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On Mesoamerican Literacies: Two Examples of How the Ayöök Read the World

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Abstract

This article reflects upon literacies that are encoded in the landscape and in natural forms, and which describe a different relation between humans and the environment. It criticises the Eurocentric biases that have equated literacy to writing and promoted the opposition of literate vs. oral societies. Although there has been a turn toward considering literacies to be multi-diverse social practices, education policies worldwide still push for a functional literacy that favours written languages, alienation from nature, and bureaucratisation. The focus of this work is on the Mesoamerican territory, which has experienced systemic dismantling of Indigenous literacies and implemented models that are functional to the rhetoric of modernity and coloniality. Two examples from the Ayöök people are described. These are presages, which are experienced through seeing, hearing, and sensing outside in nature, and maize reading, which is a divinatory practice using seeds. These examples show that the natural world can provide clearly defined signs that are read with consequent affects and effects on bodies and future actions. By acknowledging these literacies and becoming aware that this is a politically sensitive issue for Indigenous peoples, this paper argues for a possible way to change our present harmful relation with nature.

Keywords: Literacy; Mesoamerica; Reading; Indigenous People; Decolonisation; Climate Change; Semiotics of Nature

Introduction

Literacy is a term that has been extensively contested. Like many other concepts, it has experienced the weight of Eurocentrism and has therefore been instrumental for those in power to measure how well (or not) people suit the world. To this day, education worldwide promotes a particular model of literacy based on understanding, communicating, interpreting, creating, and counting using graphic, linguistic, and numeric materials which are written, printed, or digitised. The current rhetoric of modernity, ruled by (neo-)liberal policies pushing for capitalism and consumerism, and where hegemonic epistemology is rooted in Renaissance and Enlightenment thinking, has determined that this type of literacy is functional to this way of living.

And yet, this way of living has driven us to the present environmental crisis, threatening the existence of life on this planet. Literacy has played a part in this. Functional literacy has been alienated from nature; for instance, phonetic writing is considered to be a solely autonomous human

technological invention, a leap of cultural achievement in any society of the past and present. This mode of literacy has been seen to continuously gain momentum, like the surge of information proliferated thanks to the appearance of printing and its later industrialisation, or when Alexa's artificial intelligence gained the ability to solve daily life tasks. At the same time, this literacy is becoming more institutionalised and bureaucratised, that is, incorporated into the management and measurement of goals of nation-states and international organisms. Is this the right path to take in the middle of our present crisis? Without a doubt, this literacy is brutally disconnected from the natural world. Following Mia Perry´s (2020) article on the subject, it is crucial to change the mainstream literacy due to the undeniably hurtful and deadly relationship we currently have with the world.

Another dark side of literacy shows up when it is experienced through other languages. In Spanish, although the term *literacidad* is gradually settling into higher scholarship, the common translation for literacy is *alfabetización*. This concept constrains literacy to the knowledge of the alphabet, a particular phonemic graphic system, and condemns the lack of it to the category of illiterate. In Mexico, as in other Hispanic-colonised places, to be considered an *analfabeto(a)* is a stigma that is accompanied by racial discrimination and social exclusion. As someone whose mother language is Spanish, or better said Castilian, I have felt that *alfabetización* reduces the understanding of the diversity of literacies, and immediately relates to coercive policy tools that have aimed to impose particular ways of being and representing while destroying originary values and practices. As a learner of an Indigenous language, I have witnessed these processes in the Ayöök culture. As a woman from Mexico, trying to step into European universities, I have felt that high-end academia sticks to English and scholarly definitions and has trouble understanding that so-called illiteracy is a sensitive matter in the context of coloniality and the genocide of cultures.

My aim is to reflect on literacy, in particular on its colonised and Eurocentric burden in scholarship and educational policies. I am attempting to provoke thinking—within a very functionally literate space—about other non-functional literacies encoded into the landscape or natural forms, and speaking about a different relationship between humans and the environment. To this end, I will briefly outline how influential Eurocentric biases in academia have created the fallacy of categorising literate vs. oral societies. They have also equated literacy with the possession of written language, especially alphabetic. Although these ideas are outdated, they still have an impact in the widespread usage of the term and coerce educational policies to the detriment of Indigenous languages and their literacies. To show this, I will focus on the Mesoamerican territory, which has experienced the violent dismantling of Indigenous literacies and implemented educational models that are functional to the rhetoric of modernity. By describing two examples, which are not linguistic and not human-made, coming from the Ayöök people, I attempt to visibilise and acknowledge them as ways of resisting the coercive power of modernity and functional literacy. These show that other forms of comprehending, relating, and communicating in the world are possible. These literacies are: 1) reading presages which are experiences of sightings of or hearing animals, and sometimes sensations in nature, and 2) reading maize kernels during divinatory sessions. These systems entail that nature, or better said, This World, as well as the Other World, where ancestors and other entities live, can bring forth defined signs that can be read and understood clearly, situating the human body in direct relation to each of these worlds. With these examples, my aim is also to contribute to current discussions on how nature intervenes in semiotic processes, being perceived as an agency that is able to communicate and affect humans.

The following lines are derived from an ongoing project on the graphic and visual communications systems in the Americas. My role consists of documenting and investigating maize divination in the Ayöök area. Following ethical procedures, I have approached authorities and community members to ask them for permission to hold interviews with querents and diviners, as well as to analyse and write this paper (letter of approval in personal archive). The knowledge described here belongs to the community and, as such, is treated collectively. The following

words constitute my understanding of their world and do not necessarily directly represent the views of the Ayöök people. Notwithstanding, my attempt is to bring forth a different comprehension and representation of the world as a way to disrupt Eurocentric views within colonised and functional literate spaces. The following emotional reflection on literacy and maize divination was triggered by a *sentipensante* philosophy ("thinking with the heart and feeling with the head") as taught by the communities of San Jorge and Loba, Colombia (in Borda, 2008).

Literacy *vs* literacies

Although there has been substantial review on the term literacy, it is still commonly equated with writing, especially to the acquisition or ability to represent phonetic and linguistic values through graphic human-made signs. This view has been built by Eurocentrism. Back in the 19th century, the pioneer and evolutionist anthropologist Lewis Morgan designated writing as a marker for civilization. He said: "Without literary records neither history nor civilization can properly be said to exist" (Morgan, 1877, p. 31). Since then, the dichotomy between literate vs. oral societies has been a long-standing categorisation in Anthropology, and although this sharp division has been nuanced, writing is still reproduced as the best technological tool, within Euro-western contexts, for the dissemination of ideas (see e.g., Hylland Ericksen, 2015).

Not long ago, when literacy appeared as an academic subject by itself, it was conceived as the possession of written languages, concomitant with the production of texts, literature, print books, and libraries. For Jack Goody and Ian White (1968, pp. 44, 48), the development of writing in ancient Greece meant an unprecedented transformation in cognitive abilities and a profound restructuring of thought patterns, allowing abstract and analytical inspection of the past, religion, and the world in general. In this view, consciousness and abstractness of writing paved the way to social and cultural advancements, such as political democracy, social stratification, sense of individualisation, and science. In Walter Ong's work, a literate society is one with literature in the Western sense. He claimed that in oral societies, those not touched by writing in any way, there is no such thing as "oral literature", which is a monstrous term for him because literature is exclusive to "written words" (Ong, 1982, pp. 11, 14).

"[…] without writing, human consciousness cannot achieve its fuller potential, cannot produce other beautiful and powerful creations. In this sense, orality needs to produce and is destined to produce writing. Literacy, as will be seen, is absolutely necessary for the development not only of science but also of history, philosophy, explicative understanding of literature of any art, and indeed for an explanation of language (including oral speech) itself. There is hardly an oral culture or a predominantly oral culture left in the world today that is not somehow aware of the vast complex of powers forever inaccessible without literacy. This awareness is agony for persons rooted in primary orality, who want literacy passionately but who also know very well that moving into the exciting world of literacy means leaving behind much that is exciting and deeply loved in the earlier oral world. We have to die to continue living." (Ong, 1982, p. 15)

There are several biases in this extract implying that literacy (referring to literature) is something superior for humanity. However, the most worrisome message is that it incites orality to die when this is precisely what the colonial West has done with the peoples whom they assume to be inferior: they have invaded, colonised, and annihilated those without the writing and the history that fit their ideologies.

A sound redirection of literacy as a social practice, and therefore, with multiple expressions according to time and space, was the focus of numerous works by Brian Street (1984, 1987, 2003). Literacy is about knowledge; how people conceive and engage with the world, read it, and represent it, always through social events. Because it is rooted in a particular worldview and expressed through different means according to particular contexts inside social tensions, it is always ideological, and contested in relations of power. Street also criticised the autonomous and technological view of literacy as something that is hardly neutral, void of social effect, not something harmlessly introduced to so-called illiterate people

making them improve in skills and consequently in social and economic conditions (see also Perry, 2020).

Paul James Gee (1986) also argued that the categorisation of literate and oral societies is a replacement of a long held division, the civilised vs. the primitive (e.g., like in Lewis). This is due simply to the lack of evidence to support higher mental, analytic, and abstract thinking among humans and cultures, no matter what type of literacies they know and employ. Furthermore, there is no guarantee that by knowing how to read and write using alphabetic writing, people would "develop" or "improve". In fact, there is proof that the opposite has occurred. The arrival of European invaders and the introduction of their modes of literacy demonstrates that they generated marginalisation and worsened human rights. Gee also pointed out that literacy is necessarily plural, and it has no meaning apart from the particular cultural context in which it is used. Learning a new literacy is not simply acquiring new technology; it also requires association with values, social practices, and ways of knowing.

Yet, regardless of the years of questioning Eurocentric definitions for literacy, it cannot be denied that they still linger in the minds of people, becoming difficult for socially sensitive concepts to reach daily practice. One clear example would be dictionaries, which provide the most restricted view of literacy, reinforcing the written driven mode and becoming efficient tools for functional literacy. Although a bit of nuance is added by "the competence or knowledge in a specified area", in the Dictionary and the Oxford Reference, the foremost meaning of literacy is "the ability to read and write". Functional literacy is further defined as "a level of minimal competence in reading and writing (and sometimes also basic arithmetic) essential for daily life and work" (Oxford Reference). It is worth remarking on the use of the conjunction "and" opposed to "or"; in other words, literacy is acquired when someone possesses both skills of reading and writing. As I mentioned before, in the Spanish dictionary the connection to the alphabet is even stronger with the term *alfabetización*, which is the official translation of literacy, meaning teaching or learning to read and write (RAE, 2022). As in the English cases, here the Royal Spanish Academy is the one overpowering institution which dictates the correct use of words for millions of speakers, most of whom received the language as imposition through colonisation.

The institution that is supposed to defend all world forms of literacies reproduces a somewhat related reduction. The United Nations, in its sector of Educational, Scientific and Cultural Organisation (UNESCO), defines literacy as "a means of identification, understanding, interpretation, creation, and communication in an increasingly digital, text-mediated, information-rich and fast-changing world […] a continuum of learning and proficiency in reading, writing and using numbers throughout life and is part of a larger set of skills, which include digital skills, media literacy, education for sustainable development and global citizenship as well as job-specific skills" (UNESCO, 2024). Worldwide, UNESCO sets the standards which nation-states comply with, bureaucratising their educational institutions to reach to these goals. As Street (2003) mentioned, it is clear that authority organisations disguise ideological premises (through an autonomous model of literacy) by offering assumed neutral and universal pretensions.

Thus, it feels that when speaking about literacy, there is no room for non-written, non-graphic, and even non-visual forms of representing the world. I agree with the way Perry (2020, pp. 294-295) describes literacies as practices that facilitate how we engage with the world and how we come to be in and with the world; they equip people to relate, communicate, and understand, both inwardly and outwardly as a way of coming to be in (and in relation to) the world. Following her, I feel disturbed by how distant the high-end academic research can be from the educational policies which still reproduce outdated definitions, pushing for phonetic, print, and digital written languages as the only forms of literacy. The latter does not come as a surprise in the context of modernity discourses within coloniality.

Modernity/Coloniality or "the letter, with blood goes in"

The underlying issue when speaking about the exclusion of literacies, especially those of Indigenous peoples, is related to one concrete program of oppression and annihilation of epistemologies which

began 500 years ago. Here, I will focus on the case of Mexico, and provide some important context.

With the invasion of the Americas and Africa, global power was set in place, with a great concentration of world resources under the control and benefit of a reduced minority in Europe (Quijano, 1992). This process is still ongoing, passing through different phases, heads, and construction of rhetoric of modernity whose goals for reaching it have been proclaimed in different ways: namely as salvation through conversion (to Christianity), acquisition of traits of civilisation, admittance to progress, and (commercial) openness to development (Mignolo, 2011, p. 205). These discourses have an inseparable darker face, which is coloniality. Global modernity cannot exist without global colonisers; the agenda is still controlled by the wealthy entities that became rich off of the appropriation of land, exploitation of resources, and enslavement and abuse of human labour. Since the beginning, a project of rationality has been constructed at the expense of colonised peoples, whose knowledge has been destroyed and repressed. As Aníbal Quijano (1992) explains, this indissoluble part of the current discourse of modernity was based on the Cartesian "*cogito, ergo sum*", where the subject is independent of the object of study or domination. The subject is a thinking entity, the object is not, and this interrelation is determined by relationships of unequal power.

Parallel to the project of accumulation of wealth, Euro-western power has also collected knowledge (meaning, in the words of Mignolo 2011). One of its various dimensions is found in the establishment of universities in the Americas in the 16th century. Following the ideals of the Renaissance, the project of unifying or universalising knowledge began while obliging Indigenous people to build, sculpt, and paint churches, and in this way, coercing aesthetic principles and legitimising a literacy strongly connected with the machinery of economic control and exploitation. At the same time, originary literacies were destroyed and burnt, including books, murals, statues, rock carvings, stelae, altars, buildings, temples, towns, and cities (Mignolo, 2010). Literacies that were related to alternative ways of counting time, divination, and perceiving nature, were especially condemned and labelled as idolatry and demonic practice.

Another dimension of accumulated knowledge began in the 17th century when European empires set up campaigns to fill museums with treasures, human remains, ancient manuscripts, and vast quantities of materials. Education became immersed in Prussian models and was transformed to pursue the principles of the Enlightenment, following the scientific method as the path of truth. Ever since, the creators of the modernity/coloniality narrative have pushed to aspire to this so-called superior epistemology and universality.

Despite the violent handling and elimination of Indigenous peoples and epistemologies in colonial times, the 19th century was the real turning point, especially noticeable in the drastic reduction of native language speakers. Even without precise accounts, in the 16th century, there were more than 100 known languages spoken in the territory that is now Mexico (Terborg et al. 2006, according to the Relaciones Geográficas, there were 24 languages in the area of New Spain, Bravo García, 1987). In colonial times, it is estimated that 80% of the population spoke an Indigenous language. At the beginning of the 19th century, with the first census taken of nearly 10 million (newly called) Mexicans, less than half of the population spoke Spanish (Navarrete, 2004, p. 71). At that point, an imagined Mexican state was intended, imitating the nationalist ideologies of Europe. However, the diversity of Indigenous peoples became a problem for the plans of universalisation. Ever since, the Mexican state has initiated unilateral and unidirectional policies, either incorporating by replacing their values or integrating with education and social development programs (Treborg et al., 2006). These approaches have been paternalist and colonial, treating Indigenous peoples as inferior, ignorant, and immature, quite in tune with the debates of the 16th century (e.g., between Ginés de Sepúlveda and Bartolomé de las Casas in 1550). Even though attempts for social participation have recently been attempted, still the instrumenting policies fall regressively to incorporation and integration.

In terms of functional literacy, in 1900, only 16% of the population knew how to write and read in

Castilian (Bazant, 2006, p. 16). At that time, Indigenous peoples endured oppression and submitted to servitude, working in *latifundios* as in colonial times. When discussing the first attempts of incorporating and "alphabetising" Indigenous peoples, there were voices (such as Trinidad Sánchez Santos, Francisco Bulnes, Emilio Rabasa, and Francisco Cosmes) who insisted on improving the social and economic conditions of rural communities before or at least in the meantime while offering education, for instance by assuring food security, housing, and preventing child labour. However, the Ministry of Education in the Porfiriato decided that education by itself would diminish poverty (Bazant, 2006, p. 82).

"La poliglocia de nuestro país es un obstáculo á la propagación de la cultura y á la formación plena de la conciencia de la patria, y sólo la escuela obligatoria generalizada en la nación entera, puede salvar tamaño escollo. Y, dicho sea de paso, ello os dará la clave de por qué los autores de la primitiva ley de instrucción obligatoria, llamamos al castellano lengua nacional: no sólo porque es la lengua que habló desde su infancia la actual sociedad mexicana, y porque fué luego la herencia de la nación, sino porque siendo la sola lengua escolar, llegara á atrofiar y destruir los idiomas locales y así la unificación del habla nacional, vehículo inapreciable de la unificación social, será un hecho."[1] (Sierra, 1902, p. 5)

This passage clearly shows that: 1) it was believed that the diversity of languages interferes with the values of a nation-state which should aim for unilingualism and monoculturalism; 2) schooling in the Spanish language would solve this and deliberately deteriorate other languages; and 3) the newly so-called Mexican society did not consider the rich legacy of Indigenous peoples. It is not surprising that Sierra pushed for teaching French in the early plan for obligatory schooling in Mexico. These are the attitudes that still permeate education in Mexico, now making English an obligatory subject.

During these initial stages of mandatory school, a famous saying became established, almost a slogan among teachers, which lasted throughout the 20th century (Bazant, 2006, p. 17). *La letra, con sangre entra* (the letter, with blood goes in) is a metaphor that alludes to the effort and struggle required to learn something, which within the context of erasing cultures and languages, became realised pretty much literally. It was often witnessed that primary schools had draconian methods of teaching, including hitting, slapping, pulling hair, throwing chalk and erasers, and spanking with rulers. It is only in the last few years that the Mexican government began to push to eradicate such practices by stimulating non-violent pedagogical methods for children (Villasana and Gómez, 2018). Curiously, this saying appears in Don Quijote de la Mancha (second part, chapter 36), published in 1615 by Miguel de Cervantes (here, it does not allude to schools but to a method of self-flagellation that Sancho applies to disenchant himself). Cervantes is considered one of the greatest exponents of the Spanish language, and his novel is appraised as the ultimate work of literature that set the foundations for its writing. At this point, it must be said that part of our colonised minds speak when we say "Spanish", when in fact we should be referring to the Castilian language.

The policies of schooling "with blood for the letter to go in", resulted in Justo Sierra's accomplished plans. Two hundred years ago, 65% of the Mexican population spoke an Indigenous language; today only 6.5% speak one (Aguilar Gil, 2022). In fact, it is only the last 100 years that have extinguished four-fifths of Indigenous languages, something not achieved in 300 years of colonial rule. As the Ayöök linguist and activist, Yásnaya Aguilar Gil, says, it is clear that we live in times of linguicide. This scenario, where the

[1] "The polyglottism of our country is an obstacle to the spread of culture and to the full formation of the conscience of the homeland, and only generalised, compulsory school in the entire nation can bridge such a stumbling block. And, by the way, this will give you the key to why the authors of the primitive law of compulsory education, we call Spanish the national language: not only because it is the language that the current Mexican society has spoken since its infancy, and because it was then the heritage of the nation, but because being the only school language, it will atrophy and destroy the local languages and thus the unification of national speech, an invaluable vehicle of social unification, will be a fact." (Author translation)

killing of Indigenous languages can be measured, is indicative of how cultures die, and with them, ways of relating to and being in this world, including the knowledge of reading signs from nature.

Within this sombre scene and for every act of colonisation, there is an act of resistance. One first and rather simple step is not only to recognise that the world we live in is multi-diverse, but also speak up against the rhetoric of universalisation by bringing forth other ways to conceive the world. The Zapatistas express forcibly to pursue a world where many worlds fit, *un mundo donde quepan muchos mundos* (ELZN, 1996). This is, to reject the world of injustice where only the powerful fit and instead make a world where all cultures and languages live, walk, laugh, and be shined by dawn. By doing this, it is also crucial to acknowledge that Indigenous knowledges live under the power of coloniality and strive to survive. This is a sensitive issue since any mentioning or handling of Indigenous worlds is inherently political. Pluriversality, as expressed by Mignolo (2018), is a concept that may also help to perceive the world as pluriversal while opposing the limited regulations of hegemonic epistemology. Pluriversality is not cultural relativism (of independent units), but the entanglement of several worlds connected by the colonial matrix and asymmetrical power relations. Pluriversality is therefore an opportunity to sense, more than thinking, from the border between modernity and coloniality, as a way to deconstruct anchored Euro-western rationality.

Literacies from nature

In the ongoing Eurocentric and functional scholarship, some work is shedding light on the border between modernity and coloniality. The following selection of works argue for signs or literacies that are created from non-human forms, showing how societies are capable of perceiving, reading, and understanding signs that present themselves on the landscape. Some of these works have fed into the so-called ontological turn movement in Anthropology, which seeks to challenge Euro-western theories and vision of the world by approaching Indigenous worlds. This movement has been profound in changing the view of one universal world, shaped by and knowledgeable through scientific methods, and instead makes claims for multiple equally real worlds, realities, and ontologies (see an overview in Kohn 2015). In order to avoid reproducing practices of exclusion, I hereafter highlight the Indigenous peoples and their lessons on literacies coming from nature which, in some cases, have helped scholars to turn ontologically.

In the Peruvian Andes, the Yanesha people construct narratives from significative spots on the landscape, namely features where past transformative activities occurred involving humans or divinities. These could be buildings, gardens, graves, trails, or bridges, but also extraordinary natural places, like waterfalls, boulders, or large patches of grassland. Fernando Santos-Granero (1998) called these topograms (in analogy to pictograms) which serve as mnemonics that, when woven into narrations, create a type of "topographic writing". These literate expressions are equal to historical accounts by Western standards. However, he was reluctant to call this writing, or as he wrote, "true writing", because this does not correspond to "a systematic link between sign and sound" (Santos Granero, 1998, p. 140).

In a daring critique of Eurocentrism, Simon Battestini (2000, p. 79) outlines how Claude Lévi-Strauss, during his fieldwork in the Amazon, judged the Nambikwara as being incapable of producing anything beyond drawings and lines without any translation, and dismissed them as illiterate people. However, when he once went astray in the jungle, he proved himself to be illiterate by being unable to read the signs in the bushes, which enabled the Nambikwara to seek out and rescue him. This anecdote clearly shows how literacy becomes functional according to the needs, values, and relationship of people with their world. Battestini also shows how easily the West had misinterpreted literacy in Indigenous cultures, praising and valuing written languages as superior over any other form of graphic or visual signs.

In the mountainous border between Colombia and Venezuela, the Yukpa conceive features of the natural world as signs that communicate and connect with explanations of the world and stories of origin. Ernst

Halbmayer (2004), while reflecting on the Western categorisation of societies with and without writing, as well as the rational divide between culture and nature, said explicitly that nature is the medium of communication, not limited to visual signs but also including acoustic, tactile, and gustatory perceptions. Similar to the Ayöök, for the Yukpa, nature is not a constant communicator, nor are the signs static. The messages become meaningful because they are relational to context-specific situations, like unexpected behaviour in animals, astronomical phenomena like an eclipse or the movement of the Pleiades, an earthquake, or the combination with other signs provided by oracles.

More recently, the Runa of the Upper Amazon in Ecuador have challenged the centred role of humans in the processes of representation and communication. The sharp division between the social and the natural is brought down by showing the numerous ways in which people are connected and affected by the (natural) world. Among the Runa, forests think. According to Eduardo Kohn (2013), this assertion is only possible when we conceive of thought beyond the human, beyond the Cartesian *cogito*, and discard our anchored ideas about representation to be something conventional, linguistic, and symbolic. Nonhuman life forms also represent the world, they are semiotic beings (they create and are capable of interpreting signs), and they do so through nonlinguistic forms. These forms remain pretty much unexplored because we have been rigorously instructed to only look, study, read, and perceive through conventions and language.

One of Kohn's (2013, p. 222) thought-provoking proposals is to consider thinking through images, not through language; this is how forests think, ultimately. This provocative conclusion is bolstered by reflecting that our bodies are of the same nature as forests. Bodies of living beings respond to life through semiotic processes. For instance, when experiencing a threatening encounter with a large predator, organic processes are set in motion, like an accelerated heart rate and adrenaline being released. This process is indexical, i.e., when a large predator stands for mortal danger. Forests offer all kinds of images, including oneiric, mythic, and anecdotal, and how they re-present, in Kohn's words, the world, tells about the human beyond the human, showing iconic logic, making us understand it in indexical ways. When something out of the ordinary and customary occurs, there lies the opportunity to learn from the world and from ourselves.

In this same sense, the Yukpa, from Sokorhpa in northwestern Colombia, help us to better understand these types of communication between humans and the natural world, and even with the Other Worlds, clarifying relations with more-than-human beings, like animals and their (spirit) owners, deities, and the dead. In a fascinating case of how the slower drumming of a woodpecker can announce not only a death, but also the sadness felt by the bird, it is clear that nature communicates, and also humans interpret in a symbolical sense, dynamically encoding and decoding signs (Goletz, 2023). As Anne Goletz (personal communication) says, trying to semioticise what Indigenous people perceive as communication reflects yet more the perspective of the analyser than of the relation between signs and meanings.

Something similar was said before by Vine Deloria, Jr. (2009). Since the 80s, Deloria had worked on Carl Jung's treatment of images in dreams and religious visual culture. Jung, in the 20s, had visited Taos Pueblo in New Mexico and interviewed an elder whose teachings on the relationship of humans with nature nourished his own precursory ontological turn while contrasting the westerner and, lamentably calling, "primitive" psyche. Besides being critical of his Eurocentric and colonial intellect, Deloria, as a Sioux himself, found Jung's work to be influential. However, Deloria categorically said: "[…]there are no symbols in the Western sense. Most medicine men would not use the words "symbol" or "symbolize" in their explanation of any part of a ceremony, ritual or belief. One thing does not stand for another." (Deloria 2009, p. 192). Representation is rejected in the sense of communicative purposes. Representation for the Sioux is actual spiritual presence. For instance, the birds, spirits, or plants that provide information and assistance to the vision questor are not merely symbolic; they participate actively in ceremonies as representatives of their own realm, all together as participants of an experiential happening of worldly significance. The opening quote of his posthumous book on Jung and the Sioux traditions is brilliantly

appurtenant: "Western science, following Roger Bacon, believed man could force nature to reveal its secrets; the Sioux simply petitioned nature for friendship".

Regarding Mesoamerican peoples, one early work stressed the acts of reading as authentic social forms of literacy, speaking against the ideas that equated literacy with writing. John Monaghan and Byron Hamann (1998, p. 133) showed that in some Indigenous languages, like Mixtec, Yucatec, Chatino, and K'ekchi', homophonic words are translated as both "to read" and "to see", and sometimes also "to count", indicating permeability in these concepts. Yet, in particular contexts, reading is not just an optical capacity but an extraordinary competence. Medicine and diviner specialists are considered seers, people with a clear vision, with superior abilities to see the unknown. In maize divination among the K'iche', seeds are counted to enhance the vision of the underlying problems. Monaghan and Hamann's analogy between the rows and columns of seeds in a maize cob and how texts from the Centre of Mexico and stelae of the Maya area were arranged to mimic these organic forms, approaches a good understanding of the relations between humans and nature in Mesoamerica. In accordance with them, the ways of reading the world among the Ayöök show a comprehensive understanding of This World and the Other World. This World is mainly visible; it is It Naaxwiin, a term in the Ayöök language that could be translated as "the place where Earth is visible" (Earth with a capital E due to her godly character, a sort of Mother Earth figure). The Other World, the place where ancestors live, accessible to some spirits and divinities, is not visible through conscious hours, but it is reached through acts of respect in special locations, divination, and dreams. As it will be shown further, this two-worlds coherency is visible, hearable, and sensed through a myriad of signs, which are read by people and also wise women and men.

Reading signs of nature in Mesoamerica

In precolonial times, among the Nahua of the Basin of Mexico, there were wise men and women who were called *tlamatimine*, considered to be owners of the repositories of knowledge, tradition, and morals. In 16th century sources, the *tlamatimine* were described as "those who know"; they were also named *tlapouhqui*, "those who count", in whose hands the books were kept (*yn imac mani, yn amuxtli*) that contained the writing/painting, and the black/the colourful ([…] *yn tlacuilolli, in quipia yn tlilli, yn tlapalli* […], Sahagún, 1577, bk. I, ch. 12). In line with Monaghan and Hamann, the *tlamatimine* were not only readers of colourful books but also counters. In these books, they counted days, auguries, destinies, historical events, dynastic generations, tributes, medicine remedies, etc., which were placed and arranged in lists, charts, and many different layouts.

Besides reading graphic signs, the *tlamatimine* were readers of the skies. In 1524, faced with the doom of defeat against the Spaniards and their allies, the survivors from the Mexica nobility were asked by the newly arrived missionaries to accept and convert to the Christian faith. In this conversation, these men and women claimed themselves to be unable to answer such a petition; they said that they had to ask their wise *tlamatimine*. In a fascinating discourse, reflecting the poetic rhythm of the Nahuatl language, the *tlamatimine* are further revealed as highly literate in different areas. They were men and women who offered fire, copal, and blood [to the deities], representatives of the god Quetzalcoatl, who observed the course and the order-proceedings of the sky, watched how the night is divided, and counted the years, the days, and people's destinies, showing the path and giving guidance (León Portilla, 1986, pp. 137-141).

Mignolo (2010, p. 105) was right to highlight that the capacity of the *tlamatimine* resided in "reading", yet not just looking through graphic signs, or the letters in a text, but in the sense of "discerning". In the following lines, I will clarify that this reading of signs in nature is achieved by a clear correlation between signs and meanings.

Reading presages

Another passage from the 16th century helps to illustrate the kind of literacy that the Nahua people had with great closeness to nature. The following words were written by the first rector of the University of Mexico, Cervantes de Salazar, whose

speech condemned and reviled the Indigenous world while paving the way to universality.

> "… Eran, con esto, tan agoreros, que mirauan en los cantos de las aues, en el sonido del ayre y del fuego, en el soñar, y en el caerse alguna pared y desgajarse algun ramo de sus arboles. Por estos agueros dezian que adiuinauan los malos y los buenos subcesos de los negocios que emprendian, y las muertes y desgracias que auian de subceder…"[2] (Cervantes de Salazar, 1971, pp. 40-41)

Throughout the Mesoamerican territory, there are plentiful examples of observing (through sight and sound) animals, spirits of the hills, and other natural phenomena (e.g., winds, thunder) that give an account of the perception of signs in the environment. As the previous extract shows, there are messages received through nature. Lamentably, proof of the success of coloniality, this type of communication is still called superstition or even worse, acts of the devil. I name these in the original language of the Ayöök people, *ja'tsyuuxp*. Previously, I have translated these into Spanish as *presagios* and in English, presages (Rojas, 2014). I think that these words approach the sense of perceiving signs that have a deeper meaning of something else (in Kohn's terms, they are indexical). I prefer presage over omen because the latter has been charged with a negative connotation which is not necessarily the case with the *ja'tsyuuxp*.

Among the Ayöök, these events are taken as warnings of dangers that may or may not occur; they are not fatal or absolute. They may announce illness, bad luck, accidents, or even death. If these events repeat or are accompanied by bad dreams or quarrelsome events, concern arises, and the underlying cause should be examined. The persons to turn to are experts in the 260-day calendar and maize divination. They are called *xëë maypë matsyopë*, those who "divine and count the days". This evokes the *tlamatimine* from the Nahua people, diviners and counters, "those who know". Consultation with them will help reveal the reasons behind presages. Among these reasons, there could be a lack of commitment with the acts of respect to deities or ancestors, conflict with other people who may be sending bad wishes, a deceased family member that owed honour to a deity or saint and had no time to fulfil it, or an ancestor or the gods trying to communicate that the plans for visiting a place outside of the community will not be fruitful. It is usually through maize divination that the *xëë maypë*, along with the querent, can find out what is causing the visions, hearings, or perceptions of nature and also come up with a way to revert or lessen the negative effects.

Ja'tsyuuxp may appear as visions or sounds. Literacies are not *per se* defined by signs that can be seen. Generally, the presages present themselves as an encounter with an animal while travelling by foot to the *milpas* (maize fields), or to the hills looking for *quelites* and other edible plants, or hunting wild animals. One very dangerous *ja'tsyuuxp* is seeing a puma, *ujtskaa*, which is a powerful animal in the Mesoamerican world, often considered a being that may be the alter ego of somebody who has a strong and dominant spirit. Everyone has an inner force, a spirit, a *jawiën*, but those with powerful spirits, called *tso'ok*, may also have the ability to become their kindred animal or natural force spirit. In the case of a puma, it makes sense that this happens at night because the experience of sensing your kindred spirit occurs during dreaming.

Another frightening encounter, perhaps one of the best examples to describe the meaning of a *ja'tsyuuxp*, is with a large snake, brown in colour, like soil. This snake is called *mëj ap,* and it evokes another big snake called Grandfather-Father, Ap Tee, who lived before the present era, before the sun rose into the sky, and hid in a cave where children would go to feed it with *tenates* (baskets) filled with *tortillas*, sometimes eating the children too, if she was left unsatisfied. These awful events stopped when the little brothers, Sun and Moon, killed her (see narration in Rojas, 2014). To see this type of snake is

[2] "...They were, with this, so ominous, that they looked at the songs of the birds, at the sound of the wind and the fire, in dreaming, and in the falling of some wall and some branch of their trees. That is why these auguries said that they divined the bad and the good events of the enterprises that they carried out, and the deaths and misfortunes that had to occur…". (Author translation)

a clear portent of something negative, of a serious danger or illness to come.

There are other encounters that, in the first instance, are not that bad. For example, finding a particular species of weasel, one with white eyebrow patches that make it look like a four-eyed animal, stealing a chicken; or seeing a certain type of fox in an open field that makes a distinctive sound, like a scream (*seeerk!*). The direction in which animals move during these encounters offers information; if they come downhill, cross your path, or go westward, it may reinforce a bad augury.

Inside these types of signs, there are some that are not seen or heard but actually felt on the body. These include the sensation of a cold wind, a possible sign of *mal de ojo* (*win ixë* in Ayöök), a disease induced by someone jealous or resentful, or a tic around the eye, (in Ayöök, "my eye dances", *ëwii yëts äjk*), which can all be warnings of possible hazards to oneself or relatives.

Among the *ja'tsyuuxp* that are heard, there is the singing of the owl, or *krispu* in Ayöök. This nocturnal bird is avoided by all means. It may not be seen, but if it perches on the house roof and its hoot is heard, this is a cause for fear as it may announce disgrace, disease, and even death to one of the family members. Another sonic presage comes from a blue bird called *tsinaay* that, when it sings in a long, hoarse, and paused way (*op yep op!… taz taz taz!!!*), like in a scolding tone, it means that it is angry, meaning that your trip, or whatever you have come to seek out, like a doctor, work, or money, will not end well. Others call this bird a secretary of the demon, again, connoting a colonial load. However, the *tsinaay* has other voices. If it laughs, in a repetitive short way, it shows happiness and foresees an auspicious culmination.

These presages recall what Bernardino de Sahagún (1997) registered in the 16th century among the Nahua under the name "*augurios y abusiones*". In the list of what he called superstitions, the visit of the *tecolote* (owl), the laugh-like singing of the *huactli*, the roaring of big cats, and encounters with foxes and weasels were included, which call to mind the *ja'tsyuuxp* here mentioned. He also made a short list of dreams whose descriptions correspond very nearly with those of presages and which, according to him, had fatal outcomes. Like presages, oneiric experiences come up as images. Previously, I have made a comparison of dreams among the Ayöök and the prognosticative graphic signs painted on the precolonial divinatory books showing how these similar images transmit messages in a similar fashion (Rojas, 2019).

It is important to emphasise that these experiences, either seen, heard, sensed, or dreamt, affect the human body. They cause affliction, provoke fear, and, if ignored or left unattended, they could lead to *tsë'ëkë* (susto), an ailment caused by the imbalance of energetic forces within the body, mainly the spirit, the *jawiën*. In other words, the images, sounds, and sensations of the *ja'tsyuuxp* are signs that have an effect on present conditions and future actions. This is clearly illustrated with maize divination.

Reading maize

This divinatory system conveys meaning by the shape and arrangement of seeds on top of a table. Its signs are not human-made, however, they are slightly manipulated by the movement of throwing the seeds. This system is intrinsically linked to the use of the 260 day-calendar, a sophisticated count of time for the prognostication of particular events, including presages, dreams, and illnesses, and the prescription of acts of respect in accordance to petitions (e.g., obtaining a job or money), the curing of illnesses or afflictions, or simply to comply regularly to the respect of deities, saints, and ancestors (Rojas, 2014). As mentioned before, contact with images, sounds, and sensations that are significant because they signal danger or an affliction, are reasons to consult the *xëë maypë*. With their expertise in the calendar and maize divination, she or he will ask what day the presages, dreams, or illnesses were experienced. In order to gain accurate knowledge of the meaning and entity behind the signs, a consultation to the wisdom of maize is performed.

Maize lies at the centre of the Mesoamerican world. Maize is the main crop, a daily nutrient in every household, and the focus of the social and economic cycles in Indigenous communities. Social ties and yearly rhythm are created around its planting,

growing, harvesting, storing, consuming, and replanting. Each seed and each cob is a child of *It Naaxwiin*, the Earth. She is the nurturing mother to whom we owe life, sustenance, and constant respect because she will receive us when we are dead. She is an omniscient and omnipresent entity, who witnesses and knows all regarding human lives. Maize is a beloved son of *It Naaxwiin* and therefore it is not strange that he is a reliable messenger for her. Maize can show if presages, dreams, or illnesses are serious and determine their hidden causes, if jobs, money, and good luck can be achieved, and if afflictions and conflicts can be resolved. In other words, *It Naaxwiin* is an agent capable of transmitting signs through maize and conveying meaningful messages to the afflicted.

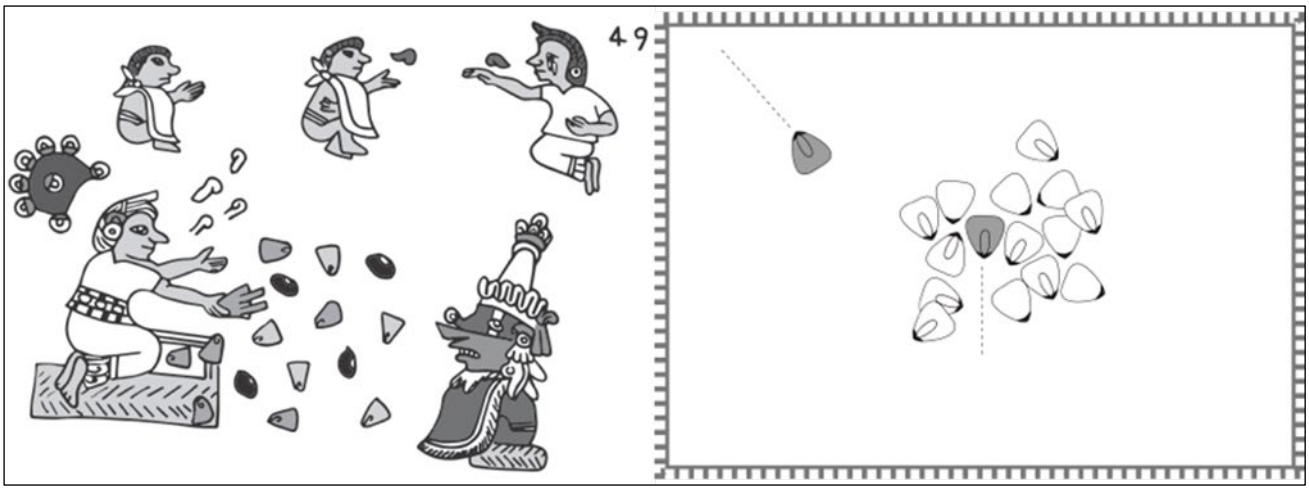

Figure 1: a) Maize divination scene in Codex Tudela (redrawn by the author from folio 49r); b) Example of a maize divination throw (author's consultation redrawn).

Among the Ayöök, maize divination is called *möök pajk wëjwë*, where *mook* is "maize", *pajk*, "seed", and *wëjwë*, "to cast in a soft and round motion". Before the actual throwing and after general questions are asked, the *xëë maypë* performs some acts of respect, like spilling some mezcal to the ground dedicated to *It Naaxwiin*, and uttering some words, blessing her and the querent. Then, 13, 16, or 18 seeds are held in one hand and a piece of cloth or napkin, called *servilleta*, is placed on top of a table (or a flat surface). The most common method of throwing the seeds is by placing one of the kernels at the centre of the napkin which represents the querent. Then, each seed, one at a time, is thrown to the centre, to the querent-seed. The seeds end up arranged on top of the *servilleta*, and they become legible following particular rules. The reading-action is not intuitive; authentic codes work in place to bring forward information. The anatomy of the kernel is relevant here; each seed corresponds to a person or situation. The tip of the seed is the face, and the widened part is the body of an identified individual. The body of the seed on one side is flat and on the other has a concavity; the latter indicates a living or mostly positive situation such as money, fortune, or love, and the former represents a deceased individual, ancestor, or mostly unfortunate circumstances such as bad luck, disease, or gossip. The *servilleta*, sometimes finely embroidered, is a sort of open canvas, which is essential for bringing a logical narrative where time and space intersect.

The napkin, therefore, represents geographical space, which can be the house, a part of the town, the town itself, a region, a country, or even broader. During the reading session, it is common to hear diviners referring to geographical features, for instance, "your job is out of town", "a person gossips in the place where the sun sets", "your road is free of obstacles", "the north is free (to make a journey)" (Figure 1).

For the sake of clarity, three throws are an adequate number for each inquiry. Throw after throw, and little by little, the seeds move, clash between each other, and turn onto either side. In the end, they provide images on the servilleta and make the querent-seed change place, move in different

directions, change its status to "dead" or "negative", and align with other seeds in various situations.

Reading maize requires knowing the signs for the seeds and then combining the variable of space. Images of maize arrangements do not correspond to defined verbal pronunciations; however, they bring forth messages that are understood and hence can be narrated. Like in other divinatory systems (e.g., Tarot), ambivalence has a role here (not to be confused with ambiguity). The position of seeds may appear in different divinatory sessions but can only bring significance if the arrangement coincides with the given context and situation brought by the querent. The narratives created from maize divination are dialogical, between the *xëë maypë* and the querent. Moreover, they are self-narratives when the latter is able to recognise him or herself on the *servilleta*, in relation to other agents, either human, non-living, circumstances, and emotions, from a distance (Rojs, 2016). When this happens, there is no need for spoken words; the visions are clear enough to provoke understanding and gain consciousness. This event is enough to trigger actions in the querent to change the present situation and hence affect his or her destiny. Most of the time, practically without exception, acts of respect to It Naaxwin, deities, and ancestors will be prescribed, led by the *xëë maypë*. This can alleviate illnesses, revert bad prognostications, and enhance the good auguries for money or potential achievements.

To sum up, both presages and maize divination offer a system of images that can be read. The images are brought and made possible by the coherent relationship between This and the Other Worlds. The Other World, although dark and not visible, lies upon us in the same space as This World, which is bright and visible. With maize divination, It Naaxwiin is invoked to bring light to that hidden world and the things which we are not conscious of. She is the agent transmitting the signs in order to be read. The *xëë maypë* is the one who knows, the literate who reads these signs and who helps the afflicted querent. The latter, emotionally affected by the images and their readings, is able to create a narrative to ease disorders and find solutions.

Final words on other ways to read the world

It is difficult to come up with decolonised approaches in the face of modernity and coloniality. I concur with Todd (2016) when she asserts that European academia is indebted to Indigenous peoples and thinkers whom they often do not credit in a meaningful way after they changed their thinking ontologically and showed that nature and culture were not that separate after all. Academia does this by continually, collectively, and structurally not addressing its own racist and colonial roots. Many times, I have witnessed this myself. One reviewer of an earlier version of this text submitted to another journal suggested that recalling the history of coloniality, genocide, and epistemicide becomes unnecessary to define literacy since, as the English dictionary declares, its definition has already been expanded to refer to familiarity or certain level of expertise in any kind of field of knowledge. The anonymous reviewer pointed out that my allusion of literacy as alphabetic writing projected my unfamiliarity with the English language. He or she is right; moreover, his or her remark is precisely my point. Schooling and academia are constantly pressing us to comply with their drive to be functional; to refer to the dictionary denotes a very reduced scope of understanding and making sense of the world (e.g., in Dictionary, the definition of "Indian" refers to the Indigenous peoples of North, Central and South America, with this, perpetuating the misconception of Christopher Columbus). In Mexico, functional literacy is the norm to aspire to. It is reinforced by education in Castilian and alphabetic writing; if you reach higher education, there is no other way to continue without English. Functional literacy is conceived as the best way to be literate, and that is a fit in modernity/coloniality. Hence, Indigenous methods of relating to and being in this world are not considered to be literacies, and even worse, are destined to disappear (like Ong wrote).

These literacies are relevant to the current environmental crisis. Functional literacy shares in the responsibility for moving us away from nature and toward destroying it. Partly due to its cultural-autonomously driven impetus, it has been deficient in letting us comprehend the (natural) world as an entity that does communicate. Functional literacy set us up to learn, interpret, represent, and recreate the world in such a blinkered way, alienating us from the nature, conceiving it as a solely universal truth, and as an

object that does not think. In this sense, more than being able to understand English, I wish that I could read the environment like the Ayöök do. Or, as Deloria said, ask to become friends with her, like the Sioux do. Similarly, as Robin Wall Kimmerer (2020) finely explained in her vision and the wisdom of the Indigenous peoples of the Great Lakes region, we need to learn the language of plants, of the land, who are animate beings, worthy of respect and sovereignty, to whom we owe respect and have responsibilities of caring and sustaining.

Just to be clear, I am not suggesting we need to learn to interpret the songs of birds or become diviners in order to begin to recover from the climate crisis. It is simply that we need to see, hear, and sense the world in a different way, where the world is an entity inherently connected to our bodies. The Ayöök literacies situate our bodies in a different relation to the world, other than letters and numbers. In this relationship, as the Ayöök clearly understand, there is a reciprocal affection. Images, sounds, and sensations experienced in nature and through maize reading, convey messages, warn of possible dangers, or tell of unbalanced situations between body and spirit. These signs from nature constitute an opportunity to listen more closely; it is up to us to change the path of our destiny, as maize divination readings show. Far from thinking that these meanings are senseless, the acts of reading nature enlighten the effects that images, sounds, and sensations have on our bodies and our relationships with others (including non-humans and non-living in This World). Either we become conscious or we remain ignorant and unmindful. To the people, like me, who did not grow up with this relation with nature, the lesson is crucial.

Shedding light on other ways to relate and be in the world constitutes a valuable way of disrupting rationality in the modern/colonial world. By doing so, it is important to emphasise that these non-functional literacies are not simply proof of healthy multi-diversity. On the contrary, it must be acknowledged that they survive against more than 500 years of attempts to make them disappear, co-existing with aggressive policies that diminish them. Making them more visible is a political act. In Mexico, we face a current crisis of destroying Indigenous literacies and languages while also witnessing the destruction of environments, much of those being where Indigenous people live, while they are trying to protect and defend them. Today, Mexico is one of the deadliest places for Indigenous environmental activists (Aristegui Noticias). In agreement with Perry (2020), we live in times of epistemic violence that delegitimise and erase other modes of engagement and being in the world, which not only perpetuates inequality, but also contributes to the current climate and environmental crisis humanity is living in.

Lastly, reading, in the sense of discerning signs in nature, should be a sufficient criterion for being literate. Not long ago, in 2018, while giving a conference talk about the 260-day calendar and maize divination, a young anthropologist asked me if the Ayöök people were an oral or literate society. I knew what he was referring to. I found it extremely unfair to consider the *xëë maypë*, women and men with great wisdom and literate capacities, to be illiterate only because they do not perform biomechanical-graphic signs to represent either their language or world. Speaking from the borders of my thinking, humbly sharing my emotional engagement with the Ayöök, I feel extremely uncomfortable with using these binomial categories of “literate” or “illiterate” which are insensitive to their struggles. The Ayöök, like many other Indigenous peoples, keep on resisting colonial and state policies aggressively trying to eradicate their languages. A change in our approach to their literacies could also offer us a different relationship to the natural world, which is urgent to the current climate and humanitarian crises.

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