is not the wrong choice of the knowable (resources affordable by the "linguistic system") to make better sense of the known (what Halliday calls "reality"), but a failure to adequately understand the unknown (newly emerging or hidden relations) based on the knowable (established patterns of understanding). Second, Halliday's ontological assumption allows him to put the blame on the system that fails humans while, in my conception, entrapment is what humans themselves unwittingly construct. If any system is to blame, it is the cognitive system of human beings.

Finally, Halliday's flawed ways of meaning result in flawed ways of acting towards the environment but it remains unclear what they result from and why they have become ecologically inadequate in the course of evolution. With entrapped cognition, 'how we mean' results directly from 'how we experience,' and this in

turn presupposes a system where our acting body and its neural makeup respond to the environment and produce the environment's 'better' version — something that we can speak, write and/or gesticulate. Sometimes, this controllable, linguistic, version of the world becomes not so good: We fail to adequately respond to the changing environmental conditions because of the language in which this response and these conditions appear to us. As a result, our ecological functioning proves disabled by our own abilities.

3. Theoretical foundations of entrapped cognition

Like every assumption, a scientific hypothesis should have a beginning, or better, beginnings. These can be stated as theoretical grounds on which it is based and from which it can be developed into something more practical. There are at least four theoretical accounts that can be given for what I call entrapped cognition from within the broader realm of cognitive ecolinguistics. These are arguments from:

- agency (human cognition operates within and on constraints it cannot escape);
- the observer (human cognition is grounded in phenomenological experience that cannot 'tell a story' of its appearance);
- genesis (human cognition is a derivative, retroactive process);
- abstraction (human cognition operates through abstraction in the course of which more qualities of a situation are lost than gained).

3.1. Entrapment as a constraint on agency

Cognitive ecolinguistics with the focus on (sometimes radical) embodiment and enactivism emphasizes constraints as an ecological factor. It is both a natural limitation on artificial practices and an artificial limitation on natural processes. Let me explain how language becomes a constraint according to this theory.

If we take a 'pristine' perspective on a human, first and foremost, as an embodied creature (Druzhinin & Fomina 2023), and not as a language user, our analysis will focus on what her body does as it coordinates its movements, sensations and feelings. Every doing produces results, some of which are more valuable than others. Those which are of value become an object of interest and the body wants to re-achieve them in further actions. In such a way, results of prior actions become "repeatables" and guide further practices to make them more effective and efficient. At some point we realize that doings (something that pertains to sensorimotor bodily functioning) and things done (something that links the sensorimotor body to an environment of various sorts — material, practical, social, etc.) become enmeshed. In the course of ongoing engagement with the environment, patterns and novelties, doings and makings, are impossible to disintegrate from each other.

There are two entailments from this theoretical stance that may account for how cognitive entrapment occurs. If we follow the first line of thought, we will focus on the aspect of doings. As the body performs more actions and enacts more patterns, it grows skilled. Skill gives rise to a sense of confidence that smoothens the performance of actions and makes it more automated. However, actional confidence reduces control. A skilled body tends to pay little attention to how, when or where the process of doing takes place, rather it directs most of its attention to *what* is being or intended to be done. Any unforeseen circumstance may affect the outcome in a negative way. It is usually the case with experienced drivers whose over-reliance on skill is one of the common causes of accidents on the road. It follows that, on the one hand, skill enables the body to do and make new, more and better things, on the other hand, it begins to constrain the body in how it can control its actions, which may affect the quality of these actions, and this, in turn, may change their results. New and better things intended to be done may turn out old and not as good.

On such an enactivist-embodied view, language is identified with skill that constrains actions performed by skill. In this sense, it is an abstraction from empirical experiences that, at the same time, gives rise to them. Therefore, any skilled action performed by a sensorimotor body in its concrete, empirical engagement with the environment is slightly different in nature (and ontology) from skill itself. This difference is indicated by another term used in cognitive ecolinguistics — *languaging*. While languaging is, broadly, a skilled action, language is a skill. While languaging is controlled bodily movements 'here and now', language is a sociocultural constraint on this control and/or movements across time and space. By movements we can understand vocal, manual and facial gestures physically repeated or recurrently evoked (Steffensen & Harvey 2018). In sum, language is an 'external force' that scaffolds our (recurrent) behavior for better and for worse (Steffensen 2024).

The second entailment from the constraint-point-of-view focuses not on doings but things done. I will give an example of consumer behavior that will help better understand how results of our actions become ecological constraints on these actions. Most of us should be familiar with such a marketing practice when one prominent and well-known service provider (e.g. bank) uses its brand name to offer other services (e.g. a place for buying and selling things, a mobile network, a taxi service, etc.). In other words, a bank that we knew as a bank not a very long time ago becomes a system — a bank, a marketplace, mobile network operator and taxi company. To attract more customers, these services work interdependently: they can offer bonuses, discounts or cashback to encourage us to buy, sell, pay, make calls and travel only with one particular service provider. It is interesting to note how our consumer habits change if we readily accept the benefits and become active users of these important services. We become loyal to the brand and our choices that sustain our living on a daily basis create an ecosystem. When we are hungry, we open the familiar application on the smartphone and order food; when we need

or have money to pay for this food, we take it from or keep it in the familiar bank; when this food is not delivered on time, we call the retailer using the phone number that is serviced by the familiar operator. The logic may be continued. As consumers, we begin to live in an ecosystem of our choices: once we chose a bank, it determined our choice of a marketplace and a taxi provider. At some point we do not even bother to shop for food and order a taxi elsewhere but with the familiar brand. We know that we can find almost everything necessary for our daily life in the system of marketing products that comes under the familiar brand name. In such a way, we distribute our (consumer) agency to others (interrelated service providers) and rely on them to offer what we need. We allow other agents to control our choices or even make them for us. The resulting ecosystem where we function as consumers also constrains our consumer choices as we voluntarily lose this freedom of shopping around and looking for more attractive sales. When the familiar marketplace overprices certain items, we may not be aware of it. To some extent, we are entrapped, and sometimes in a very negative way, by our own choice making.

By analogy, our language provides an extended ecology that constrains how we live in an environment. Through language we engage with others, their thoughts and feelings. When we engage, we orient ourselves to what others think and how they feel. When we stabilize, or 'attach' a concept or name to, our orientations, we make them reemergent in our own behavior (Gahrn-Andersen 2021). As a result, we come to think and feel what others afford. Our environment becomes other-oriented and distributed (Cowley 2024a, Transmundi & Steffensen 2024): Our orientations depend on others and what we do is a matter of participation in the doings of others. We begin to rely on what we have done or made in/through language (with others) to provide us with what we need. Thus, our agency is constrained by our language — engagement with others and their agency. Along these lines, our agential freedom is limited by what we do as cultural and social beings, i.e. a cultural and social environment that we create. In other words, language provides an *illusion of control*.

3.2. Entrapment as a genetic discrepancy in the construction of knowledge

In its genetic account, "living structure is always a record of previous development" (Capra 2022: 9) and no matter how sophisticated is the knowledge that we humans construct, it can only derive from primitive experience. Behind almost all scientific inquiries is the need to come to terms with the bodily experience of the surrounding world. Even quantum theory is nothing but an attempt to explain the physically observable effects of non-observable interactions that may happen beyond our physical and mental control.

The derivative and incremental structure of knowing causes a certain epistemological discrepancy between the history of a cognitive system and its future becoming. As we continuously engage with our environment, we cause each other to change, which implies dealing with new tasks and operating with faster

technologies, facing increased challenges and experiencing new needs. However, in our emerging practical environment, we do not have new resources to adequately satisfy the novel needs. Instead, human cognition renews its old resources by making them work in a 'tricky way.' It relies on simple mechanisms to handle complex processes — it uses "*simplex tricks*" (Cowley & Gahrn-Andersen 2022). Such a tendency in the formation of knowledge can give rise to entrapment as we are not always aware that "what seems a novelty, always embeds layers of the past" (Dufva 2024).

3.3. Entrapment as the observer fallacy

From another perspective, cognition can be analyzed in accordance with bio-logic — the logic of 'life as it is lived.' In such a biocognitive account, offered by Humberto Maturana and his followers, language does not derive from perceptual processes, language *is* perceptual processes integrated in the praxis of human living. According to this logic, "everything said is said by an observer to another observer" (Maturana 1975, Kravchenko 2020) whose ecological functioning depends on what they can distinguish and how they link actions with appearances. Yet, appearances can proverbially be deceptive.

Phenomenologically, distinctions do not show where they come from, they show only what they lead to. Following up on these implications in what she does, the observer finds herself explaining (the appearance of) these distinctions. Since the explanation and the appearance have different origins and ontologies, they must not be conflated with each other. To do so is fallacious in that an explanation — often pictured as unobservable and abstract — pertains to the observed. By the same token, the explained — purportedly observed — still belongs to the unobservable in the sense that appearances are limited to their appearing and not to their implications. In other words, explanations (results) are put by the observer ahead of appearances (processes) in ways that obscure the latter's functioning:

> 'The result of a process does not ever participate in its genesis.' We frequently forget this when we wish to see a purpose in a process, and we argue as if its result were an argument for its occurrence. (Maturana 2008: 84)

The observer entraps herself by adopting the belief that she observes more than she does, making phenomenological substitutions in and as a result of recursive behavior — doing things in the process of one doing for the sake of another doing. In such recursion, processes give rise to things (objects) that become indistinguishable from these processes. Indeed, things (objects) are an illusion of observation, and language as a recursive behavior reinforces this illusion in every instance of observation. Functional relations imposed by language "obscure everything and do not let us see what processes are taking place" (Maturana 2012: 158): When we name things, we tend to forget that naming does not explain them because things named and their names 'happen' in different operational domains.

I will use a simple example to illustrate how the non-observed (the named) is mistakenly conflated with the observed (the naming). Let us imagine a fifteen-year-old boy named John. John grew up in the warmth of a loving mother whose unwavering presence has painted his childhood with happiness and nurtured his spirit every step of the way. One day he learns that he is an adopted child. In his perception, childhood years, his mother and his own identity immediately change their quality. It turns out that his mother has not been there all the way, or he was not cradled in the 'real' warmth of his 'real' mother, or his childhood is not as happy. His experience is not the experience he thought it was before he learnt the news. His perception of himself and his mother as well as his childhood memories change because of the way he describes them now. New names and new facts cannot but affect, if not wholly transform, what is (was) already a thing of his past. This thing reappears in a new way. Yet, in reality, what emerges are new experiences of hearing what others say now rather than old experiences of what was then. His past remains phenomenologically unaffected — what functions as a new version of the past is his language. But it is fallacious to substitute an experience with its linguistic version. A prior experience cannot be denied by an emergent explanation. What was before did not happen because of the new terms that we think describe it better now. However, we tend to believe otherwise as observers who are entrapped into taking names as the origin of phenomena.

3.4. Entrapment as a fallacy of identity in abstraction

The founder of general semantics, Alfred Korzybski, approached language ecology in an agnostic way (Druzhinin & Rakedzon 2024a, 2024b). He viewed the surrounding world as made up of "events" that living beings cannot fully know and sense, but with which they can interact through abstraction — an organic life-sustaining process of taking in from environmental "events" what is structurally valuable and leaving out other components as organically meaningless.

Abstraction has a number of levels or orders. Sensorimotor objects (feelings) can be abstracted from events and ordered by "labels" (mnemonic patterns of language) from which descriptions (uses of labels) can be drawn. On higher levels are inferences from which other inferences may be abstracted ad infinitum. Each level has its own value for the human organism that is lost if it is "translated" onto another level. For example, if we feel something, we should evaluate it as a feeling. If we "express" what we feel, we should evaluate it as descriptions rather than our feelings. If we think that others feel something, we ascribe what we think we feel to others and should evaluate these ascriptions as our inferences from our descriptions of our feelings rather than others' feelings (ibidem).

According to general semantics, humans have a tendency to confuse orders of abstraction for two reasons. First, in the natural course of experience we first and foremost deal with processes that 'impress' us inside our skin. By contrast, as an acquired bodily reaction, language helps us express our impressions and orient ourselves outwards. Accordingly, impressions should come first and expressions

(linguistic labels) should come second. In the general run of things, however, the order is reversed. This is because children are born into a linguistic environment where words shape, if not are, first impressions. Rapidly, these first *im*pressions are associated with other *im*pressions before a child learns to use an appropriate mode of *ex*pression. The results, in Korzybski's view, are highly damaging.

Second, due to the Aristotelian structure of our language we have a primitive semantic tendency of identification. We tend towards an over-emotional generalization of similarity, equivalence, equipollence that even reaches to absolute sameness in all respects. However, in a world of ever-changing processes and a human world of indefinitely many orders of abstractions, identity appears structurally impossible. I will elaborate on how such linguistic 'sameness' of experiences is created and illustrate it with examples in one of the sections that follow.

4. Data and methodology

To investigate cognitive entrapment using evidence from language, a certain metacognitive perspective is needed on:

1) the difference between adaptive and maladaptive ways of knowing;

2) the difference that language makes to human-specific ways of knowing;

3) linguistic regularities (patterns of text and talk) that make our ways of knowing maladaptive.

To address the first two methodological objectives, I will summarize the key theoretical insights of cognitive ecolinguistics and synthesize them with my hypothesis of entrapped cognition.

Analysis of entrapped cognition on the basis of patterning of text and talk has its methodological basis in principles of systems thinking. I will reconstruct some of the basic lineage-specific patterns of human-environment interdependencies that fail, at least in part, because of spatiotemporal constraints that arise with these patterns. To provide illustrative evidence for my analysis I will combine the use of media discourse, neurolinguistic data, lexicographic and my own constructed examples.

5. Results: Patterns of entrapped cognition

There are four major regularities established in and through language that entrap human thinking into a delusional simplification of the world. I name these as 'the four traps' — those of allness, stillness, symmetry and sameness.

1) The *trap of allness* is an all-instead-of-one understanding of the world whereby individual items of experience are ignored because they fall within a larger boundary, i.e. they are collected under a certain umbrella term.

A tendency to use common nouns, especially category names, in daily speech entraps us into a binary logic that is adequate for many social practices.

Categorization is pervasive because it is a simplex means of dealing with recurrent experiences

The trap of allness is exacerbated in both the media and populist discourse that strives to make accounts relatable to many. Thus, news stories use category names that make media content more sensational and clickable. For example, a recent article posted by the Huffington Post on May 2024 is headlined as follows:

(1) Mom Texted 'Say Goodbye To Your Son' To Ex Before Fatally Shooting Boy, Herself. [1]

The use of four category names in one sentence prompts the reader to relate to what happened in an (over)emotional way. The subjects of the story are made to appear more understandable and 'real' because of how they are termed — in plain words that evoke experiences that recur in almost every person's life. In fact, the circumstances may be less understandable and the subjects more distant from an ordinary media consumer than the category terms suggest.

Only in the middle of the article is it revealed who the subjects of the criminal case were by name. A reversion of two types of naming — proper and that of categorization — would render the story more informative. For example, the headline could have run as follows:

(2) Savannah Krieger, 32, is suspected of killing a 3-year old Kaiden Krieger.

The problem of entrapped cognition is that, while such renderings appear in professional, legal discourse, they are not typical of everyday language.

Categorization, thus, appears as an ecosocial tool because it sustains an environment where one is in a top-down relationship with another, where group identity and membership status of an individual prevail over the value of being who she is of her own free will. It is also interesting to note how categorization is used to link social and natural environments. The all-instead-of-one pattern of understanding our social reality may be a source of hurtful stereotyping for others, and when applied to nature and environment it can also be ecologically unfriendly and unfair. When names of natural objects become categories of people, myriads of important ecological complexities and nuances are simplified out of the picture. Let us take a look at how the word 'river' extends the speaker's agency to the needs and choices of others at the expense of an ecological phenomenon understood socially and too simplistically:

(3) I'm being called on in my life to love people and to protect people and to be a *river* to my people (Will Smith, acceptance speech at the Oscars ceremony, March 2022)

Linking his identity to a river, Smith alludes to the speech given by Lawrence of Arabia star Anthony Quinn featured in the 1962 movie. In doing so Smith categorizes experiences that he has had with other people involved in the film

[1] https://www.huffpost.com/entry/mom-murder-suicide-custody-battle_n_663bc495e4b07664ada0847d

production under the term that accounts for being protective, supporting, helpful, caring, committed, selfless in relation to others. Yet, this term also evokes an experience with a river in the natural environment. As a category name, a river is understood as a pool of resources for people while naturally it is an ecosystem whose inner biodiversity is supposed to sustain itself rather than humans who populate the surrounding area. Not all rivers protect, even more rivers need protection. The allness of categorization in this particular case may entrap one into ecologically unfriendly practices.

2) The *trap of stillness* is a product-instead-of-process understanding of the world whereby motor experience is ignored for its more stable sensorial effects that can be morphologically objectified by substantives.

Physically, objects are more 'real' than processes in that the former are bounded and easy to manipulate (they can contain or be contained, transfer or be transferred). Linguistically, substantives (e.g. the noun 'building') seem more 'real' than verbals (e.g. the gerund 'building') because they have an appearance of finiteness or endedness (e.g. one's building or a beautiful building) and can be manipulated in collocations (e.g. one can put up, sell, own, etc. a building but one cannot put up, sell or own a process of building). Yet, in this case we are sensitive to differences between the process (building) and the product (a building) because, above all, these invoke processes and products that we can see, touch or hear. The process we call 'building' does not appear frozen or hidden by its product.

The situation gets trickier when we cannot deal with the results of processes in an empirical way. For example, the Russian word *znaniye* means both 'knowledge' and 'knowing' and can be used as a noun and a verbal respectively. In such a way, Russian allows a process-oriented 'semanticization' of what in English is referred to as 'knowledge.' Yet, this semanticization does not do any good as the tendency to rely on substantives rather than on verbals 'substantivizes' our understanding of the process — the only empirically validated form of what we call 'knowledge.' Since knowledge can be demonstrated or observed only in, or better, as the process of somebody's knowing something, we could indicate it through language by treating the word *znaniye* as a verbal, but, typically, we do not. By force of linguistic habit, *znaniye* becomes knowledge more often than knowing in our understanding of, and interactions with, the world. This stillness of the substantive hides the nature of a natural dynamic activity.

Let us illustrate this product-instead-of-process understanding of znaniye with the help of English by comparing some of the normative and non-normative collocations for the words "knowing" and "knowledge":

Table 2. **Some of the grammatical and ungrammatical collocations for the words 'knowing' and 'knowledge' [2]**

	knowing	*knowledge*
Grammatical collocations	participate in, engage in, start	Give, gain, have
Ungrammatical collocations	Give, gain, have	participate in, engage in, start

[2] Based on Corpus of Contemporary American English (https://www.english-corpora.org/coca/)

We say that somebody gains the knowledge others give and, thus, expect somebody to know what others do. As we do not say that somebody engages or participates in the knowledge that others start, we do not expect somebody to do (their share of) knowledge. As a result, a prerequisite for well-being and even survival in this world — a process of knowing — appears as something material, still or lifeless rather than as dynamic and practicable. Such a trap of stillness of our own linguistic making lies behind the misconstrual of our ecology and processes that sustain our living.

3) The *trap of symmetry* is based on a matching-instead-of-fitting understanding of the world whereby one ignores experiences that do not contrast or compare. Fitness, or 'fittingness', means that items can work together or, if not, changes can be made to achieve workability. Matching implies the existence of some model against which items are judged to be good or bad, right or wrong, true or false. Matching seems to be a more popular way of dealing with the world than fitting because everyday language itself is based on the principle of symmetry.

Let me explain what I mean by symmetry and its trap. Symmetry is commonly defined as a quality of something perceived (or thought of) when we can distinguish equal or similar parts against or around an axis. For example, when we look at Barcelona Cathedral, we can easily draw an imaginative line that divides the building into fully identical towers. When we are watching a football match, we can hardly attend to every individual player on the pitch, instead the two distinctive colors of their uniforms help us perceive the 22 people as two competing teams. According to gestalt psychology, the symmetry of objects is the principle of grouping perceived stimuli based on color, shape and orientation in space. From a disorderly mass of what we see or hear, our attention selects items that can compare or contrast to each other and focuses on these collections first ignoring the rest of the items that do not match. Symmetry lies at the heart of our aesthetic experience and is commonly used in artistic practices.

However, symmetry is not a feature of material objects. Rather, it is our bodily way of doing and making things in nature (Johnson 2007). As our physical body is symmetrical, ways of its meaningful expression, too, tend to draw on symmetry. Gestures, vocalizations, marks on paper are physical projections of what our body can do. There should be some pattern in tones, lines or movements that we produce, otherwise we will not be able to reproduce them accurately. This patterning depends on how well we can group items, associate them with each other. Only after applying this bodily method of making things symmetrical can we draw comparisons and parallels that later give rise to abstract thought.

It can be argued that language, the corporeal text and talk of our everyday life, enacts, entrains and entrenches symmetry. In other words, we create linguistic forms based on symmetry and by doing so we train ourselves to be even more 'symmetrical about' the world. Every meaningful sequence of sounds or letters can be divided into parts that have their roles (consonants in a syllabus, prefixes in a word, attributes in a sentence, etc.) that compare (similar consonants, same prefixes

in other words or other prefixes with similar meaning, similar attributes in other sentences, etc.) or/and contrast (vowels, prefixes and attributes with the opposite meaning). That almost every lexical item 'has' a synonym and antonym is presumably the natural result of our need for symmetry in what we encounter.

According to Korzybski, for example, our analytical subject-predicate (view of) language enforced by Aristotle's Categories implies that everything can be divided into subject (what/who) and whatever can be said (predicated) of it. This binary breakdown of 'everything' we can conceive of accounts for our tendency to perceive and search for symmetry even where it is not present. If we say that A did something somewhere and B did the same in the same place, we tend to think that A and B are related to each other just because syntactically they are both the subjects of the sentence. Consequently, A and B are understood as 'they', which brings A and B together even closer. From this togetherness we usually infer transitivity of relations according to which A together with B is the same as B together with A.

Through language, symmetry guides our perception of many social practices. When we encounter a situation when two or more interacting parties disagree on something, our first and most natural interpretation will be that they disagree with each other, which may not be entirely true. Drawing the imaginative line(s) between these parties and placing them opposite each other is how we satisfy our bodily need for symmetry and (non-consciously) use the so-called "dualizing mode" of thinking and speaking (Cyzman-Eid 2024). Yet, having different opinions means describing things differently, which also means describing different things because things in such a situation begin to appear differently to those who describe them. Instead of dealing with a highly nuanced situation where people trigger change in each other's understandings, one most often understands negotiation in a dualizing way because it is linguistically more familiar: our language readily affords dualizing terms for such a situation, particularly based on ARGUMENT IS WAR metaphor (Lakoff & Johnson 1980).

In other words, when two or more parties negotiate something, they fallaciously believe that, and act as if, there is one object of one description they should agree on by conceding or accepting, winning or losing. On these grounds, negotiators are induced to feel that one description is 'better' than another. Yet, if approached without dualizing, descriptions of an object constitute new and different objects of descriptions: when negotiators describe something and respond to each other's descriptions, new objects arise and whatever object the negotiators thought they had in mind before the negotiation is transformed by the changing experiential conditions of every written or uttered description. The task of negotiators is to fit emerging descriptions (and objects) together and make them work. Conversely, descriptions are not fitted and taken in multiplicity — they are compared as matching or not matching some 'model' description that the negotiators had (have) in mind. Creating and enacting this symmetry negotiators fall into a trap.

4) The *trap of sameness* can refer to a consistence-instead-of-persistence understanding of the world whereby experiential changes and inconsistencies are ignored if a precursor of the experience persists throughout the experience. In order to illustrate how and why the trap of sameness occurs in neurolinguistic terms, I will sketch a neural representation of how we act on our world. My analysis of neuromapping (neuroimaging) is based on the terms used and facts described in neurobiological studies of brain-body-mind functioning (Johnson 2007, Lakoff 2014, Damasio 2021, Johnson & Shulkin 2023). By doing so, I will show that we can delude ourselves linguistically by making our organism do what it never does or, perhaps, can never do.

When we say that we recognize a certain item of our environment (X), we do so because our organism sensitizes to an item X using a certain neural assembly (A). When we relate to X (e.g. we focus our attention on it, name it or recognize it by name, feel a certain way about it), the neural assembly A activates some other assembly (B). When we construct another relation to X (describe it, express our opinion), the neural binding A*B 'fires' together with other more or less stable connections (potentiations) or pathways to other assemblies. As a result, a neural cluster (A*B*C) may be formed. When we decide to relate to X in another instance of our interaction with the world (e.g. make a new judgement that builds on our opinion of X expressed before), the neural cluster A*B*C grows more complex and activates other neural assemblies or bindings or clusters (A*B*C*D*E*…). Given such cognitive activity, even if the stimulus X persists in our interactions of first, second, third, etc. orders, it no longer appears as the same pure X. New items add to this X and make it different when we feel it, think about it and act on it in our decision making. For example, our recognition of X will not be equal to our opinions of X; further, in other people's descriptions X is not the same X as it appears in inferences from other people's descriptions. However, language, in its daily use, blinds to these differences and entraps us into treating multiple X's as identical because one and the same word is used to recognize, describe or judge X. Although X in other people's descriptions remains the same X in our reactions to these descriptions, the effect is, neurologically unnatural. When one word is invariably used across multiple levels of abstraction, we fall into the trap of sameness.

The trap of sameness also lies at the core of unhealthy linguistic behavior ranging from logical fallacies to hate speech and verbal assault. The mechanism of distorted reasoning is simple; a language user entraps herself positing the identity of experiences by ascribing identical linguistic characteristics to different(ly) abstracted experiences.

Along the lines of general semantics, I will use an anecdotal example of a misbehaving boy on the children's playground to sketch how the mechanism of fallacious abstracting can work in everyday life. When one reacts to misbehavior, certain sensations and feelings arise on a non-verbal level, which is not yet unhealthy. The problem usually occurs when verbal levels of abstractions become involved:

Table 3. **Different orders of abstraction in the 'children's playground case'**

Level of abstraction	Possible abstractions
Event	Something is happening here and now
Object	The boy's behaving makes me feel bad here and now
Label	The boy is behaving badly
Description	The boy is badly-behaved
Inference$_1$	The boy is bad
Inference$_2$	The boy's parents are bad

One may continue the bottomless hierarchy of abstractions which, in extreme cases as exacerbated by the trap of allness, can become racist or fascist rhetoric. Conversely, the trap of sameness may be recognized and fallacious abstractions avoided by making the assumption that the boy experienced as object becomes a slightly "different" boy when referred to by a common name let alone when described. What one refers to, in this case, is a sensorimotor and emotional experience of the boy's emplaced behavior — not the boy. What one describes is one's reference, or linguistic reaction, to sensorimotor and emotional experience of the boy's behavior. Therefore, to act by finding words for what is happening is acting on one's experience of what is happening. By extension, describing what is happening is acting on linguistic knowledge of one's experience of what is happening. The logic can be continued.

Summing it up, patterns of entrapped cognition that arise in and from language are intrinsic to thought and perception. This cognitive entrapment does not make us eco-friendly creatures, and in the section that follows I will explain why.

6. Discussion: Ecological impact of entrapped cognition

A living organism lives in a world of plurality — the expanding multiverse where biodiversity and biocomplexity sustain the ecosystem, ensure its healthy functioning and flourishing. Adaptive biosystems are those which can live not only in but also off and for this multiverse. Human flourishing is "not one homogeneous thing, but rather many activities blended in a fluid equilibrium" (Johnson 2023: 65):

> The notion of radical autonomy and independence is a symptom of developmental failure to attach ourselves to others and establish the kind of intensive sociality that makes us who we are that gives us a sense of connectedness, cooperation, and moral responsibility toward others — all of which are conducive to our flourishing (ibidem).

The pluralistic notion of flourishing becomes elusive for the human ecology. Our pervasive patterns of knowing and understanding that we project onto the known and understood entrap us into the stillness, symmetry, allness and sameness of what can never be stable, dichotomous, universal and identical — the multiverse with which we interact.

Entrapped cognition may be viewed as a significant factor behind crippled decision-making on climate change and human health. Dichotomous and binary thinking induced by daily language distorts conceptualization of a "more-than-human world" where nature is interconnected with culture (Gash 2020). Perhaps, more people choose to ignore or deny climate change because climate (unlike the imaginary word 'climating') is often perceived as a still object under the pressure of a language in which it 'exists.' The tendency to objectify processes through substantives informs a world where knowledge and education become commodities while language is reduced to an instrument to be used or a system that self-operates. This shift from a natural 'how-' to an unnatural 'what-thinking' in language dehumanizes our reality: It ensures that we do not recognize responsibility for, or participation in, events that occur as if independently of us (or, perhaps, do not occur at all). Decision-making can become paralyzed because we tend to think that we do not decide on how and where we live. We ascribe intelligence to technologies enveloping them in intelligent descriptions; our "grammar of narratives" grants agency to corporations, institutions and other abstract entities. It brings us to believe and trust them to make choices and decisions for (instead of) and even against the individuals that they include (Krippedorff 2023: 91); we identify the natural facts of language with cultural artefacts ending up in prescribing the symmetry and stillness of text to the dynamics of talk (Kravchenko 2024b). Our product-oriented way of thinking encourages us to prefer easiness, convenience and profit that are at odds with an empirical world of participatory processes that require effort if we are to live in an eco-friendly way. Solutions, evidence and information tend to be grammatically found rather than constructed, worked out or negotiated, which biases us against the bio-ecological and emplaced towards a disembodied and dualistic worldview.

The linearity and predictiveness of language render us disrespectful of the irreducible multiplicity (Lachs 2023) of natural habitats and the social world. By categorizing people, we create vocabularies of value-laden differences and deny the categorized the opportunity to define their own identities (Krippendorff 2023). This is especially alarming today, in an era of (social) media technologies where we engage with those whom one cannot see, need not know and even cannot count precisely. These virtual others that emerge in mediated conversations cannot be readily categorized in ways that satisfy each of them. Accordingly, we should avoid simple choices and enact values of participatory languaging (Fomina 2024). The cancel culture movement exemplifies how hurtful and hateful conservative patterns of language (and behavior) come out in conversational practices where virtual participants lose or diminish their "sense of mattering" (Goldstein 2023). Conflicts arise and tension grows.

7. Conclusion

Language is at the heart of our ecology because it is a medium that we use as well as a medium in which we use it to engage with what we can know

of as our environment. In order to sustain our life and well-being, we should not only be adaptive but also easily adaptable to what is or becomes known to us. However, language makes us aware of the unknown and, for some of the reasons that I have discussed in this article, this awareness often catches us unawares, when we prove unable to deal with the unknown in an adaptive and ecological way.

On the one hand, our body naturally tends to conserve its self-organization, preserve life and energy resources despite the disbalancing engagement with the world. On the other hand, what our body does and makes in this engagement extends this organization and distributes resources far beyond what the body can reach and control. Our body with experience sculpted by it and things we construct through this experience (e.g. social realities), although interdependent with each other, have different ontologies, or function in domains that have different origins. An understanding of what we do and make in conversations requires more than the recurrence of conservative patterns of experience. However, our everyday language is based on these patterns and by enacting them we train our body to be even less conversational — less ready and able to grasp what is yet unknown. In this way we entrap ourselves: our linguistic ways of knowing supersede the known and become inadequate for the unknown. This cognitive entrapment has serious ecological implications as it prevents us from sustaining our (social, natural and material) environment and even life.

The research has many implications for ecolinguistic studies and beyond. First, it can provide theoretical grounds and concrete evidence for further transdisciplinary investigations of eco-friendliness — working for life-sustaining relations — that use symbolic modes of action. The findings bring new light to why ecological education is hard to popularize. Besides, the concept of entrapped cognition has the potential to contribute to the theory of bounded rationality and heuristics. In spelling out the threats of entrapped cognition, I have shown that human knowing uses cognitive biases and distortions that stem from illusions of symmetry, stillness, allness and sameness. While brain-enabled, these arise from human-specific modes of operating in, through and with language.

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