

Avoiding Reductionism in Posthumanism

The Significance of Subjectivity, Thinking, and Origin Stories

Ingrid Andersson



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Abstract

This thesis argues for the integration of a human subjective dimension within posthuman theory and philosophy, particularly in conjunction with educational theory and practice. The thesis consists of three articles, each centered around a principal concept relevant to the overarching inquiry: the significance of subjectivity, thinking, and origin stories. In the first article, I examine the notion of subjectivity and its transformation within the framework of posthumanism, proposing that an expanded conception is necessary - one in which the thinking subject incorporates the "materiality" emphasized by posthumanist perspectives. Drawing on the scholarship of Katherine Hayles, I demonstrate that while cognitive capacities depend on foundational mechanisms, the interplay between these mechanisms and subjective experience necessitates an exploration of distinct levels of abstraction and agency. While this aligns with key objectives of posthumanism, I contend that the interplay needs to be further concretized to be both philosophically and educationally relevant. The second article centers around the concept of thinking as meditated on by philosophers Hannah Arendt and Gilles Deleuze. Their understanding of thinking bears many similarities as well as differences, and the tension between these is from where I construct a broad definition of thinking that entails imagination, meaning-making, judgment, common sense, abstraction of patterns, and action. Thinking thus becomes a multilayered dimension in which different components can be activated at different times, sometimes overlapping and sometimes not. The definition of thinking that I construct based on the joint reading of Arendt and Deleuze is a continuation of my understanding of a vibrant posthuman subject that interacts as much with itself as with the surrounding world. While posthumanism focuses mostly on the importance of a subject-independent world, I argue that the active subject, as worldly, is the locus for educational change. In the third article, I consult the philosophy of Sylvia Wynter and center the discussion around my key concept of origin stories. Stories about ourselves and our communities, rooted in perceived origins, are shaped by both our biological and social development. Analytically separating these aspects allows me to highlight their interplay, which I propose is where opportunities lie to challenge our innate tendencies toward hierarchical categorization. Together, the three articles flesh out a philosophical-educational approach equipped to take on problems with in-built hierarchical taxonomies regarding people, nature, and technology. I demonstrate how the approach can be utilized by the examples of AI, data-driven methods in education, critical thinking and cultivation of judgment, and biological-racist views drawn from presumed origins.

Keywords: *posthumanism, posthumanism in education, philosophy of education, subjectivity, thinking, origin stories, Arendt, Deleuze, Hayles, Wynter.*

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Till minne av pappa Lars

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Contents

Acknowledgments

Introduction	1
Diffraction: starting points	4
Aim and research questions	6
Outline	6
Previous scholarly work of posthumanism: Philosophy, method, and education	8
Posthuman philosophy	8
Matter and material practices	11
Posthumanism, education, and methodological implications	13
Deleuzian philosophy	13
Assemblage and cartography	15
Diffraction studies	17
Posthumanism, education, and Indigenous-decolonial/place-based philosophy	19
Entryways of this thesis	21
The thesis' key concepts	22
Subjectivity	23
Thinking	23
Origin stories	24
Ontologies	25
Nonconscious and conscious cognition	27
A layered consciousness	27
Cognition and posthumanism	28
What does the bot say?	33
Thinking and common sense with Deleuze and Arendt	36
Images of thought	36
Signs, the search, and spectators	38
Thinking between me and the world	40
Decolonizing taxonomizing practices	44
Decolonial philosophy	45
A short historiography of Man	47
The hybrid human	48

Educational origin stories	52
Concluding discussion: Weaving my articles together	54
Subjectivity	54
Thinking with different entities	55
Post-anthropocentrism and subjectivity	56
Thinking, judgment, and origin stories	57
Truth, objectivity, facts, and science	62
Future research	64
Common sense and indigenous storytelling: a prospect	64
Education and AI	64
Education and neuroplasticity.....	65
Summary of the articles	66
Article I: The subject in posthumanist theory: Retained rather than dethroned.....	66
Article II: The relationship between common sense and thinking: Keeping with the event in education	67
Article III: Sylvia Wynter's decolonial philosophy: How being human needs an origin story	68
Svensk sammanfattning.....	69
References	71

Introduction

In the realm of education, efforts are made to ensure equal opportunities for students to become contributing members of society. Streamlined governance through evaluation and competition serve as benchmarks for assessing student capabilities. The combination of equal opportunities and standardized evaluation practices can lead to instrumentalization, whereby particular types of “educated” individuals are forged. This thesis, in line with posthumanism, argues for ways of doing research within philosophy and higher education, considering instrumentalizing tendencies of thought found, for instance, in the framework of NPM (New Public Management). NPM embodies a framework that assumes a free and autonomous individual who leverages education to develop skills necessary for competitiveness in the job market. Education, when aligned with NPM principles, should be structured according to market economy demands, thereby sourcing its elements from the existing market to ensure alignment. This approach presupposes the nature of individuals and their adaptability to fulfill the requirements of the market economy.

Säfström (2022) calls the way in which the market economy steers the organization of educational systems “instrumental schooling” (p. 354), meaning that the desired effectiveness rests on the belief in natural capacities to be purified and subsequently put in the right place. He goes on, “Schooling itself, then, is a mechanism for the distribution of ‘things’, and it makes sense within a political paradigm founded on the distribution of things rather than democratic negotiations across differences” (p. 355). Education, on the other hand, is defined by Säfström as “The possibility to be taught, a process in which teaching opens a different space, a space where one can both orient oneself differently to the world in which one lives and direct oneself toward the other across difference, and a space in which the freedom of the other is the main concern for education” (p. 357-358). I agree with Säfström’s definition of education, and that it dwindles when encased in an ideology heavily informed by capitalism and NPM.

Posthumanism critiques the traditional Western notion of an ideologized and ideal human subject as the basis for determining valid knowledge, proposing instead a relational founding for knowledge production. A turn to a material ontology is envisaged by turning to non-human instantiations of agentic capacity as always interconnected with human beings, without the latter determining their worth. Posthumanism takes up the strenuous challenge of tackling instrumentalizing tendencies in philosophy, society, and education

as part of an incalculable ecology, rather than as isolated curiosities. Geerts and Carstens (2019), for instance, frame their posthuman philosophy-pedagogy as an acute dislodging from our neoliberal profit-based logic, and argue that education can, and must, be an arena for change. Likewise, posthuman philosopher Rosi Braidotti captures this approach by defining the Anthropocene “as a multi-layered posthuman predicament that includes the environmental, socio-economic, and affective and psychic dimensions of our ecologies of belonging” (2019, p. 32). Subjectivity, for Braidotti, is no longer conceived as possessed by individually separated human beings; rather, it stretches over multiple instantiations of beings, including plants, animals, bacteria, machines, ethics, and so on (Braidotti, 2019, p. 49). To enact a critical and creative philosophical stance, Braidotti uses the method of *cartography*. Cartography is informed by both theoretical and political vantage points seeking to track power relations constitutive of different forms of knowledge production (Braidotti, 2013, 2015, 2019, 2022). The posthuman subject is materially embodied and embedded, always in the process of becoming. Braidotti also refers to the posthuman subject as a figuration, still embodied and embedded, imbued with the capacity to create alternatives to conventional and stale notions of a human subject. “An immanent, posthuman project assumes that all matter or substance is one and immanent to itself. This means that the posthuman subject asserts the material totality of and interconnection with all living things” (Braidotti, 2019, p. 50). There is thus an endeavor within posthumanism to create further possibilities for numerous situated knowledges and subject formations to emerge.

Within posthumanism, a turn to ontology is enacted through a firm moving beyond Western restraining binaries such as man/woman, subject/object, white/black, culture/nature, etc. The split between ontology and epistemology surfaces as the most pressing to transcend within posthumanism. To entangle ontology and epistemology might suggest that an entanglement of subject and object will necessarily follow since if being and knowing are no longer viewed as two different modes of instantiation, then a subject can no longer be presumed to precede relationships of knowing. This is an important ontological premise in posthumanism that I likewise subscribe to in this thesis. However, since my focus is on *subjectivity*, *thinking*, and *origin stories*, I seek to expand on a realm that is inevitably human centered yet still in alignment with posthumanism in that the human I zoom in on is always entangled with a surrounding world, which entails materiality and a non-dichotomous approach. If entanglement and ontological inseparability¹ condition posthuman inquiry, then it follows that what is constitutive of being human can work as an analytical category, albeit temporarily, and not as a pre-set point of origin. Hence, although the human is not presumed to be a point of origin in this thesis, it can be a starting point for posthuman inquiry at the same

¹ This notion is related to entanglement and is discussed in Chapter 2.

time as relationality is posited as an ontological grounding because entanglement precedes every phenomenon inquired. What is more, to either throne or dethrone a/the “human” we must have some sort of (mutual) understanding of what it denotes and, hence, refers to in the world. Since posthumanism insists on being anchored in a lived, material world, the critique and creation attached to the notion of the “human” cannot remain at the level of a trope but must tap into actual lived realities.

Braidotti explains that posthuman philosophy needs to tackle our present posthuman predicament. This posthuman predicament involves being vigilant about the capitalist logic of commodification that affects all life-forms, including human, non-human, and more-than-human, while enacting an affirmative critique of our Anthropocene condition. For Braidotti, critical posthuman thought emerges in the convergence of posthumanism and post-anthropocentrism. Posthumanism’s post-anthropocentric approach seeks to dissolve the humanist subject understood as a prime knower of the world. The post-anthropocentric approach is two-fold: the first step is to dethrone the humanist subject, and the second gestures towards enacting a post-dualist optics, which seeks to move beyond a representationalist worldview and into a monistic material one. To do this, Braidotti introduces the transversal subject:

The idea of subjectivity as an assemblage that includes non-human agents has a number of consequences. Firstly, it implies that subjectivity is not the exclusive prerogative of anthropos; secondly, that it is not linked to transcendental reason; thirdly, that it is unhinged from the dialectics of recognition; and lastly, that it is based on the immanence of relations. The challenge for critical theory is momentous: we need to visualize the subject as a transversal entity encompassing the human, our genetic neighbours the animals and the earth as a whole, and to do so within an understandable language. (Braidotti, 2013, p. 82)

We can see here that Braidotti suggests a transversal subject that encompasses not only humans and animals but *the earth as a whole*. The transversal subject enacts the post-anthropocentric stance of relationality that she envisions and advocates for. What I seek to do in this thesis is to expand on what a posthuman subject might entail when moving away from a bounded position, yet clearly philosophically/theoretically constructed as a crucial agent.

I define subjectivity as the self-conscious experience of the world from a specific viewpoint, through which individuals perceive and interpret their surroundings. In defining my concept of thinking, I draw upon the works of Hannah Arendt and Gilles Deleuze. Thinking is primarily an act of creation, imagination, and interpretation, without a predetermined endpoint. The term origin stories, borrowed from Sylvia Wynter, refers to the narratives and

myths that shape different societies and contribute to the (re)production of various *genres*² of people.

Origin stories, or traces thereof, can be found everywhere. NPM, for instance, is such an origin story in that it constructs a certain kind of individual for the market economy in which traits such as rationality, effectiveness, and entrepreneurship are the most desirable. Furthermore, NPM is an origin story in that the traits derived from the market economy, and the market itself, are viewed as *naturally given* and thus a point of origin. Together, subjectivity, thinking, and origin stories form a human shaped by entangled social, material, and cultural components, which, when needed, can be analytically distinguished. We think (make meaning and sense) from a point of view (subjectivity) that draws on traces of an origin story (point of origin from which “desirable” traits and behavior are derived), which is why, I argue, we must interrogate questions of subjectivity, thinking, and origin stories to counteract instrumentalizing tendencies in educational theory and practice.

In this thesis, I aim to make a philosophical and theoretical contribution to posthumanism and educational theory. Additionally, I demonstrate how my articles and themes are well-suited for examining contemporary issues such as artificial intelligence, the instrumentalization of education, taxonomic practices, and the significance of critical thinking and common sense.

Diffraction: starting points

When I first started writing this thesis, my method of choice was a philosophical reading of texts. To use philosophy as a toolbox whilst being positioned within philosophy and education is a common method (in varying degrees). How is diffractive reading different from a philosophically attuned reading? First of all, to be philosophically attuned demands a conceptual framework that adheres to the ontological and epistemological stance taken, meaning that to be philosophically attuned and deploy philosophy as a method is both ever shifting in relation to inquiries and already part of an (onto)epistemology. If we assume, as I do in this thesis, that human subjects are not self-contained interchangeable “whats” but are always entangled with a surrounding ecology of being, belonging, and becoming, then my ontological outlook starts with a problem that taps into an ecology of belonging. The keyword here is entangled. Now, there are several methods suitable for when ontology is not viewed as separate from epistemology, such as Foucauldian discourse analysis, some strands of queer theory, and scientific

² Different *genres* of being human is a notion that I adopt from Sylvia Wynter that moves beyond identity markers such as class, race, and gender, yet contain these.

realism, to name a few. However, the ontological outlook that I subscribe to states the existence of an external world (in the sense that our world is not mind-dependent) that is in flux, and from/with which we continuously and contextually gain and produce knowledge. Diffraction as a method entails tracing the effects of differences across theoretical and disciplinary borders, and the texts I diffract in this thesis become entangled with the method itself, meaning that traces of productive differences are not discovered by a diffractive reading; they were/are/become entangled. To be more precise, when I diffractively read Hannah Arendt and Gilles Deleuze through one another (in Chapter 4 and in Article II), my point is not to make Deleuze conform to Arendt or to turn Arendt into a posthuman philosopher. I start with the problem of thinking and common sense that both philosophers have theorized about extensively, yet from different vantage points. I demonstrate that they can be combined in terms of expanding our understanding of thinking and common sense by keeping with the tensions and differences within and between them. Thus, the diffractive reading that I enact is afforded by the problem at hand (thinking and common sense), how I ontologically and theoretically situate myself (ontologically aligned with posthumanism), and the philosophers' work being read (Arendt and Deleuze). I follow Geerts and Carstens, who describe diffraction as focusing "on stimulating dialogue between divergent and convergent points of view" (2019, p. 919), which for me also neatly sums up what a philosophical method sets out to do. The diffractive method that I enact in my second article cannot, thus, be abstracted, manualized, and applied to another research problem since the onto-epistemology, research problem, and the diffractive method are already caught up in one another. In this vein, my method is closely related to the post-qualitative approaches accounted for in the forthcoming section entitled *Posthumanism, education, and methodological implications* in that the method is not regarded as a firm starting point with immutable step-by-step guidelines. These similarities notwithstanding, I think it is important to acknowledge that some form of starting points or guidelines are always in place when conducting research, whether it is a concept, a problem, or an event, which points the research in a certain direction compatible with one's chosen onto-epistemology. Diffractive reading becomes a method through the ontological underpinnings subscribed to. I did not initially choose diffraction as my methodological approach prior to my project; instead, the project and method became aligned. Therefore, I assert that the diffractive reading that I employ in this thesis can be defined as a philosophical reading method.

To summarize, in this thesis, I delve into the concepts of *subjectivity* (Article I) and *thinking* (Article II) as a response to the call within posthumanism to, first, create a new subject dislodged from Anthropocentric illusions, and second, to enact new ways of thinking. As urged by Braidotti, I seek to be aware of the posthuman predicament by providing expanded notions of subjectivity and thinking that can respond to present societal,

philosophical, and educational problems. In Article III, I interweave the expanded notions of subjectivity and thinking with the concept of *origin stories*.

Aim and research questions

The aim of this thesis is to contribute to the field of posthumanism by elaborating on the selected key concepts of *subjectivity*, *thinking*, and *origin stories*.

The philosophical-theoretical contribution to posthumanism offers a transdisciplinary critical perspective appropriate for examining contemporary phenomena where instrumentalization is imminent, thereby contributing to critical philosophy and research in higher education.

I divide my main aim into three questions:

- i) How can a wider notion of subjectivity be theorized within posthumanism? (Article I)
- ii) How can a diffractive reading of philosophers Gilles Deleuze and Hannah Arendt contribute to an extended understanding of thinking, judgment, and common sense as concepts suitable for education? (Article II)
- iii) How can origin stories be understood in a pedagogical and posthuman context? (Article III)

Outline

In this introductory chapter, I have outlined the thesis' objectives and research questions, highlighting the necessity for further exploration within posthuman theory and philosophy. Subsequent chapters expand upon the central themes and questions that underpin the thesis. Chapter 2 provides a review of prior research in posthuman philosophy, examines the application of posthuman theory in educational practice, and discusses methodological approaches within philosophy and education. The concluding sections of Chapter 2 identify key areas requiring further development, serving as a bridge to the next section, where the thesis' principal concepts—subjectivity, thinking, and origin stories—are introduced. Chapter 3 provides an in-depth discussion of Article I, focusing on the concept of subjectivity and integrating related themes from Articles II and III. Chapter 4 adopts a similar approach, centering on the concept of thinking in relation to Article II. Chapter 5 addresses Article III, examining Sylvia Wynter's philosophy to illustrate the significance of origin stories in both (post)human and educational contexts. The final chapter builds on previous discussions, outlining the theoretical and practical

implications for education, and concludes with an assessment of the thesis' limitations and recommendations for future research.

Previous scholarly work of posthumanism: Philosophy, method, and education

This chapter presents the conceptual toolbox for this thesis, beginning with a review of scholarly literature on posthuman philosophy, methodology, and educational applications. I will articulate the posthuman philosophical frameworks, along with the conceptual and ontological premises underpinning this work. Finally, I will contextualize the thesis with its foundational concepts, subjectivity, thinking, and origin stories, showing how these are developed within the posthuman paradigm.

Posthuman philosophy

Posthumanism is a philosophy that has been discussed within social science and education over the past two decades. It is sometimes used as an umbrella term to encompass various related theories, such as new materialism (e.g., Bennett, 2010; Coole & Frost, 2010), feminist materialism (e.g., Alaimo & Hekman, 2008; Pitts-Taylor, 2016), post-qualitative research (e.g., St. Pierre, 2010), and actor-network theory (e.g., Latour, 2005). Despite the differences between the branches, they commonly aim to challenge human exceptionalism (Andersson, 2020). In this thesis, I focus on posthuman philosophy and theory that may contain some of the elements mentioned above, but not enough to be awarded a section of their own. Hence, posthumanism, as deployed in this thesis, is a philosophical movement that inhabits multiple terminologies, genealogies, and transdisciplinary ambitions and is thus the term I will maintain, except for Chapter 3, where “new materialism” will be used interchangeably with posthumanism, following Hayles’ terminology.

Schematically, posthumanism is founded on two pillars: anti-humanism (sometimes referred to as post-humanism) and post-anthropocentrism. Anti-humanism implicates the dissolution of the humanist subject, and post-anthropocentrism seeks to disrupt speciesism. Anti-humanism constitutes the violent break from, and critique of, Vitruvian Man since:

That iconic image is the emblem of Humanism as a doctrine that combines the biological, discursive and moral expansion of human capabilities into an idea of teleologically ordained, rational progress. Faith in the unique, self-regulating and intrinsically moral powers of human reason forms an integral part of this

high-humanistic creed, which was essentially predicated on eighteenth- and nineteenth-century renditions of classical Antiquity and Italian Renaissance ideals. (Braidotti, 2013, p. 13)

Braidotti (2019, 2022) views philosophy as a critical and creative practice of thinking. To this end, she configures elements from different thought traditions, notably from feminist philosophy and the immanent philosophies of Spinoza and Deleuze, that together construe her neo-materialist vitalism harboring not only non-human elements of subjectivity, but pre-human elements captured by the concept of *zoe*.

To dissolve the humanist subject is, furthermore, pressing in that it gives rise to dichotomies such as man/woman, white/black, self/other, etc., in which difference turns into a pejorative different *from*, e.g., a man is a man because he is not a woman bearing feminine traits—the “Man” is political, the “Woman” is embodiment, to illustrate in a simplified manner. Anti-humanism defies the unitary subject and makes room for a subject that is imbued with power and forces (Braidotti, 2013; Orlie, 2010). Francesca Ferrando defines philosophical posthumanism as an onto-epistemological “philosophy of mediation” that enfolds post-dualism next to post-humanism and post-anthropocentrism (2018, p. 22). A philosophy of mediation entails, according to Ferrando, two interconnected perspectives: a reflective one, through which we can trace what has been left out from the notion of the human; and a speculative one, from which we can construct possible futures for the human as species (2018, p. 23).

To counteract the tendency to dichotomize, and to actively utilize anti-humanism and post-anthropocentrism, posthuman scholarship subscribes to an ontology of immanence, or a monistic ontology. In the wording of McDonald and Daigle (2021) we read:

Primarily, within a theoretical posthumanism informed by a monistic ontology, we move away from dualisms and embrace a mind/body continuum as well as a nature/culture continuum which unfolds in immanence. It might be misinterpreted as a reverting to some other form of dualism, but this view fails to grasp this methodology as an ongoing process. Although, for example, a posthumanist thinker may criticize and reject the humanist agent but may also want to cling to some notion of agency and struggle with ways to refer to that posthuman agent. Using “agent” carries a humanistic conceptual weight that they are seeking to dismantle, yet they read this agent as in flux as it relates to a mind/body continuum as opposed to assuming, as is conceptualized through a humanist agent, that the mind is privileged above the body. Different strategies are put to work to avoid this misinterpretation and to make visible this ongoing process, such as adopting the phrase “agentic capacity”, for example. (p. 9)

The primary issue with a humanist agent, according to the authors, is the privileging of the mind over the body, which leaves the dichotomy of

mind/body unaltered, thus hindering a new material perspective to come through. Therefore, a posthuman monistic ontology aims to correct the supposed division between mind and matter by introducing new concepts. However, the attempt to transcend this humanist divide carries the risk of erasing individual differences that are crucial for actions and achieving change. Braidotti hints at this risk by claiming that posthuman scholarship is “contiguous and resonates with bio-genetic and technologically mediated advanced capitalism” (2019, p. 41). However, she quickly argues that posthuman scholarship provides an obstacle for capitalist logic to roam free through affirmative ethics and counter-actualizations. Affirmative critique involves both critique and new ways of being in the world, combining empirical and speculative elements (Braidotti, 2019; Ferrando, 2018).

Drawing heavily on the philosophy of Deleuze and Deleuze with Guattari, Braidotti emphasizes our creative virtual capacities for becoming. Thus, we dwell in an actual place with real life events occupying our status in the world. Still, within our actual place of dwelling, there are virtual ways of perceiving and living with others that can only be enacted through creative reading and thinking. When we enact virtual creation (for instance, by creating a new concept of subjectivity), we bring forward counter-actualizations that disrupt old ways of thinking. The point of affirmative critique is thus not to halt the criticism of old ways of thinking but to instate new ways of thinking/being in the world.

Although there is a call within posthumanism and affirmative critique to create new concepts, we still need tools for evaluation in terms of their effects. Feminist posthuman philosopher Susan Hekman explains it thus:

We can compare the usefulness of one set of concepts to another set of concepts in terms of how well they allow us to cope with our environment. Two points are important here. First, the new ontology is moving away from relativism. We can compare conceptual schemes, and our standard of comparison is the material consequences of these schemes. Second, we have not abandoned the insights of the linguistic turn. We know our world through our concepts. The difference is that in this conception there is a world that we know. (Hekman, 2008, p. 110)

Again, we can see the importance of situated knowledge production that keeps focus on how our accounting of the world through conceptual schemes forms actual and material consequences that need to be acknowledged and nurtured. Posthumanism can work as “a figuration” that is always embedded and embodied, firmly anchored in our material world, and that “offers a spectrum through which we can capture the complexity of ongoing processes of subject-formation” (Braidotti, 2019, p. 36). In other words, to start from the “world that we know” is a materialist and anti-representationalist standpoint sought to promote situated knowledges instead of reproducing “objectivist” views of the world. Braidotti and Fuller argue that the posthumanist subject is

constituted by its multiple environmental variants which contribute to the conceptual scheme itself as not admitting universalist accounts. They explain:

The posthuman is not so much an abolition of the human but an expansion of the terrain in which it is constituted, and an acknowledgement that the human is never neutral but rather structured by multiple grids, gradients, layers and locations. Moreover, this high degree of materially embedded diversity is complicated by the fact that the human today is only one of many dynamics and formations that is active and coming into being in this conjunction. (Braidotti & Fuller, 2019, p. 10)

While I align with Braidotti and Fuller's stating of the posthuman as both a condition and a philosophical perspective, I extend this view by exploring how the human subject evolves and expands within posthumanism itself. I expand on this throughout this thesis but notably in Chapters 3, 4, and 5.

Matter and material practices

Posthuman philosophy and theory can, in short, be called a turn to matter, materiality, and material practices. But what is matter? Physicist-philosopher Karen Barad is indisputably one of the most renowned and influential posthuman philosophers who have dedicated themselves to providing substantial answers to the posed question.

The backbone of Barad's body of work is physicist Niels Bohr's "philosophy-physics" (Barad, 2007). For Bohr, read through Barad, theoretical concepts are not free-floating ideations, but, rather, they are particular material arrangements that engage in a relationship of mutual entailment with what they are designed to observe/measure. That is, theoretical concepts both bring about and are brought about by the particular phenomenon under observation/measurement; in Barad's terminology, they are *intra-acting*. Diverging from the colloquial inter-action, intra-action denotes a relation without pre-set relata. These intra-acting components are always *material-discursive*, that is, in a hyphenated relationship to demonstrate their mutual entailment. An intra-action enacts an *agential cut* that locally determines certain properties and boundaries of the inherent ontological inseparability of these particular components. Hence, it is the intra-action that locally draws a temporary boundary between "subject" and "object". The framework that Barad elaborates on is called *agential realism*, and one of the primary concepts therein is *phenomena*, which they define as "the ontological inseparability of intra-acting agencies" (2007, p. 206). For Barad, the condition for objective knowledge is a change in referentiality; from an observation-independent object to *phenomena*. Phenomena are "not the mere result of laboratory exercises engineered by human subjects but *differential patterns of mattering* ('diffraction patterns') produced through

complex agential intra-actions of multiple material-discursive practices or apparatuses of bodily production, *where apparatuses are not mere observing instruments but boundary-drawing practices – specific material (re)configurings of the world – which come to matter*” (Barad, 2007, p. 206. Italics in original). This quotation is quite a mouthful and quite characteristic of Barad’s style of writing. In my understanding, and how I utilize it in this thesis, it can be condensed into *phenomena subvert simple representationalism*³ in that they dissolve fixed demarcation lines between the material and the discursive as components in an external world. Again, the external world or observation-independent objects of the world do not constitute an objective referent; phenomena do. As I mentioned above, *relata* do not pre-exist relations but reside *within* phenomena and emerge through intra-actions. Thus, “intra-actions enact *agential separability*”, which Barad refers to as the condition of “*exteriority-within-phenomena*”, hence reworking “the classical ontological condition” of exteriority between the one who observes and that which is observed (2007, p. 140). Phenomena are ontological entanglements that furthermore make up the primary ontological unit within Barad’s agential realism (see, for example, 2007, p. 333).

In the influential anthology *New Materialisms: Ontology, agency, and politics* (2010), the editors Diana Coole and Samantha Frost spell out three interrelated themes that new materialist scholarship testifies to entertaining in which “matter” takes on slightly differing guises depending on the outline of the respective themes. First, we find the call for an ontological reorientation that, for its viability, must be congruent with current understandings of matter as lively found within natural science. Secondly, building on the first call is a willingness to engage with biopolitical and bioethical questions pertaining to the status of life and of the human. The third theme is a re-engagement with political economy that stresses the interdependence of everyday life and broader geopolitical material structures that impact our lives in multiple ways. Thus, the respective themes forge an understanding of matter that is distinct yet pervasive and elusive: ontologically, it is vibrant, alive, and self-organizing; biopolitically, it ensues debate about life itself and the human of “human being”; socioeconomically, it entails engaging with governmentality, power, and phenomenological experience.

The notion of *matter* is thus not as contested within posthumanism as it is prevalent, pertinent, and decisive, yet elusive and somewhat all-encompassing, just like its cousin *discursive*. This can be felt as both a blessing and a curse, giving rise to theoretical free rein and/or frustration. Next, I will examine how posthuman scholars in education have tackled this matter.

³ *Representationalism* is a view of the world that separates it into three categories or entities: i) the representation itself; ii) the entity being represented; iii) someone who does the representing. For further reading see Barad (2007).

Posthumanism, education, and methodological implications

This section examines posthuman research within the field of education. The chosen works aim to provide a broad, though not comprehensive, overview of posthuman investigations, while also laying out the foundational posthumanist perspectives that support this thesis. Following Rosiek et al.'s (2024) literature review, which identifies four types of posthuman approaches—*assemblage*, *cartography*, *diffraction*, and *place-based*—the discussion is organized thematically. Although these approaches often overlap, I will use Rosiek et al.'s classifications for clarity, illustrating the diverse philosophical tools utilized by posthuman educational scholars. Each section further highlights the varied nature of this research. Additionally, before delving into these four approaches, I will discuss influential educational works shaped by Gilles Deleuze's philosophy. Since assemblage and cartography are rooted in Deleuzian thought, beginning with his influence on *thinking anew* should make the review easier to follow.

Deleuzian philosophy

Within education, posthuman approaches operate under multiple umbrella names such as post-qualitative, new materialism, and post-foundationalism. Since they all seek to overcome conventional qualitative inquiry in social science, I will in this section use the notion of post-qualitative interchangeably with posthumanism.

Post-qualitative inquiry deviates from qualitative inquiry by giving up on method and turns instead to philosophy and concepts as a critical guide. Why is this important? As we have seen, within posthumanism at large, moving beyond old Western binaries is of crucial importance to enact a new approach to life, being, knowledge, and education; an approach in which “we” and “others” are not taken as separate entities prior to inquiry. Post-qualitative advocates argue that qualitative methods commit the representational mistake of presuming a natural disconnection between subjects and objects. In the introduction to a special issue on New materialism and New empiricism in *Cultural Studies ↔ Critical Methodologies* (2016), St. Pierre et al. draw heavily on the conceptual vocabulary of Deleuze and Deleuze with Guattari. What grounds this “New”, according to the authors, is the reconsideration of the nature of being, matter, and ethics. This reconsideration entails envisioning an entirely new mode of relating to the world: “we suggest that rethinking the nature of being is an experimental project in which we lay out a different plane of thought on which we can create new concepts that will help us live a different existence” (p. 100). Before introducing a new way of thinking, it's important to identify the existing *image of thought*: the

underlying, often invisible philosophical assumptions about knowledge, existence, and perception, which are commonly illustrated by the Cartesian *Cogito* (St. Pierre, 2016). The idea of adopting a *new image of thought* aims to foster original thinking that breaks away from customary institutional habits. Throughout society, established methods exist for creating facts, knowledge, and truths, each with built-in ethical standards and normative influences. According to St. Pierre et al., drawing on Deleuze, truly innovative social science research requires us to first scrutinize the ontological and epistemological beliefs shaping our approach (St. Pierre et al., 2016, p. 102). In several works, St. Pierre (e.g., 2016, 2017, 2021, 2024, 2025) calls for social scientists to engage with philosophy before conducting educational/empirical research. She claims that conventional qualitative methodology entertains an epistemological view incommensurable with an immanent ontology; an ontological reorientation we need to create something new.

MacLure (2013, 2016) likewise draws on the philosophy of Deleuze to dissolve representationalism in qualitative inquiry. Following Deleuze, MacLure claims that representing is an act of attaching definitions to specific entities, thus making the entities inert and establishing a distance between the observer and the observed. Echoing the language of Deleuze, MacLure writes that representation “is the enemy of difference, movement, change and the emergence of the new” (2013, p. 659). Instead, language becomes a part of an assemblage, a complex, shifting object of study, rather than an isolated component removed from its contexts. This view prompts MacLure to contend that qualitative inquiry can no longer rely on inert data, interpretation, a detached viewing subject, or “wise judgment” on the part of the researcher (2013, p. 660). So, what to do to avoid this trap? MacLure again turns to Deleuze for support, this time by drawing on his concepts of *sense* and *event*. When data is viewed as a dynamic assemblage, then the researcher becomes immersed with the data in the form of sense. Sense, for Deleuze, is virtual; it belongs to the realm of potentialities, not yet locked down as definitive knowledge awaiting categorization (see also MacLure, 2019, 2024). Mazzei et al. (2023) use the term *postfoundational inquiry*, suggesting that a reorienting of thought strives to enact that which does not yet exist since “knowledge and reality are not something that exist but are brought about” (p. 12).

The post-qualitative turn thus employs philosophical concepts to take an educational grip on empirical reality as containing virtual events and becoming. For example, Taylor (2017) identifies five central themes, notably urging researchers to shift from a subjective, cognitive view of experience to a materialist, relational, and affective perspective that highlights entanglement. This approach fosters ethical accountability with others, making the concept of the “other” unnecessary, as subjects are not seen as separate from objects. Taylor suggests that in an interconnected, material

ontology, “others” are not required to define the majority position. The aim of the article is further to re-think the empirical. The ontological turn as post-qualitative thus seems to imply that we widen how we view what is of empirical interest; when agency is distributed and not contained in an isolated agent, a material ontology is proposed to be enacted (Taylor, 2017). One of the examples Taylor presents of how a post-qualitative empiricist approach can be devised is through Barad’s theory of agential realism. Taylor works with Barad’s conceptualization of ontology as a material relational entanglement in which not solely agency is distributed, but also knowledge production. The “I” is not dismissed by Taylor but recognized as a collaborating agent with the surrounding world in the process of creating something new, “because the promise of post-qualitative research is political” (2017, p. 322).

Daigle (2022), inspired by Braidotti’s attempt to create a new posthuman subject, is more cautious of the posthuman strive to let go of the self and proposes the concept of *transjectivity* to signify the material grounding, discursive interconnectedness, and the experience of being a human subject (p. 41). To this end, she combines the philosophy of Spinoza, Nietzsche, Deleuze, and material feminism with Ricœur’s notion of the self.

Assemblage and cartography

In the article “A Review of Posthumanist Education Research: Expanded Conceptions of Research Possibility and Responsibility” (2024), Rosiek et al. conducted a review of posthumanist research in education, identifying four types of study design that share a focus on immanent ontology, ethical responsibility, breaking down Western dichotomies and representationalism, and a willingness to develop new models for thinking and acting. The first type they describe is assemblage studies (p. 225). Assemblage studies are characterized by an ontological perspective that assumes the existence of multiple, dynamic ontologies within the phenomena being examined. These studies consider material, discursive, affective, and other elements as interconnected units of analysis, viewing them in an open and non-hierarchical manner (de Freitas & Curinga, 2015; Dixon-Román, 2016; MacLure, 2023).

Mazzei et al. (2018) seek to “enact a minor inquiry” by drawing on the concept of assemblage. They propose that assemblage has the potential to disrupt old humanist understandings of an individual subject as a unit of knowledge acquirer and truth-telling. Rather than working with the concept of communication, they use the concepts of *expressions* and *enunciation* which are always a part of an assemblage, thus exceeding a tripartite division of reality constituted by a subject, an object, and representation (p. 312). Another posthuman approach to decenter the human subject comes from Mazzei and Jackson (2016), which they label as “agentic assemblage”. They use a mattress as an agent in their study of how a college student turned her experience of

rape into an activist/art installation by carrying her mattress around campus. They endow the mattress itself with agentic capacity, thus releasing the victim's experience and communication from a bounded subject position.

The second type of posthumanist scholarship that Rosiek et al. identify is cartographic studies. While cartographic studies do belong to the assemblage family, they go further by employing a more dynamic sense of subjectivity and not just cataloguing shifting phenomena. The authors argue that assemblage studies still rely on the idea of a spectator observing events, but cartographic studies instead continuously reshape our perspectives as we engage with them (e.g., Guyotte et al., 2021). Martin and Kamberelis (2013) explain that educational scholars can use tracing and mapping to move beyond traditional representation. By combining representation (tracing) with production (mapping) in research, transformative approaches is sought to transpire: "In other words, whereas tracing can provide rudimentary understandings of teaching/learning processes, mapping is required to understand how the various structures and forces of schooling experiences function together to manufacture particular kinds of citizen subjects and particular kinds of social-political learning spaces" (Martin & Kamberelis, 2013, p. 672).

Lenz Taguchi (2016) uses tracing and mapping together with concept as method, inspired by the scholarly work of Deleuze with Guattari and Claire Colebrook. She constructs the concept of the "Neuro(n)" by "lay[ing] out and follow[ing] the lines of the rhizome on the plane of thinking where the neurosciences connect in multiple ways to the field of education" (p. 216). In the introduction to a special issue of *Qualitative Inquiry* on Concept as Method (2017), St. Pierre and Lenz Taguchi propose that using philosophical concepts in educational research helps avoid repeating outdated ideas "because philosophical concepts do not identify, organize, consolidate, and represent experience under the sign of the concept. Instead, they reorient thought" (p. 643). In addition, they claim that a concept should align with a problem that sparks new ways of thinking to dissolve conventional ways of doing research.

Mazzei (2013), inspired by Deleuze and Guattari's notion of *Bodies without Organs* (BwO), re-examines the concept of "voice". She argues that conventional qualitative research is too focused on a humanist subject, limiting innovation in thought and research design. By applying philosophical ideas, particularly those from Deleuze and Guattari, Mazzei suggests that qualitative research in education can embrace change. Similarly, Lenz Taguchi (2018) employs the BwO concept to develop a novel researcher identity that aligns with a philosophy of difference, going beyond mere interpretation and representation (p. 219).

De Freitas et al. (2022) develop a posthuman cartography that explores how mathematics can be "a powerful force for creative abstraction, enhancing our capacity to imagine new forms of inclusive relationality" (p. 519).

In a similar vein, Staunæs et al. (2023) enacted a postfoundational cartography in which they took documents from archives on diversity work from Danish universities, turned them into word-clouds and subsequently showcased them in a series of online sessions.

Nxumalo (2021) uses a cartographic methodology pairing insights from Black feminist research and posthuman concepts in early childhood education in her effort to reconceptualize the Black child. Rather than starting her inquiry from Black suffering and racist stereotypes, she utilizes the concepts of *Black futurity* and *refusal* to create new possibilities of conceiving black children and their world-making. She puts the concepts to work by focusing on visual and written stories of Black children's meetings with different places. The place-based orientation enacts the posthuman more-than-human concept while remaining within the Black feminist tradition of viewing theory as creation. "Listening to images as Black refusal activates sensorial, temporal, spatial and material-discursive cartographies of Black childhood futurities" (p. 1195). Although Nxumalo does not use the concept of diffraction, the aligning of different thought traditions giving rise to tensions, her research displays the characterization of diffraction.

Diffraction studies

Rosiek et al. describe the analysis of diffraction as a "curated juxtaposition of topics through which meanings become entangled" (2024, p. 228). In relation to cartographic studies, they claim that the approach of diffraction is less concerned with the knowing movements of subjectivity and puts more focus on the emerging tensions of juxtaposed concepts, theories, phenomena, and so on. It is common to read various theoretical frameworks in relation to each other to generate productive tensions that go beyond simple comparison (Taylor, 2016). Similarly, integrating more-than-human phenomena into educational practice is also a prevalent approach (Murriss, 2020).

In science education, Ivarsson (2026) utilizes Barad's theoretical framework to conduct a diffractive analysis of teacher-student intra-actions within classroom settings. She asserts that diffraction serves as an effective analytical tool, allowing broader examination and highlighting significant intra-actions often overlooked in science education, such as the influence of emotions. Similarly, Lenz Taguchi and Palmer (2013) employ a Baradian diffractive approach to investigate reports of ill-health among young girls. Their research apparatus incorporates various elements, including media reports, personal narratives, the authors' own recollections, photographs, images, and websites, to trace diverse intra-actions relevant to their research question and to make informed agential distinctions. Additionally, Lanias et al. (2017) applied diffraction as a methodological tool in training pre-service teachers on theoretical reflection. They contend that traditional theory

reflection may underestimate the resilience of discourses, instead proposing that discourses act as “clusters which pattern the diffraction of theory, and when doing so, point to various discursive conditions for engaging with theory” (p. 539).

Zembylas and Bozalek entertain the distinction between reflection and diffraction yet acknowledge that they also tend to overlap. Drawing mostly on Barad’s method of diffraction, they claim that:

Barad (2007) uses poststructural theory, science studies and physics to consider how the cultural and natural come together by diffractively reading them through each other. From this vantage point, the boundaries between humans and both living and non-living others are reconfigured, with all being seen as contributing to change, and as agentive. In this way separateness, interiority and exteriority and the ontological, epistemological and spatial centredness of humans are queered. (Zembylas & Bozalek, 2017, p. 117)

This quotation from Zembylas and Bozalek, in my view, hits right at the heart of what a diffractive reading entails. Firstly, to read different texts from different disciplines or fields to show how and where they converge/diverge differs from reflection in that they are not taken as viewpoints that in themselves say something about the world that may or may not be of interest for other theoretical viewpoints. Rather, to diffractively read texts through one another (regardless of the texts’ domicile) says something about the world *because* they can be shown to already be entangled, both in ontological outlook and in the enacted diffractive reading. Secondly, the boundaries and separateness that reflection as a method still, in varying degrees, upholds between a particular vantage point (researcher) and the world/data is (sought to be) dissolved by replacing fixed referents (for instance, culture and nature) with phenomena as the objective referent in which the researcher is a part. Let us now turn our attention to the last sentence of Zembylas and Bozalek’s quotation: “In this way separateness, interiority and exteriority and the ontological, epistemological and spatial centredness of humans are queered.” It is not as interesting or tickling as it is telling that the word of choice is “queered” regarding humans no longer being viewed as legitimate epistemological key players of the world. From which point of view, exactly, is it queered? This is a question that I take as also being in serious need of interrogation, next to multiple configurations that come into view through a posthuman lens. For instance, what is denoted by “the ontological, epistemological and spatial centredness of humans” other than a Western trope, and how can we counteract the impact of this trope and accompanying structures from a proposed “queered” position? I contend that new configurations of subjectivity, thinking, and origin follow necessarily from the thought act of queering humans as centered without re-instating the “Human” as a transcendental vantage point, which I argue for in Chapters 3, 4, and 5, which comprise the main body of this thesis.

Posthumanism, education, and Indigenous-decolonial/place-based philosophy

The fourth posthuman approach in education discussed by Rosiek et al. (2024) is Place-based research. This method grounds inquiry within a specific location, aiming to recognize places as agentic entities rather than generic, non-sentient spaces. Posthuman research that emphasizes place as agentic often draws from Indigenous and decolonial philosophies (Rosiek et al., 2024). While this thesis does not directly address place, I give an account of this approach to show that more-than-human ontologies stem from multiple Indigenous philosophies, focusing on the connection between these and posthuman approaches since Indigenous place-based philosophies lie outside the scope of this thesis.

Nxumalo and Cedillo (2017) use posthumanist philosophy, different Indigenous onto-epistemologies, and Black feminist geographies to disrupt “taken-for-granted anthropocentric narratives of ‘knowing’ a place” (p. 108). A similar approach is adopted by Nxumalo and Peers (2024), who weave their own experiences into the process of theorizing, utilizing multiple disciplinary tools, including Indigenous feminism and critical posthumanism.

In the field of Human Computer Interaction (HCI), Ciobanu (2026) employs more-than-human perspectives paired with place-based walking to design technology that cares for nature (see also Dixon-Román and Parisi, 2020).

Mark Jackson (2017) suggests the possibility of combining post/decolonial and posthuman philosophy, as both are “other-oriented” (p. 20) and thus open to a new epistemic and ontological evaluation of the human and its others. Zembylas (2018) argues in a similar vein, claiming that posthumanist perspectives, “even critical ones like Braidotti’s” (p. 264), require the influence of decolonial perspectives to forcefully intervene in and change the remnants of colonial practices within higher education and pedagogies. He consults Sylvia Wynter’s decolonial philosophy both to suggest a combination of decolonial philosophy and posthumanism (2018) and to propose that affect theory expands to include “racialized affects” (2021). Kaiser and Thiele (2017) employ Wynter’s notion of origin stories in terms of “species memory”, drawing on Wynter’s historiographical model that starts in the wake of 1492, and argue that Wynter’s theory makes space for a “species-inclusive” origin story that accounts for the human species “beyond the exclusivist, exceptionalist and speciesist understanding of human as ‘Man’” (p. 404). Snaza and Singh (2021) put Wynter’s distinction of man/human to use in their effort to initiate a discussion about decolonizing the university. They claim that Western education has been, and still is, tilted towards the humanist/Eurocentric Man, rather than working as a vehicle for the human to grow and flourish. A thorough decolonization of the curriculum strives to abolish the Eurocentric Man “while generating non-Man ways of performing and practicing the human” (Snaza, 2019, p. 134). Efforts to decolonize the

curriculum are also found in science education. Higgins (2016) draws on the philosophy-physics of Barad and the Indigenous science of Cajete to make room for ontological pluralism. In literacy education, Truman (2019) reads Wynter's historiography of Man together with posthumanist notions of the inhuman. She employs a "frictional reading" of the posthumanist concept of the inhuman with Wynter's hybridity to change the understanding of literacy from within rather than inserting marginal views into the dominant paradigm. A refusal to start off from denigrating labels attached to non-white people to change the terrain of literacy is enacted. A combination of posthumanism and Indigenous philosophy is likewise enacted by Jones and Hoskins (2016) while admitting the tensions between them.

Rose (2019) employs Wynter's philosophy to enact an ontological understanding of anti-black racism in America, proposing that "change is twofold as it involves changing both representation and the culture that instructs" (p. 30). For this reason, Rose proposes that interventions in education and curricula, such as Critical Race Theory, lack an understanding of the ontological foundation that birthed Western Man, and invokes Wynter's historiography from which knowledge, being, and power, as we know it, stem from 1492.

On the other hand, we find posthuman scholars who suggest that a combination of the two isms results in a colonial practice itself, in that they rely on different ontological understandings of the world and that an attempt at merging the two would amount to repeated colonial appropriation. Hird, Predko and Renders (2022) claim instead that we must "take seriously the impossibility of decolonizing posthumanism insofar as humanism's legacy is integrally tied to ideologies of colonization" (p. 4). They suggest that posthuman scholars should try to "reverse the colonializing gaze" by engaging with indigenous philosophies rather than succumbing to an "add and stir" approach (p. 11).

Bignall (2020) also claims that indigenous philosophies cannot be incorporated within posthumanism because they precede posthumanism by millennia, and, furthermore, that move would be likened to a continuation of colonial practices. Indigenous philosophies and knowledges should instead be placed next to critical posthumanism, and thus, combined, they can contribute to a transcultural rejuvenation of ancient and modern notions of humanity and ecological cosmogonical living together. Together, indigenous philosophies and posthumanism can alter our conceptualizations of "human" and "humanity" and in this vein, Bignall proposes the neologism "alter-humanism" (2020, p. 15). Alter-humanism, Bignall explains, "would register alterity in two main ways"; first, in offering a worldview that breaks with the Western capitalist infused worldview of coercion, scarcity, and racial taxonomies; and second, in the uptake of multiple and differing cultural descriptions of living in relational terms within our current imperial condition.

Much of the critique fired against posthumanism concerns the proposed "new" orientation toward more-than-human ontologies long enacted by

Indigenous philosophy and living practices (e.g., Todd, 2016). Tuhiwai Smith et al. (2018) point out that when Indigenous thinking is co-opted by Western perspectives, it frequently undergoes massive simplification pertaining to the relationship with nature and place.

From the works reviewed, we detect a common theme in both positions in the refusal of a simple incorporation of other epistemologies, worldviews, and liminal subjects into a hegemonic Western epistemology. They differ, however, in their respective proposals of how a disruptive practice can materialize. On one hand, scholars do see an opening for posthumanist thinking to be combined with decoloniality and Indigenous onto-epistemologies, whereas on the other, claims are raised that a combination amounts to a simplistic “add and stir” approach, which can be likened to a continuation, albeit in a well-meaning but ignorant guise, of Western colonialism.

Wynter’s decolonial thinking is a combination of de-linking and creation from both within and without, which suggests that she is closer to the first position in seeing an opening for theoretical collaboration rather than keeping with the dichotomy of “dissidents” and “celebrants”, which is a product of Western colonization. In this thesis, I delve into the *ontology* of Wynter’s philosophy to ground how a reorienting of thought can occur; thus, exceeding only discursive understandings.

Entryways of this thesis

The texts discussed in previous sections engage with the central issues addressed in this thesis, specifically those concerning subjectivity, thinking, and origin stories, both implicitly and explicitly. This thesis aims to further develop and critically analyze the idea of the subject, considering both its current form and how it may evolve within posthumanism. Similarly, it investigates what defines thinking by expanding on its core elements. Drawing inspiration from Wynter’s scholarship, I suggest a revised ontology that reflects my broader perspectives on subjectivity and thinking.

Next, I will highlight key tensions and points of agreement from the educational posthuman texts cited above, which serve as important avenues for expanding my overall project.

1. Although posthumanism discards the trope of a Western humanist subject, what surfaces in its place can sometimes be interpreted as a new universal point of view in which relationality is foregrounded rather than specific parts of particular relations. I align with a relational ontology; however, I emphasize the importance of interrogating certain aspects as a way of making this relationality visible and proposing changes

in our philosophical and educational knowledge practices/production. Hence, I argue that posthuman philosophy/theory in education will benefit from my expansion of the subjective realm.

2. I argue that an elaboration of the connective tissue between different levels of abstraction pertaining to the human subject is needed to create space for thinking differently. To make this case, I, firstly, propose that the subjective realm grows within posthumanism when invoking materiality and insights from natural science in that our thinking undergoes change when proposed to decenter the cognizing human subject (Article I); secondly, I diffractively read Deleuze's and Arendt's respective interrogations of the notion of thinking to zoom in and out on its constituents (Article II); and, thirdly, I draw on the philosophy of Wynter to assume an origin made up of two sets of codes, genetic and cultural, that are always entangled yet analytically somewhat separated to ease our endeavor to respond to present societal problems.
3. The ontological premise that non-human entities are entangled with humans. From the examples above, I make a case for the expansion of the human realm *because* of the ontological premise that humans are not severed from materiality by examining how that entanglement can be understood in both philosophical and educational contexts. I use the examples of AI, algorithmic reading, Wynter's two sets of codes, and origin stories to illustrate said entanglement.

The thesis' key concepts

In the previous sections, I examined posthuman philosophy, posthumanism and education, and posthuman education in relation to decolonial and Indigenous philosophy. Additionally, I outlined the entry points of this thesis based on these discussions. Now, I will elaborate on the key concepts of this thesis that I have chosen to highlight as a result of my primary research. These concepts further position the thesis within the tradition of posthuman thought, which I both align with and expand. The key concepts of this thesis are *subjectivity*, *thinking*, and *origin stories*.

Subjectivity

In Article 1, I engage in a conversation with scientist and literary scholar Katherine Hayles to show how subjectivity grows in scope when posthumanism is enacted within philosophy and education. With *subjectivity*, I refer to a self-conscious experience of the world enacted from multiple points of view. In this thesis, *what it is like* is synonymous with subjectivity. Subjectivity should not be confused with identity or a quest to find out what a subject *is*. I am thus not putting forward a theory of subjectivity; rather, I am theorizing with subjectivity in posthumanism from a perspective that is relational and always in flux, which makes it a pedagogical problem.

I align with the posthuman perspective that the subject is inherently entangled, rather than an isolated or self-sufficient entity. However, I contend that the entangled subject evolves significantly within posthumanism, thereby expanding in both scope and significance. Our cognitive processes undergo notable changes when traditional “human” thinking is rendered obsolete and alternative approaches are suggested. Adopting new modes of thought leads to transformative outcomes, especially when “human” thinking is considered overrated or anthropocentric. I conceptualize subjectivity as a process, placing relational dynamics at the forefront; these relations may encompass both human and non-human entities.

To reiterate: subjectivity, *what it is like*, entails a self-conscious experiencing and thinking that depends on the external world, and other dwellers therein, to come into being, yet can be analytically distinguished and interrogated as internal in relation to our external world.

Thinking

In my second article, I discuss the notion of thinking with philosophers Hannah Arendt and Gilles Deleuze. Thinking is closely tied to subjectivity in this thesis. *What it is like* is also a matter of *what it means*. To ask what something means suggests that we have come across something unfamiliar that we cannot yet identify and represent. Something in the world excites our senses (Deleuze), but we are not quite sure how and why. Or we recognize something, but we are still unsure about what it means, and we might resort to abstracting patterns. The search for meaning and the abstraction of patterns/different levels are two instances of how I use the notion of thinking in this thesis. Thinking cannot thus be measured as an inherent quality, as some people claim we can do with, for instance, “intelligence”, since thinking is always in movement, contextual, and sensitive to external impact. But it can be cultivated, exemplified, and shown, and in this regard, thinking and intelligence do come closer.

Thinking is, on par with subjectivity, the search for meaning, patterns, and different levels of abstraction and flow from different contexts. In relation to

thinking, subjectivity is less fleeting and more tied to points of view that usually move at a slower pace than the acts of thinking. What does this mean? Firstly, thinking is an act that takes place in isolation from other people *in the first instance when it is enacted* (Arendt). In thinking, we draw on imagination which recognizes patterns in the world that have been previously encountered but goes further in that the search for meaning can distort these patterns, turn them on their head, rip them apart, and construct new ones with the blink of an eye. In the act of thinking, we are not dependent on other people for its actualization, which is a condition for the relational actualization of subjectivity. Secondly, subjectivity, to be open and relational, as I utilize it here, cannot distort or disregard meaning that has been called into question by others without losing the worldly relational dimension. In what I call *the second instance of thinking*, we can draw on it in public affairs and respond to the call of others; however, then the first instance of being in the act of thinking itself has turned into a temporary “frozen” product of knowledge (of what something means) that at a later point in time is conveyed to others. In other words, we are back in the relational mode of subjectivity. Deleuze’s notion of thinking bears similarities with Arendt’s in terms of the search for meaning rather than knowledge or facts. They differ, however, in their respective views on what necessitates the act of thinking. The pre-requisite of solitude for the act of thinking to occur is not a condition in Deleuze’s philosophy. I discuss this further in Chapter 4.

Origin stories

Origin stories populate our (common) world. A simple question, such as “Where do you come from?” or “Why did you choose to study philosophy of education?” seeks to draw something out from someone to better understand the person in question. Most often these kinds of questions are “innocent” and seek to establish common denominators or frameworks for understanding both commonalities and differences. Other times, questions of this sort seek to establish an origin from which firm identities grow and gain their saturation. Origin stories are also largely associated with theological cosmologies found in, for instance, Christianity and Islam, with inscribed moral laws and a just way of life. Perhaps most of us today living in a largely secularized Western society would say that we do not live by origin stories of any sort; rather, we live by class, identity, ideology, ethnicity, and other social affiliations in which we have some sort of freedom to be autonomous and fight for our rights to be who we are. To give an example: let us say that one female feminist grounds her political affiliation in her womanhood, that is, experiences of being discriminated against as a woman, and as a result of that seeks to elevate the position of being a woman, whereas another female feminist seeks political affiliation on the basis of personhood in which the femaleness of her identity is sought to be weeded out to be considered a full person. Both examples draw

on origin as being fundamental, either womanhood or personhood. The origin of the examples is tied to both body and experience. That is, one's body has been perceived as something in the pejorative which made one ground the experience and fight in being a woman, whereas the other found the ground and fight in being a person. A woman and a person come with a history.

Origin stories, as understood in this thesis, follow philosopher Sylvia Wynter, for whom the creation of origin stories is a biological-symbolic mechanism stemming from our ontological human hybridity of being both *bios* and *mythos*. Wynter does not posit a prior material ground that later becomes accessible to cultural inscription; she suggests a new origin story that she calls the *Third Event*, building on Ilya Prigogine's thesis of the first event of the birth of the universe and the second event of the emergence of biological life. The Third Event is the emergence of humans as being *hybridly human*, constituted by biological/genetic and symbolic/cultural codes without a pure base.

Thus, an origin story as used in this thesis is both a story that gains its legitimacy through referring to a prior grounding, a point of origin, from which ontological claims are being made, *and* a story in which the posited prior grounding is already a relational phenomenon based in hybridity (the Third Event). This relational ground runs through all my three articles in this thesis.

Wynter is moving beyond old binaries by de-linking herself and her writing from a Western philosophical tradition. How is this not just another creation of a dichotomy? Origin stories are a transcultural phenomenon and thus part of the human fabric of life. This is why Wynter does not want to speak in terms of colonizer/colonized since that would be to buy into the Western origin story, which created the dichotomy in the first place. Instead, we need to de-link our theorizing from this history in order to create something new. Different levels of abstraction are at play here. To posit an ecumenical (universal) human suggests that we all have something in common by being humans. As we are all human beings, we are all hybrid and storytelling creatures. The origin stories we tell and live by vary, transform, and evolve. Plurality and multiplicity underwrite origin stories, not relativism and sameness. Wynter's proposed Third Event is a *discontinuity* from the purely biological realm.

Origin stories are the stories we live by that make us reason, feel, and act in particular ways. Origin stories contain different genres of being human and work as fundamental groundings/scripts that legitimize different worldviews and accompanying desirable behaviors.

Ontologies

What runs through all the accounted for texts above is the turn to ontology. The question of being, what exists, is part and parcel of a posthuman inquiry.

I have identified three different labels of the proposed new ontology in my literary review of posthumanism in education: *materialist*, *relational*, and *immanent*. Braidotti explains that a material ontology is one that “sustains the process of constitution of the sorts of subjects who actively desire to reinvent their interaction as a set of transformations within a commonly shared matter and to draw our pleasure from that mode of affirmative relation, not from the perpetuation of familiar regimes and dominant values” (p. 30). A common shared matter, that she defines as *zoe*, constitutes a flexible origin. A relational ontology is explained by Bozalek and Zembylas (2023) as an ontology that “holds that relations pre-exist entities, subjects and objects, which only come into being through relationships. The idea of an independent, discrete, intentional and propertied individual human subject is troubled in a relational ontology, which sees the world as inextricably entangled” (p. 2). A different definition of ontology provided by St. Pierre (2024) explains an immanent ontology as “not a relational ontology in which separate things exist in relation, and the relation instead of the things is the focus. In an ontology of immanence, there are no separate things” (p. 585). These three definitions clearly overlap yet through the quotations we can tease out three different focal points: *shared matter*, *relations*, and *becoming*.

In this thesis, I adopt a relational ontology inspired by posthumanism, Hayles, and Wynter. I focus on parts of different relations that are temporarily and analytically drawn out, and, thus, not viewed as separate. It is *through* the entanglement that we can draw out these different units of analysis. Moreover, the relationality likewise becomes visible when analyzing their multiple parts, which is why I have chosen to highlight three areas of interrogation.

Nonconscious and conscious cognition

In this chapter, I discuss Article I in depth by showing how my developed theoretical lens can be further used on problems and phenomena not explicitly addressed therein, such as the chatbot and origin stories. In the previous chapter, I outlined my definition of subjectivity as *what it is like* from a specific point of view anchored in a (common) world. Subjectivity becomes both a symbolic placeholder and a materially anchored point of view which continuously pushes the boundaries of the trope itself, thus making up an alternative to the Humanist subject and simultaneously constructing a posthuman subject. First, I discuss the philosophy of Katherine Hayles drawn from her 2017 book, *Unthought: The Power of the Cognitive Nonconscious*, to make my case that nonconscious and conscious cognition are always entangled with subjectivity and should be analytically elaborated with material “underlying” mechanisms to avoid the stagnation and thus instrumentalization of the subject taking hold. Following that, I diffractively read Hayles’ understanding of cognition with posthumanism’s denial (according to Hayles) of the importance of cognition and show how they converge and diverge in a productive way. In the last section of this chapter, I discuss how my expanded notion of subjectivity drawn from Hayles and posthumanism constitutes a theoretical lens appropriate for interrogating contemporary phenomena such as the chatbot and digital tools in education.

A layered consciousness

In *Unthought: The Power of the Cognitive Nonconscious* (2017), prominent literary scholar and scientist N. Katherine Hayles explores the cognitive nonconscious within technical systems, humans, and non-humans. The human/non-human binary is dismantled by Hayles and replaced by the more well-adjusted cognizers/noncognizers; humans are now sharing an abode with recursive programming, bacteria, and unmanned vehicles, to name but a few.

To be a cognizer, Hayles explains, entails being attuned to one’s environment and displaying adaptability, flexibility, and evolvability. Cognition, for Hayles, is always a process: “This implies that cognition is not an attribute, such as intelligence is sometimes considered to be, but rather a dynamic unfolding within an environment in which its activity makes a difference” (2017, p. 25). For instance, a computer algorithm is not cognitive

when scribbled down on a piece of paper; it becomes cognitive when inserted into a platform that understands and reads the set of instructions in order to proceed. This process also implies choice, such as answering to a binary question. Without choice, interpretation cannot take place. Hayles also exemplifies cognition as a process with a tree moving its branches to maximize its uptake of sunlight. To make a choice is thus not equivalent to exerting free will; rather, both the algorithmic cognition and the movements of the tree depend on underlying conditions programmed into their genetic codes (Hayles, 2017, p. 25).

Cognition and posthumanism

Hayles calls new materialism a “promising development for reassessing the traditional humanist subject” and goes on:

After the baroque intricacies of the linguistic turn, these approaches arrive like a burst of oxygen to a fatigued brain. Focusing on the grittiness of actual material processes, they introduce materiality, along with its complex interactions, into humanities discourses that for too long and too often have been oblivious to the fact that all higher consciousness and linguistic acts, no matter how sophisticated and abstract, must in the first instance emerge from underlying material processes. (2017, p. 65)

The promising prospect of posthumanism notwithstanding, Hayles declares some limitations in terms of the complete absence of discussions pertaining to “consciousness” and “cognition”. She acknowledges that this absence is most probably hinged on the project to decenter the humanist subject that traditionally has been the unquestioned locus of superior cognitive abilities; thus, why re-insert the self-contained subject yet again in whatever shape? To reason along these lines is nothing short of a contradiction, Hayles explains, in that “only beings with higher consciousness can read and understand these arguments, yet few if any new materialists acknowledge the functions that cognition enables for living and nonliving entities. Reading them, one looks in vain for recognition of cognitive processes, although they must necessarily have been involved for these discourses to exist at all” (2017, p. 66). To separate matter and cognition in this manner, Hayles continues, does not strengthen the new materialist claims but rather weakens them since the grounding functions of material processes give rise to the extended human consciousness. Put in other terms, the decentering of the human subject is not equivalent to erasing different kinds of material agency or glossing over different levels of interaction. By turning to the scientific field of cognitive biology, Hayles seeks to widen the scope of cognition in itself; cognition understood within cognitive biology includes consciousness, unconsciousness, and nonconsciousness. This entails both that materiality cannot be severed from cognition and that different levels of material agency

cannot be ideologically evened out. This is important for Hayles to point out in that she faults some new materialists for committing this error due to their Deleuzian outlook:

Without such corrections, the enthusiasm for all concepts Deleuzian threatens to ensnare some of the more extreme instances of new materialism in a self-enclosed discourse that, although it makes sense in its own terms, fails to connect convincingly with other knowledge practices and veers toward the ideological, in which practices are endorsed for their agreement with the Deleuzian view rather than because they adequately represent acts, practices, and events in the real world. (2017, p. 67)

I will subsequently return to what the “real world” might denote, but for now the need for fleshing out Hayles’ proposed corrective to new materialism is more pressing.

To ease her analysis, Hayles engages in discussions with prominent new materialists with a special focus on the notions of ontology, evolution, survival, force, and transformation. Let us take a closer look at ontology and force. Hayles starts off by calling Barad an “outlier” within new materialism since Barad’s ontology is grounded in quantum entanglement, thus granting matter agency that is furthermore posited to have a bearing on human reasoning and life. However, Hayles finds a gap in Barad’s philosophy pertaining to precisely how quantum entanglements and human affairs are connected; the “connective tissue” is absent. She asks: “Even if the fundamental level of reality is intraactional, does that necessarily imply that cultures are?” (2017, p. 69). Hayles proposes that nonconscious cognition serves as a corrective to this lack. The example she invokes to substantiate her claim comes from cognitive neuroscientist Stanislas Dehaene and his work on conscious and nonconscious processes. Dehaene and Naccache (2001) proposed the “Global Neuronal Workspace (GNW) Hypothesis,” emphasizing the significance of phenomenal subjective data gained through verbal reports of introspection (see also Mashour et al., 2020). Although reliance on introspective data does not represent a superior approach for accessing the internal dynamics of consciousness, it should nonetheless be regarded as an important element within this field of study. Nonconscious cognition, as explained by the theory of GNW, has been recorded through empirical visual masking experiments using fMRI. During visual masking, a target stimulus is swiftly displayed on a computer screen, and either before or after the target appears, another stimulus, known as the “mask”, is flashed nearby (Dehaene, 2008, p. 22; Hayles, 2017). Provided that the experimental setting meets the right conditions, the mask stimulus makes the target stimulus invisible to perception. Even when subjects report that they don’t perceive the target, nonconscious cognition has been shown to be active and responding to the target, giving rise to subliminal processing in the brain. Thus, nonconscious cognitive processes feed forward information that influences perceptions.

When it comes to the workings of nonconscious and conscious cognition in relation to learning and education, Dehaene (2020) explains how making use of mental internal models, which we rely on to make sense of our surroundings, is acquired through learning. Although these mental models, for the most part, remain unconscious, our brain internalizes new information about reality, without which sensory inputs would be devoid of meaning. These findings, I claim, are congruent with the level of subjectivity and thinking that I interrogate in this thesis. Obviously, I am not presenting scientific findings harvested from elaborate and numerous experiments; however, the internal models, processes of internalization, and learning from our reality are similar to my proposed components of thinking and the production of origin stories, relying on overt “data” and explorative theoretical contribution/expansion. As aforementioned, Wynter’s notion of origin stories⁴ is constituted by our two sets of codes (bios-mythoi/genetic-cultural) that entwined gives rise to the hybrid human; a hybridity exceeding binaries such as nature/culture, nature/nurture, subject/object, etc. By reading Hayles, Dehaene, and Wynter through one another, subjectivity, thinking, and the creation of narrative origins, especially those that work as a point of necessary beginning with accompanying reductionist and instrumentalist views, opens the possibility to draw insights from social science and philosophy that, moreover, can contribute to neuroscience with/in education.

Hayles’ overarching point is that conscious cognition is just a piece of a bigger whole, an assemblage, if you will, and a proper exploration of consciousness should include our nonconscious processes. Hence, Hayles argues that nonconscious cognition can serve as the presumed missing connective tissue in Barad’s scheme in that it presents a firm and empirically anchored explanatory model. Although Hayles grounds her proposed corrective in neurobiology, her argumentation bears similarities to the way some posthumanists employ the notion of force.

Force(s) becomes an important concept within new materialism/posthumanism due to its Deleuzian cachet. But what exactly is force? Hayles points out that there are different kinds of forces that are extensively investigated within various disciplinary fields. On the molecular level, we have four forces: weak, strong, electromagnetic, and gravity, whereas in chemistry, “other kinds of forces come into play in solutions and suspensions, leading to the possibility for self-organizing dynamics to come into play for far-from-equilibrium systems” (2017, p. 80). She recognizes that non-linear dynamics is preferred by new materialists over linear dynamics due to its unpredictability, as it gives rise to non-deterministic material agency, which is part of the new materialist ontological program. From this, Hayles concludes that since the reliance on non-linear dynamics disregards the empirical existence of linear dynamics, new materialist reasonings are

⁴ This concept is further discussed in Chapter 5.

ideologically driven rather than empirically anchored. It must be of crucial importance, Hayles continues, to account for the distinction between material forces/agencies that are deterministic and non-deterministic, in order not to become encased in ideology. Furthermore, a curious contradiction emerges when deterministic forces are disregarded, as this privileges the living over the non-living, a dichotomy that new materialism seeks to transcend (Hayles, 2017).

So, now we understand what Hayles refers to with “the real world” above: it is for one’s claims to be empirically anchored and verifiable. However, she also acknowledges that there are several different standards of estimation, so it’s not as straightforward as a cursory glance might suggest. What is deemed “real” in one domain might be warded off as “mere ideology” in another (not to mention contentions present within disciplines). Moreover, it is not just problematic that there are always people in charge of determining the “realness” of certain claims, but also when claims from “a subject” are not taken as empirical by referring to the subject as an unqualified source. To be clear, I am not saying that anything goes; we do need standards for adequate estimation. What I *am* saying is that what is deemed to be empirical *enough* is and must be a lively discussion.

Let us take a closer look at how new materialism/posthumanism has construed the notion of force. In the influential anthology mentioned above, Melissa A. Orlie discusses how she takes Nietzsche to be a “founding figure” of impersonal materialism. Nietzsche’s (in)famous notion of *will to power* implicates the dissolution of discrete substances in favor of impersonal forces that constitute each and every life. Although this willing creates and subdues, it is an impersonal ever-shifting creative flow that stems from the body as material, concrete, and living, and not from a sovereign mind with an ability to tame this flow. It is precisely this illusion of a fixed mind severed from the material body as a master of desires and affects that gives rise to existential ills such as *ressentiment*. Orlie words it thus: “In sum, when I refer to the impersonality of will to power, I mean precisely this: at the heart of who we are there are multiple, conflicting drives that represent different senses of the good and aspirations toward the better” (2010, p. 119). So, even though the sovereign “I think” is removed from the equation, our psychic life is still present, pervasive, and vibrant. A telltale of the vibrancy of our psychic life is Orlie’s above phrasing “at the heart of who we are”, pointing to the fact that the “I think” undergoes change rather than being completely annihilated; the change, of course, being the dethroning of the sovereign subject that dislocates a Cartesian substratum, but in its place, another substratum of feeling and living through conflicting desires, affects, despairs, and joys grounded in our body is inserted. The reason I insist on calling it a substratum is not that I take it to be a contradiction – quite the opposite; I see it as a strength within Orlie’s interpretation when highlighted since it becomes a locus for change that is

not *completely* in the hands of reactive and active forces. Let us take another look at how Orlie solves this puzzle:

The short answer is that the body despairs of the body when it cannot bear its own existence or digest its suffering. An aspect of the body – what we come to know as mind or call an ego – refuses to accept its limited mastery over what arises within experience as a consequence of events that befall it. This aspect has a fantasy of itself as master of its experience, although ironically such fantasies of sovereignty arise at just those moments when mastery is most foreclosed. What happens to and within a self occurs without its choice and knowledge, a sure sign of its constitutive weakness and symptomatic of the profound impersonality of ourselves. (Orlie, p. 121)

The subject is the primary locus for becoming attuned with one's different drives and instincts; to feel fully the flow of suffering that is our human impersonal condition. When we take an experienced trauma and turn it into a fixed truth about an unjust world, we cave into a suffocating illusion of mastery, whereas if we head-on feel to the fullest degree the sufferings that befall us, we become wakeful and thereafter in a position to make these experiences our own without fixations and chimeras. It is important to note that this metamorphosis takes place within a subject; thus, we have the power to undergo change, to say "yes" to whatever comes our way, and to transform our sufferings, desires, and joys. The only thing that inhibits us from doing this is the illusion of an ego as master and point of origin, Orlie claims, following Nietzsche. An effect comes from without as a force that imposes itself on the subject, who can choose to embrace it or resent it. In both Hayles and Orlie, then, there is a fixity in the sense of underlying components and dynamics which gives rise to complicated and non-linear dynamics that are not isomorphic with the underlying conditions, and thus not reductive to them, although they depend on them for their existence, at the same time as they also exert influence top-down, as we have seen. I agree with Hayles that within new materialism/posthumanism, there is a reluctance to deploy "worn out" notions, such as the subject and cognition, due to their stultifying history that runs the risk of blocking new concepts in which the "new" ontology resides and unfolds. But it is not a logical necessity to rule out particular notions, or areas of problematization, due to a limiting past, since the "subject" and "cognition" take on new valence within Hayles' framework, bearing productive resemblances, and productive divergences, with both new materialism/posthumanism and the Deleuzian/Nietzschean theoretical corpus.

Hence, the subject does not constitute a transcendent entity; the substratum of an ontological entity of being/substance is replaced by becoming. In Hayles' wording: "Nonconscious cognition is the link connecting material forces to us as subjects, thus serving to deconstruct the illusion of subjects as 'masters...of the very forces that constitute us' without requiring that subjects be altogether erased or ignored as agents capable of political actions" (2017, p. 77).

What does the bot say?

In my third article, I explore taxonomizing practices using Sylvia Wynter's philosophy. I conclude by highlighting the chatbot as a current example that can categorize thinking, learning, writing, etc., in dry, instrumental terms. Since the chatbot didn't exist when I first wrote about Hayles, I will now include it in the discussion on algorithmic thinking and education.

In my first article, I show "how it is possible to understand the posthuman subject on a continuum with nonconscious cognition while retaining the faculty of subjective thinking" (Andersson, 2020, p. 402). I give an example of reading a novel in a "multileveled manner" to illustrate how a posthumanist subject might perceive and be perceived: "First, the act of reading itself elicits emotional responses by way of simulation drawing on the fictive characters. Second, the act of reading elicits cognitive responses by way of interpretation. Third, based on the given interpretation of the text we design a computer program that counts for certain words in the novel which we, fourthly, interpret as a springboard for further analysis" (Andersson, 2020, p. 399).

Through this example, we can see that nonconscious cognition and conscious cognition interplay in ways that are open to numerous interpretations and methodological implications. In my article, I illustrate this point by invoking the example that it is the process of cognition that is important, not the device or the human subject itself. I base my reasoning on Hayles' innovative suggestion that we as posthuman/critical scholars can make use of nonconscious cognition (for example algorithmic reading) that furthermore gives rise to new interpretations, methods, and questions. When reading texts, we can also find instances of nonconscious cognition that are not exclusively a derivative of technical systems. For instance, with the help of algorithmic thinking, we can detect new patterns in a body of text that, in themselves, reveal something about us as readers and interpreters.

For example, let us say that a pedagogue of posthuman literature designs/requests an algorithm that counts for books from female authors based in the rural areas of Sweden. We receive a result in which it surfaces that most female authors based in the rural parts of Sweden are part-time dentists, or that they include a man's name in their book title. Irrespective of which questions surface as stemming from human nonconscious cognition (why are so many of our Swedish rural female authors dentists?), and that is brought into light by non-human cognition, the convergence of unexpected synchronization that can point us to multiple directions should be foregrounded. When we as subjects learn with material/technological agency, "we can approach and/or alter that interplay in numerous ways, while acknowledging that an interplay is always already occurring" (Andersson, 2020, p. 400).

To interpret and describe are two distinct acts that nonetheless often appear conjoined. When we focus on the *process* of cognizing, rather than the

respective technical and human “domain” of thinking, we can see that technical agency, like algorithmic thinking, grows with human agency, and furthermore that they need one another to gain their respective descriptions and interpretations.

As a literary scholar, Hayles’ discussion on the prospects and pitfalls of utilizing digital tools is made in relation to digital humanities. In short, digital humanities is the intersection of humanistic research and digital technology, such as algorithmic reading, big data, text mining, and other data-driven methods. Prevalent within literary scholarship is the discussion on “distant reading” versus “close reading” in terms of research and literary criticism. The example from Hayles of algorithmic reading aforementioned took place in a humanistic literary setting and is not an example of AI. However, the utilization of algorithmic reading, data-driven methods, and the chatbot all require not only digital literacy but, I stress, an interrogation of how these practices inform our ways of thinking and doing research. Circling back to Hayles’ drawing on the neurobiological work of Dehaene, the knowledge of being governed by underlying, nonconscious mechanisms, I suggest, influences our subjectivity in the instance of relating to that fact; a fact that has now become a frozen product of knowledge, to echo the words of Arendt, and that, moreover, prompts an approach from a self-conscious subject. This is why I propose that the connective tissue that Hayles requests from Barad above is not solely found in cognitive biology (the example of Dehaene) but also in social and human sciences where questions of thinking and subjectivity, implicitly and explicitly, prevail.

It is not just education as an institution that runs the risk of being weakened with the emergence of AI, but, more importantly, thinking as an educational endeavor. How our thinking and views on thinking transform with the rise of the chatbot are the burning questions for me. Thus, I have no interest in positioning myself on either side of the far technophile or far neo-Luddite chatbot spectrum; rather, I want to interrogate what the phenomenon of the chatbot *does* in relation to how we think and how we think about thinking, which in turn impacts how we view ourselves as humans. In Article III, I draw on the philosophy of Wynter to show how discussions around AI in education necessarily tap into questions pertaining to the thinking human subject. For example, discerning the discourse around the chatbot in education, whether it concerns its relevance, aid, advancement, and so forth, a human “we” emerges in relation to this technology. Human subjects become entangled with both the discourse around, and the usage of, the chatbot. I claim that this entanglement goes further than a posthuman more-than-human connection in that the impact of this entanglement also pushes “us” to become more than the human that we know since the cultivation of educational skills, such as critical thinking, reasoning, writing, and so on, change in relation to AI. This change is not necessarily bad; I am not suggesting that AI has no place in education – it most certainly does. However, to make the most possible use of AI tools, I

argue, we ought to approach it as already part of human subjectivity and agency, on par with our two sets of codes, meaning that our thinking can expand rather than shrivel if we apply Wynter's framework. In the article, I suggest that preconceptions of human thinking (and other skills sought to be cultivated in education) also constitute how we view artificial thinking/intelligence because a difference needs to be established between them to point out the benefits of AI. Thus, in relation to AI, human intelligence is usually considered to be fallible, fragile, and biased, meaning that a human "we" emerges in which "all folks suddenly end up in the same category" (Andersson, 2024, p. 797). However, as I ask in the article, who is this "we" that is posited in relation to AI if not those who define it, oppose it, develop it, and use it? Although AI is an example of non-human agency (as a category drawn out analytically), it meddles with human agency and our sense of self-referentiality that has a bearing on cultivating educational capabilities. For example, if a distinction is being made between AI thinking and human thinking, then the differences and similarities also describe what "good" thinking entails.

With Hayles, I show how subjectivity grows with posthumanism/algorithmic thinking, and with Wynter, I add another dimension in showing how the chatbot can give rise to taxonomizing practices in relation to thinking. In other words, to discern potential taxonomizing practices surrounding the chatbot moves beyond interrogating assessment practices within higher education (which, of course, remain of crucial importance) and points toward what thinking as practice is and should/could be.

With algorithmic thinking and the chatbot, I show the entanglement of subjectivity, thinking, and origin stories by foregrounding how *what it is like* expands; that thinking about thinking envelops practices/agency of the chatbot; and how origin stories in terms of what a "proper" thinking in higher education and beyond looks like underpin these ideas. Next, I will delve into the concept of thinking through the philosophies of Hannah Arendt and Gilles Deleuze.

Thinking and common sense with Deleuze and Arendt

In the previous chapter, I posited that subjectivity broadens within the context of posthumanism, suggesting that subjectivity involves a perspective through which we derive meaning and engage in thought alongside other entities. In the forthcoming chapter, I will delve further into Article II, where I conduct a diffractive reading of the philosophies of Gilles Deleuze and Hannah Arendt, with a particular emphasis on their views concerning thinking, common sense, and judgment. Initially, I will explicate Deleuze's conception of thinking, which aims to transcend common sense. Subsequently, I will explore Arendt's perspective on thinking, which is intrinsically linked to common sense and judgment. I will demonstrate how their distinct viewpoints engender productive tensions, collectively contributing to a framework for philosophical inquiry and higher education.

Images of thought

Gilles Deleuze's philosophy critiques *the dogmatic image of thought* in Western philosophy, which includes three main components: a naturally upright thought, an in-principal natural common sense, and a transcendental model of recognition (2014, p. 177). Deleuze argues that these elements are pre-philosophical as they constitute the inner conditions required for thinking without being subjected to scrutiny themselves. Deleuze suggests that there is a connection between thought and truth that originates from a transcendent assumption. Within this framework, a structure of thought based on common sense is equated with thinking; however, it mainly captures recognition and a reduction to sameness. When the object of thought is presumed to be already known, we are in the realm of identity in which every cognition is a return of itself: a re-cognition (Zourabichvili, 2012, p. 47). This is why the presumed link between thought and truth requires transcendence that works as an already designed outside: "It is thus easy to see that a 'truthful' world is inevitably surrounded by a transcendence that guarantees it an identity, precisely because this identity can only be a presumed identity, thought giving an a priori form to what it does not yet know" (Zourabichvili, 2012 p. 47). Within recognition, there are only two tools of estimation in play: knowledge and error, which furthermore gain their tenor from the representational field already in place.

How do we escape this tendency within philosophy? First, classical philosophical notions such as “grounding”, “necessity”, and “truth” are still kept and elaborated on by Deleuze. Grounding within the dogmatic image of thought is taken as a beginning, a reliable point of origin from which thinking is derived. Grounding, for Deleuze, can never be fully known in that it is pre-philosophical, a transcendental field of forces, a plane of immanence. We must still begin, but repeatedly. We must repeat to begin since the world is movement; it cannot be encased within a unique point of origin. So, thinking, for Deleuze, must differ substantially from thought perceived as a general faculty, i.e., the dogmatic image of thought. The notion of thinking that Deleuze creates is a violent encounter with an unknown object. We can thus never recognize an object of a violent encounter that forces us to think since that would pull us right back into the field of recognition, within which we merely re-present to ourselves items that we have already stacked on our shelf of knowledge. To accumulate knowledge understood as definitive answers to already posed questions is not equivalent to thinking, in Deleuze’s philosophy. To acquire knowledge is not devalued *per se*, it is just not thinking. Thinking is always movement; it is creation and interpretation *ad infinitum*. Or as Zourabichvili poignantly puts it: “On the other hand, when thinking assumes the conditions of an effective encounter, of an authentic relation with the outside, it affirms the unforeseeable or the unexpected, it stands on a movable ground that it does not control, and thereby wins its necessity” (2012, p. 57).

How does a proposed known and reliable foundation necessarily lead to recognition? Is it not possible that from a firm starting point, new concepts can still be developed? The issue, Deleuze suggests, is again one of transcendence. When we establish a beginning, we refer our thinking back to that initial grounding from which other concepts emerge, and this grounding subsequently becomes the condition of necessity.

Still, the representational field of our dwelling must constitute an anchor point from which we can even begin to determine potential novelties of thought. If a breakage from the familiar mundane, common sense, is a condition for the violent encounter with the unknown to emerge, are we not just replacing one postulate of recognition with another postulate of recognition: the violent shocking one? When we discard the postulate of recognition in which necessity is hinged on that ground, for instance, the subject, and instead place the condition of necessity in the outside world, i.e., in the transcendental field of forces, we no longer claim to master necessity or the beginning in that the transcendental field is not governed by the subject. The conundrum is thus sought to be resolved by affirming the relation between an outside and thought that gives rise to what it thinks (Deleuze, 2014).

As we saw in Chapter 3, the Deleuzian notion of force has been appropriated and utilized frequently in posthumanism as a way of breaking free from all traces of transcendence, particularly pertaining to the sovereign human subject. I showed that Hayles deemed that theoretical move to be ideological, whereas with Orlic we could see that force takes on a specific

valence that does not originate in natural science. Although I believe that Orlie further qualifies the usage of force in posthumanism, and escapes the critique fired from Hayles, it remains underdeveloped when tied to a diffuse, ubiquitous, and quite mysterious “elsewhere”, especially in relation to education. Another example from education that highlights my point comes from Mazzei et al. (2018). In the article “Enactments of a Minor Inquiry”, they use the agentic assemblage to dissolve the humanist subject. The assemblage connects multiplicities from material, semiotic, and social flows and “the three orders are entangled on the same plane, not on separate levels, and act on and produce one another simultaneously” (p. 312). I agree with this ontological framework. At the same time, I advocate for a self-aware subject who uses imagination, assigns meaning, and exercises judgment. The subject I propose fits with posthuman philosophy because it is not conceived as separate from the world. Skills like imagination, attributing meaning, and judgment are not tied to any fixed objective; rather, these capabilities can manifest in different ways, and their outcomes are unpredictable.

Like the call within posthumanism to reorient thought, I approach “old” analytical categories, trouble their underlying foundations, and put them in motion to *think with*. The events and assemblages mentioned above can, thus, temporarily be captured (an agential cut) through my chosen concepts without committing the representational sin. A form of subjective agency is activated when considering ideas like the plane of immanence or the influence of underlying neural activity. These impersonal forces, which do not originate from individual people and cannot be directly experienced, are from which our sense of self arises (Andersson, 2020). According to Mazzei et al. (2018), “it is always an assemblage that produces utterances” (p. 307). Therefore, a shared understanding can be developed from a subjective perspective constituted by an assemblage.

Signs, the search, and spectators

The main problem for Deleuze, which runs throughout all his writings, is to release difference in order to think differently. Not difference as separation, but difference in itself. In my second article, following Bogue (2004), I explain that difference entails transfiguration and is immanent within the actual. So, within the dogmatic image of thought, difference means different *from*. For instance, I say that Lars is different from Laila and conclude their difference because they are two separate individuals, thus drawing my conclusion from the distance between them, making it a result of, perhaps, gender difference, or something else that I already recognize. Through this move, I close myself off from seeing the immanent difference that they enfold, and instead solely see their difference conditioned by a gender regime. What forces thought, what constitutes a real encounter and makes sense, is the sign: “The explicit and conventional significations are never profound; the only

profound meaning is the one that is enveloped, implicated in an external sign” (Deleuze, 2000, p. 16).

Signs, sense, and the event amount to the same thing in Deleuze’s writings. To encounter a sign is always an event that makes sense; not a common sense, but a sign-sense that is implicated and therefore must be explicated in order to liberate pure difference. The sign enters our representational field, common sense, by implicating that which we cannot represent. It is imperceptible in that it is not a part of our world of recognition. Thus, when the sign expresses itself, it entails an encounter with different points of view that enter into communication with one another.

In *Proust and Signs* (2000), Deleuze interprets Proust’s *Search* as an apprenticeship, a learning process that the protagonist undergoes through his numerous encounters with different signs:

Learning is essentially concerned with signs. Signs are the object of a temporal apprenticeship, not of an abstract knowledge. To learn is first of all to consider a substance, an object, a being as if it emitted signs to be deciphered, interpreted. There is no apprentice who is not “the Egyptologist” of something. One becomes a carpenter only by becoming sensitive to the signs of wood, a physician by becoming sensitive to the signs of disease. Vocation is always predestination with regard to signs. Everything that teaches us something emits signs; every act of learning is an interpretation of signs or hieroglyphs. Proust’s work is based not on the exposition of memory, but on the apprenticeship to signs. (2000, p. 4)

Now we can approach signs as part of a furnished world (although they, through their appearance, re-furnish it). They can be tangible like wood and are thus more than a mysterious flicker of chance. Signs still retain their fortuitous nature, but as part of a (somewhat) coherent apprenticeship. The protagonist of the *Search* encounters signs that are out of his world, yet they assail him pointing in the direction of an unknown world that nevertheless appears to be within reach. It is also this appearance that drives the protagonist to get to know the signs to fully enjoy that which they are enfolding, and pushing his thoughts to go further. Thus, he must ask: to which worlds do these signs belong? To find out, the protagonist must embark on a journey that inevitably takes him far from home, but with his thoughts and memories safely kept in his suitcase. Thinking in terms of interpreting signs thus seems to suggest that at least two different worlds meet: my own which harbors my thoughts and memories, and the world of another. Next, I will turn to the philosophy of Hannah Arendt to continue the discussion of thinking between worlds.

Thinking between me and the world

Thinking, for Arendt, demands a withdrawal from our common world of particulars. To think is the actualization of an inner dialogue between me and myself in which the search for knowledge is replaced by the search for meaning (Arendt, 1981). Thus, thinking has no foreseeable terminus; it envelops its own goal. However, as I point out in my second article, following Itay Snir (2020), Arendt's concept of thinking contains a dual meaning in that thinking has a liberating effect on the spectator, whose natural dwelling point is within our common world and not withdrawn from it. So, thinking can be actualized in action and speech after the event of thinking, not the process of thinking in itself, which always takes place at a distance from the world of particulars, but as an after-effect that can influence our faculties of imagination and judgment. Hence, it is in the "gap" between an isolated abode of a thinker and the common realm of an actor and spectator that the transformative power of thinking emerges as a force that intervenes and carries the capacity to make a change in the world. A similar "gap" from which the transformative power of thinking emerges within our world of common sense is the Deleuzian sign. Zourabichvili words it thus: "The sign surfaces in a field of representation—which is to say a field of explicit significations or recognized objects—by implicating the heterogeneous or that which escapes representation in principle [...] There is sense only in the interstices of representation, in the gap between points of view" (2012, p. 68). So, the mundane common-sense world in which we partake and interact with others is indeed a representational field harboring concepts that we use to make sense of our world as we know it. However, it is this exact same field that works as an arena for change through interaction with others in which our concepts turn out to be anything but a solid ground or point of necessary beginning. But the goal of this interaction is not solely to direct a critical gaze onto our preconceptions to undergo change; a second step entails "creating a space where a relation to the world becomes possible at all" (Korsgaard, 2020, p. 253).

Thus, what Braidotti insists on throughout all her writings by foregrounding affirmative critique, that is to critique *and* create, is found within Arendt's common-sense dweller. The difference between Braidotti's Deleuzian-inspired notion of affirmative critique and Arendt's theory of thinking and judgment lies in the operative movement of affirmation to dissolve modernist remnants of demarcation lines between the thinking subject and the world, which Arendt's theory seems to maintain. To think, for Arendt, always implicates a withdrawal from the world, and when the world forcefully imposes itself again on the thinker, she does not return to it with new concepts to think, or with new rules of moral conduct to make a better world. The thinking process that has been undertaken is instead instantiated at a later point in time through judgment from the point of view of the spectator, who remains in the world of particulars. However, if we return to Deleuze's

theory of the sign-sense-event, we find that although thinking originates from an outside that forces us to think involuntarily, it returns later through counter-actualizations. To be clear, it does not return as a self-same object of thought that we can utilize as a general tool for thinking, but nonetheless as a further movement drawn from the initial shock. This further movement is what the Proustian apprenticeship is all about; learning to interpret and explicate signs of the different worlds that the protagonist of the *Search* encounters. Itay Snir also brings this point to light in his discussion of a Deleuzian education for thinking:

Nevertheless, while education cannot make sense common, it can make sense in common. The educational encounter's effect does not have to be isolated or momentary, for sense can be communicated, resonating differently each time in a series of repetitions. Unlike knowledge attainment, which requires the subject to accept certain facts as true and to become coopted by the order of which they are part, Deleuzian apprenticeship requires the student to react to the world and to make a difference in it. The knowledgeable can apply what she has learned in the world, but the apprentice learns while acting and acts while learning. The Idea runs through her faculties, shattering their harmony, and then bounces back to the world to affect other people and problematize other things. When she learns to deal with a problem, she passes it on, thereby generating new ones: a key aspect of learning is being able to generate new problems – to swim farther in stormier waters, generating problems for the swimmer as well as for the teacher and others at the beach. (Snir, 2020, p. 101)

Thus, the demarcation line between internal/external (thinker and world) that is maintained in Arendt's philosophy can with Deleuze be understood as the event of re-orienting thought and passing problems on.

Moreover, to point out these similarities is not a suggestion to completely merge Deleuze's philosophy with Arendt's; rather, I aim to keep these similarities in proximity with the tensions between them, which then becomes a fertile ground for further thinking. One of these tensions that I discuss in my second article is their respective views on representation. There I claim that representation and explication can be understood as complementary rather than oppositional (Andersson, 2023). When we represent the views of others through imagination, it is always preceded by actual interactions and encounters with others. What constitutes our representations drawn from imagination? They amount to little if they are not at the same time explicated from an implication. I suggest that Arendt's spectator draws on imagination that in the first instance is an enfolding of events, and in the second, a judgment that bears traces of an enlarged mentality, which entails that it is communicable and always open to further questioning. So, traces of "dogmatism" in terms of recognition cannot be completely done away with. Instead, representations should be examined and communicated to make room for something new.

Let us return to the philosophical fallacy of instating a true beginning, to master necessity, and ask: who can spot the pre-philosophical “dogmatic” subjectivities of a presumed beginning? I propose that one possible candidate is the Arendtian spectator. It is from a point of view that is temporarily dislodged from the action of presenting a structure of thought. And the spectator can be anyone: a philosopher, an apprentice, a madwoman, a by-passer, a jealous man. The world is populated by signs. We don’t have to go searching for signs; we search for the meaning of the signs we ceaselessly encounter. In posthumanism, giving up the subjective human mastery of necessity implicates both a critique of the Human and a dissolution of speciesism; the first move entails the other (Braidotti, 2013). To involve the Arendtian spectator might thus seem contradictory to the posthumanist call of moving beyond a presumed subjectivity. Or, rather, must the spectator necessarily be a human being? Mark Jackson describes a possible non-speciesist relationship between birds and humans through the Deleuzian assemblage thus: “Reading the human’s and the bird’s flourishing through the assemblage of the sea or the forest connects them in ways that arguments about the difference between the two’s epistemic capacities never could connect them, and that, not only being unanswerable (we will never know what it is like to be a bird or a bat), are irrelevant to possible solidarities around mutual flourishing” (Jackson, 2017, p. 34). Hence, the issue at hand is not to determine a mutual point of knowing or comprehending the world, but to zoom out to see the panorama of connectedness, to cultivate solidarity. In my view, a spectator qua spectator is a point of view determined out of its relationship with other points of view. Does this mean that the list above that ends with “a jealous man” can be extended to include birds, ecosystems, and other assemblages involving non-humans? To claim that all entities read and interpret signs is an ontological claim from which we cannot necessarily draw epistemological and political conclusions. But, as we saw in the quotation from Jackson above, that is not the key issue. When we resume from assuming that we can know *what it is like*, we enter the realms of thinking, judging, and affect in which plurality, relationality, and actual different points of view flow and meet. However, the locus of one’s own *what it is like* can never be fully erased or dispensed with since it provides the site for movement to actualize. Hence, although for ontological reasons we give up on ever attaining knowledge about *what it is like* for other entities to exist in numerous and different assemblages, our own sense of *what it is like* changes, evolves, breaks, and grows throughout. And this internal movement in relation to the external movement of others is, I claim, imperative to not lose sight of when we engage in/with posthuman philosophy. Why is this important? We need to keep some form of demarcation line between internal/external lest we be easy prey for taxonomizing practices. I do not propose a firm line that presupposes an a priori distinction between subject and object. Instead, with Arendt’s understanding of judgment, which can only be cultivated through engaging

with others, we see that to represent the views of others, there must be a place from which the representing is being performed.

So, yes, we can add “birds” after “a jealous man” to our list above, as long as we remain cautious of how these different points of view are brought into communication/living with one another and do not take the connection as an in principle “state of affairs” that thought has already recognized. Arendt’s common sense is an arena from which we can represent the views of others and pass judgments that, furthermore, contributes to the realness of our common world; a place where we can gather and discuss the meaning of different phenomena, thus, validating their place in the world beyond true and false. Common sense and judgment confirm our sharing the world with others, which both unites and separates us.

My insertion of a common world as an enabling factor might be perceived by Deleuzian and posthuman scholars alike as in alignment with the philosophical fallacy of inserting transcendence. However, I reiterate: (i) common sense constitutes a moveable ground (in flux), (ii) is continuously created and contested, and (iii) the cultivation of common sense is sought to keep us vigilant against all kinds of political-social forces that aim at destroying commonness as a way to hierarchize people, turning some into proper *who(s)* and some into disposable *what(s)*.

Next, I will explore Sylvia Wynter’s decolonial philosophy, focusing on origin stories and the risks of taxonomizing.

Decolonizing taxonomizing practices

In Article III, I begin with the following vignette:

“To combat segregation in Sweden, politicians have proposed that we should follow the ‘Danish model’ in which people in ‘socio-economically vulnerable’ suburbs are removed from their homes to minimize the percentage of non-ethnic Swedes living in the targeted area. The previous Swedish Social Democratic Minister of Integration proposed that non-ethnic Swedes should not exceed fifty percent in an area designated as ‘vulnerable’ as a step to counteract segregation. Segregation in so-called vulnerable areas is considered a critical challenge since it is assumed to cause certain problems such as poverty, crime, drugs, and unemployment. Thus, if we manage to dissolve the dense concentration of non-ethnic Swedes living in a particular area, the argument seems to go, these problems will be resolved without further intervention. This political proposition is directly related to a contemporary societal tendency to taxonomize people in harmful ways by drawing on presumed origins to create a solution to an acute cluster of problems” (Andersson, 2024, p. 780).

This political de-segregation proposal frames my discussion in Article III, in which I consult the philosophy of Sylvia Wynter to navigate the thorny landscape of origin stories. In this chapter, I discuss and reflect further on Wynter’s decolonial philosophy in relation to themes already addressed in my article and beyond in terms of including Hayles, Arendt, and Deleuze in the analysis that goes further than my respective articles. In the previous chapters, I discussed subjectivity as a point of view, *what it is like*, from which we think and make meaning. Thinking is the search for meaning, explicating signs of encounters, and actualized both in solitude and in encounters in our world of particulars. Now, I will add the notion of origin stories enveloped in Wynter’s decolonial philosophy and show how it can be philosophically embedded in higher education.

Decolonial philosophy

Decolonial philosopher Sylvia Wynter is known for vastly tracing the autopoietic nature of being human. At the core of her theoretical corpus, we find what she calls our human two sets of codes: our genetic codes and our cultural codes. Our first set of codes is exemplified by our endogenous opioid system which implements our second set of cultural codes. Our first set of codes is related to phylogeny and ontogeny, whereas the second set of codes is related to sociogeny. Biological development encompasses both phylogeny and ontogeny: phylogeny pertains to the evolutionary history of species, while ontogeny concerns the development within an individual organism. For example, the study of human brain development can be approached from a phylogenetic perspective to understand its evolution, and these findings can then be applied to comprehend the ontogenetic processes in individual humans (Stanford Encyclopedia of Philosophy, 2025).

Sociogeny is a term Wynter appropriates from Frantz Fanon. Sociogeny is culture; it envelops the way in which we instantiate ourselves as beings within different communities of belonging and/or non-belonging (Fanon, 2008; Wynter & McKittrick, 2015). Wynter calls the difference that inevitably arises between people in a society, different *genres* of being human, rather than using identity markers such as “gender” or “race”, although identity markers of all kinds are enveloped within genre. The two sets of codes are constitutive of being human, which Wynter refers to as human as hybrid (both bios and mythoi), or ecumenical. Note that the positing of *human* as hybrid envelops multiple types of identities and thus exceeds colloquial usages such as a “hybrid identity”.

The reason Wynter appropriates the Fanonian sociogeny, and turns it into “the sociogenic principle”, rather than keeping with, for instance “discourse” or “cultural norms”, is that she wants to stress the genic nature of culture, meaning that it is not something we just “add” on top of our non-changeable nature; it is already present in our human makeup (Wynter, 2001, 2013). What is more, our genetic codes (our first set of codes) implement our sociogenic codes, and can only be properly understood when conjoined with them. Read through Barad’s theoretical framework, they intra-act. And, in reverse, our sociogenic codes can only be properly understood when our genetic codes are conjoined with them. There is no “first” substratum in place from which necessity is gained; rather, our hybridity is the “ground” itself.

Alexander Weheliye presents the difference between Fanon’s and Wynter’s respective outline of sociogeny in the following manner:

To be precise, Fanon and Wynter locate racializing assemblages in the domain of being rather than the realm of epiphenomena, showing how humans create race for the benefit of some and the detriment of other humans. Yet because race is thought to rest in biology, it necessitates different analytic protocols than bare life and bio-politics, namely ones that draw on both ontogeny and sociogeny. Whereas Fanon’s mobilization of ontogeny remains rooted in the

Freudian paradigm as pertaining to the individual subject, Wynter summons the explanatory apparatus of neurobiology to elucidate how racialization, despite its origins in sociogeny, is converted to the stuff of ontogenesis; this is what Wynter refers to as “sociogenetic”. (2014, p. 26)

In “Towards the Sociogenic Principle” (2001), Wynter develops Fanon’s notion of sociogeny by literally placing the sociogenic painful events of racism that Fanon experienced in his body. To be sure, Fanon’s phenomenology certainly foregrounds his body and phenomenal experience as tightly knitted together. But Wynter goes one step further: she invokes neurobiology (our first set of codes) in order to dislocate the problem of racialization from the individual subject (ontogeny) since sociogeny, our culture, becomes sociogenetic. But is not Fanon’s double consciousness in itself a contestation of individual ontogeny? Weheliye explains that the difference pertains to how Wynter stretches the autopoiesis of Fanon’s sociogeny by anchoring it in “an albeit false or artificial, physiological reality” (p. 27). In other words, the “albeit false or artificial physiological reality” refers to our hybridity which means that our neurobiological makeup should not be conceived of as an anterior field that determines our sociogeny. Although Wynter embraces a transdisciplinary approach, she does not posit a general ground common for all humans that *itself* explains how we autopoietically interact with one another. However, from Fanon, Wynter proposes that the sociogenic principle, hence, our sociogeny, is a transcultural constant that explains *that* we autopoietically think, feel, and behave in different ways.

Unlike the “common reality” of a wave phenomenon, however, the sociogenic principle is not a natural scientific object of knowledge. In that if, in the case of humans, this transcultural constant is that of the sociogenic principle as a culturally programmed rather than genetically articulated sense of self with the “property” of the mind or human consciousness being located only in the dynamic processes of symbiotic interaction between the opioid reward and punishment system of the brain and the culture-specific governing code or sociogenic principle (as the semantic activating agent) specific to each of our hybrid nature-culture modes of being, and thereby, of experiencing ourselves as human, then the identification of the hybrid property of consciousness, which such a principle makes possible, would call for another form of scientific knowledge beyond the limits of the natural sciences-including neurobiology, whose natural scientific approach to the phenomenon of consciousness is paradoxically based on our present culture’s purely biocentric and adaptive conception of what it is to be human. (2001, p. 59)

We can discern from this quotation that “a common reality” is not a fixed epistemological starting point for social and philosophical research; instead, the common reality can be likened to Arendt’s common sense in that the proposed commonness expressed by Wynter is created. Thus, the sociogenic principle serves as a transcultural constant that explains our “common reality”

in terms of our different societies and cultures yet provides an explanation to the original hybridity of consciousness and thus dissolves the classical “hard problem” of consciousness.

Furthermore, when I claim that this common reality is not a fixed epistemological starting point, I mean, firstly, that this constant does not envelop a universal “I” (*what it is like*). Secondly, this constant is not an extra-human natural scientific point of view that invalidates, or determines, particularities. Thirdly, although this constant is an analytical onto-epistemological starting point, it envelops our human hybridity, meaning that our neurobiological architecture is only relevantly understood when conjoined with particular instantiations. In the words of Walter Mignolo:

Fanon’s sociogenesis put a halt to scientific assumptions and findings that relate to the “nature” of human beings and establish the limits of scientific theories from evolution to neurosciences in their capacity to decide on question of “human nature”. That is not to say that scientific theories from evolution to neuroscience have nothing to say about the materiality of living organisms propelled by nervous systems, but there are many thousands of miles from there to reach a conclusion about “human natures”. (Mignolo, 2009, p. 175)

To inquire into the human of “human natures” is the backbone of Wynter’s decolonial philosophy and thus particularly apt to respond to the problems that I invoke in this thesis, meaning origin stories paired with subjectivity, thinking, and common sense.

A short historiography of Man

Wynter’s philosophy is a decolonial philosophy in that she seeks to de-link her scholarship from Western hegemonic epistemology. To show how Western epistemology has shaped how different viewpoints of being human have come forth, Wynter starts her historiography of Man from the “discovery” of the Americas in 1492. From this point onwards, the categories of colonizers and colonized have enacted a system of humans and sub-humans in which a prescriptive way of life, hinged on a constructed universal trope that Wynter calls a “referent we”, has been promoted. This trope, moreover, was devised as objectively stemming from first, a Western theocentric worldview, and second, a Western scientific worldview; Man1 and Man2, respectively. Man1 transitioned from a theocentric worldview, where traits were considered God-given to those of the Judeo-Christian faith, to a blend of theocentric and politically ordained perspectives, from the Renaissance to the 18th century, where rationality was regarded as the highest trait. Man2 emerged as biological sciences advanced, considering rationality and political subjectivity as innate capabilities primarily associated with the white bourgeoisie of the Western world (Wynter, 2003).

Both the theological and the secular framework “bracketed their geo-historical foundation and, instead, made of theology and philosophy/science a frame of knowledge beyond geo-historical and body location” (Mignolo, 2009, p. 176). In education, Desai and Sanya (2016) read Wynter and Mignolo together to suggest that “epistemic disobedience calls for careful attention to the silences of Western epistemologies, the excavation of those silences, and affirms the epistemic rights of the margins” (p. 712). In my reading, Wynter’s philosophy has the potential to contribute to education at a much larger scale than to give voice to the margins; she creates the above-mentioned historiography as a step to create a new origin story, namely, the Third Event. Hence, de-linking from a Western onto-epistemology demands scrutinizing origin stories enveloped in educational settings far more subtle (and contentious) than grand theological frameworks.

The hybrid human

In Article III, I elaborate on Wynter’s notion of human as hybrid/ecumenical by highlighting the importance of origin stories. Origin stories, on par with the Deleuzian signs, are everywhere if we care to look. An origin story is thus not solely a grand narrative such as a Christian one, or a historical one such as Wynter’s *Man2*. We live by them in our everyday life, in mundane practices that shape our points of view of the world and ourselves, and particularly our place in it. This inherent tendency to tell origin stories is a determinant factor of our human hybridity. It is our sociogenic codes (our second set of codes) we use to create communities by being autopoietically attuned to our material surroundings. We never precede the autopoietic fabric of human life and society; we are born into it, and through our arrival we both adhere to and break with different sociogenic codes (cultural norms and constructs). So, although we can break with sociogenic codes, and not with genetic codes, they are still entwined, in that a disruption of sociogenic codes impacts our neurobiological reward system. The distinction that is maintained is mainly analytical, and, furthermore, it is from, and through, our sociogenic codes that we can initiate a change, not the other way around, at the same time as the two sets of codes are never completely torn apart. In other words, our sociogenic codes are malleable in a different way to our genetic codes without turning into an autonomous layer of cultural inscription. Here we can see similarities with the immanent ontology of posthumanism. Now, however, I will discuss some tensions between posthumanism and Wynter’s framework pertaining to respective views on “human nature” and “non-human nature”.

In the foreword of the anthology *Posthumanism and Higher Education*, we can read that:

According to Braidotti (2013) critical posthumanist subjects function within eco-philosophies, multiplicities, and differentiation. Inter-connectedness between self and other transposes hybridity. The politics of life itself call for collaborative morality. Human and posthuman practices have co-existed alongside each other as long as humans have populated the earth and now at the time of this newly yet historical posthuman moment scholars need to caution against inhuman(e) ethics which could jeopardize productive inter-connectedness. While human-centered education has dominated the majority of educational discourses and practices one might also argue that relational learning and adaptation across species have existed far before the human cognition, awareness, and knowledges centered by Enlightenment and colonizing educational discourses and technologies. This predominant focus on scholarly and educational practices of the human has been a convenient yet rather selfish choice since humans have always lived in complex ecosystems and relational universes. So, like Braidotti (2013), one might ask how do we know this (and that) humanness in us, how have we come to recognize ourselves as human and who/how is human after all? (Koro-Ljungberg, 2019, p. vi)

The three questions that Koro-Ljungberg poses at the end of the quotation are what I ponder throughout this thesis. I believe Koro-Ljungberg's questions underline that what we mean by "humans" and "humanness" seldomly constitute a metaphysical given on which we can ground firm claims about the world and ourselves. Wynter examines humanness through the lenses of phylogeny, ontogeny, and sociogeny, illustrating that "human-centered" theories challenge the question of "who/how is human after all?" while striving to establish a relational transcultural origin. To further explore the interconnectedness between self and others that "transposes hybridity", additional theorization is required regarding the nature of this interconnectedness and hybridity. Our two sets of codes address this question, and posthumanism aims to do the same. In my view, Wynter's theory provides a deepened clarification of interconnectedness between the human subject and the surrounding world. For instance, inquiring into the being of being human can contribute to post-anthropocentric viewpoints in that firstly, keeping with a *what it is like* hinders a human viewpoint from completely usurping a non-human viewpoint. Secondly, to disregard one's *what it is like* in order to start from an alternative epistemological viewpoint, as we saw in Jackson above, entails some form of acknowledgment of *what it is like* to start with and must, therefore, impact how we change our thinking in relation to other entities that consequently alters our views of ourselves *by removing ourselves from that starting point*. While Jackson and other posthumanists seek to remove themselves from an anthropocentric point of view by turning towards other entities, Wynter examines how it is possible to remove ourselves from our harmful autopoeitic ways of being in the world without positing an anthropocentric fixed starting point – that needs to be validated or invalidated – since what we mean by *Anthropos* represents numerous and variegated understandings.

In another prominent posthuman anthology, we find Coole and Frost (2010) who state that:

At the same time, it is becoming evident that changes in living matter are rendering obsolete many of the conventional ethical categories used to evaluate them. As scientists succeed in bridging species, artificially creating and extending human and animal life, and manipulating and synthesizing genes to create new life forms, they muddle the concepts and boundaries that are the ground for much ethical and political thinking. Smart synthetic life forms, for example, challenge our very conception of ourselves as persons since distinctions between intelligent and unintelligent life have been crucial in efforts to distinguish humans from other animals and to justify humans' instrumental appropriation of material resources. (p. 22)

I agree with Coole and Frost that “changes in living matter are rendering obsolete many of the conventional ethical categories used to evaluate them”, which is why, I argue, the need for delving further into the human subjective realm is called for, since if we refrain from attending to how our human nature alters within a posthumanist framework, we lack the connective tissue between “underlying” material processes and the creative thinking that we depend on in our quest to accomplish change. That scientists “muddle the concepts and boundaries that are the ground for much ethical and political thinking” should, I contend, lead to a further examination of that very ground and how it impacts our human practices and thinking, not to mention that scientists are part of our common-sense world and make choices that are not purely scientific, since they stem from an enterprise that seeks to convey knowledge to take place in the world of particulars (Arendt, 1981).

To expand one's own *what it is like* is always autopoietic and hybrid bound. Thus, human nature expands when non-human nature expands. There is a specific epistemic core of *what it is like* that is contested, by both posthumanism and Wynter, but hardly human nature as such. If it was, then human nature would suddenly turn into a non-plastic material passively waiting for inscription, with the corollary that agency falls back into a dichotomous schema, although it is claimed within posthumanism to be on a continuum. With Wynter, we can develop another understanding of *what it is like* by reading her through Braidotti's posthuman bio-political framework. In *Posthuman Affirmative Politics* (2015), Braidotti reasons about subjectivity thus:

This view of subjectivity does not condition the emergence of the subject on negation but on creative affirmation, not on loss but on vital generative forces. The rejection of the dialectical scheme also implies a shift of temporal gears. It means that the conditions for political and ethical agency are not dependent on the current state of the terrain; they are not oppositional and thus not tied to the present by negation. Instead they are projected across time as affirmative praxis, geared to creating empowering relations aimed at possible futures. Ethical relations create possible worlds by mobilizing resources that have been left

untapped in the present, including our desires and imagination. They are the driving forces that concretize actual, material relations and can thus constitute a network, web, or rhizome of interconnection with others. (p. 35)

The emphasis placed on ethical agency, affirmative praxis, and interconnection are clearly tied to an active subject who strives to enter different modes of relations with both human and non-human others, in which the underpinning condition is existence, rather than identity and community. Within Braidotti's "vital monism" (which is based on Deleuze's immanent philosophy), "mind" and "matter" surface as analytically distinct yet joined together in the quest for cultivating our human propensity to enter relationships with unknown others. In other words, subjectivity as phrased above by Braidotti is an example of *what it is like* that breaks free of modernist notions of an epistemically superior rationality owned by self-contained subjects when she says that "matter and mind interact and join forces to co-create affirmative becomings" (p. 35). In Wynter's body of work, "mind" and "matter" translates into the two sets of codes, which I claim are better concepts to work with in that the interconnection becomes concretized and malleable in a more straightforward fashion. They are our hybridity from which origin stories originate. And stories make relations.

I claim that with Wynter, we can trouble the posthuman distinction between human nature and non-human nature in that human nature, constituted by our two sets of codes, is relational *in itself* and not solely in relation with non-human nature. Although posthumanism seeks to trouble the tendency to dichotomize humans and non-humans, the "human" is still oftentimes delineated as something that has been "done" and as such must be left behind to examine other types of entities that populate our world. In Arendt, we find the inner dialogue between me and myself that also, I claim, troubles the binary of separate subjects, hence, difference in itself is found therein without discarding the subject.

Wynter at times appears to maintain a strict dividing line between eusocial animals and social humans leading to the impression that our emphasis should be on our myth-making part, which has led some to claim that she herself undermines our human hybridity through viewing nature as relatively inert and/or strictly separated from other animals. Both Zimitri Erasmus and Emily Anne Parker point this out very well. Erasmus (2020) claims that Wynter values the symbolic realm more highly than the biological. However, although I agree that she sometimes slips into that language, one must keep in mind that she is writing a counter-narrative to the biocentric Man2; an image that posits "natural rationality" along color and gender lines. Parker (2018) points out that although we find this inconsistency within Wynter, her overall project hinged on the sociogenic principal collapses "the double bind" within our current Western philosophy that separates ecology from politics. I believe that this is an important point made by Parker through which Wynter's bios/mythoi interface becomes more accessible. To break it down, Parker claims that a

“double bind” haunts philosophy in those questions pertaining to nature, or “bodiments” as she says, categorically get attached to bodies perceived as different, and thus on a presumed ecological basis get wrapped up in specific political issues concerning *that* particular nature. In other words, one’s bodyhood becomes a projection site for our hegemonic Western biocentric political public sphere. As a result, questions about racism may be reduced to a bounded ecological issue, even though ecology and politics are inseparable. Parker notes, “what I would like to suggest is that precisely in placing experiences of sensing and being sensed at the heart of what it is like to be human Wynter makes what is political indistinguishable from the ecological and in a way that avoids the double bind with which I began” (Parker, 2018, p. 445).

Translated into Wynterian terms, a strict division between our two sets of codes cannot be made when inquiring into the being of being human; it is upheld scientifically and analytically, and emphasis shifts depending on questions asked. In contrast to Erasmus and Parker above, Max Hantel (2020) claims that Wynter (and interpreters of Wynter) puts too much emphasis on our biological realm, thereby hindering a proper understanding of racialization as cultural practice. That she can be the target of these two oppositional claims demonstrates, I think, the difficulty of analytically distinguishing between our two sets of codes within hybridity. Or, to put it in Deleuzian terms, hybridity envelops our two sets of codes. Now, let us turn to origin stories for education.

Educational origin stories

In Article III, I propose a pedagogical approach inspired by Wynter’s theorization of origin stories. What I believe the approach can draw out is that the action of telling and sharing our stories in concert with others alters, if not the view we have of ourselves and the world altogether then us, in two main ways: i) we discover that our belonging is weaved together with “an albeit, false or artificial physiological reality”; ii) we discover other points of view, that may subscribe to different realities, that we put into communication with one’s own. I must stress that this does not amount to relativism. That we can experience “different realities” refers to social and cultural conditions while the ecumenicity of this is grounded in our biology, which we can better understand by scrutinizing our stories and how they function to justify certain beliefs and actions. Moreover, as I stressed above, our neurobiological reward system is more a connective tissue on par with Hayles’ nonconscious cognition, than an independent determinant factor. I side with Zourabichvili, who says that “Perspectivism cannot lead to a relativity of the true because it presents us with points of view that deny it: one cannot affirm the difference of points of view without at the same time posing their inequality” (2012, p. 82).

Through reading, interpreting, and explicating different origin stories, like the one we can detect glimpses of in my example of the desegregation initiative above, we also retrieve modes of producing the human next to interrogating different understandings/images of the human. In other words, we detect taxonomizing practices that gain their claims, their necessity, from a specific point of origin, whether it is acknowledged or not. When a point of origin is presumed to constitute a firm point from which we organize categories of different peoples and events “down-up”, we succumb to reductionism. I propose that different points of view, by being different, will thus be subjected to evaluation, which becomes a necessary step in the approach as an instance of being educational. Giving an account of subjective experiences and viewpoints should not be regarded as a privileged model of gaining insights into our common world; rather, to interrogate how most of us rely on different kinds of origins to validate knowledge claims, whether it’s philosophy or cognitive biology or both, the common structure of this tendency can work as a pedagogical origin for further creative thinking. In other words, perspectivism is sought to be cultivated, which, with Arendt, we can understand as impartial judgment.

In the following final chapter, a further weaving together of the thesis’ articles is provided with a dash of futurity.

Concluding discussion: Weaving my articles together

In this final chapter, I discuss my three articles and their respective contributions. The chapter is organized thematically whereby I weave my articles together under the respective theme to show how subjectivity, thinking, and origin stories overlap. In the previous three chapters, I have presented and discussed my respective articles and already shown how they interlink and make up a theoretical lens that both contributes to posthumanism and stands independently when interrogating contemporary phenomena such as AI, data-driven methods, instrumentalization through taxonomizing practices, and transdisciplinary pedagogical approaches. This chapter deepens my prior discussion and proposes how my theory contribution can be actualized in higher educational practice. I will end this chapter by pointing out some limitations of my thesis and proposing questions for future research.

Subjectivity

In this thesis, I have drawn on the philosophies of Hayles, Arendt, Deleuze, Wynter, and Barad to develop my philosophical-theoretical lens that furthermore seeks to contribute to posthuman philosophy at large. My three articles also demonstrate how my developed theoretical lens can be used to inquire into contemporary phenomena such as AI, common sense, and taxonomizing practices, both within and outside of education.

In Article I and Chapter 3 of this thesis, I show how the way we experience and work with posthumanism impacts both how we perform research and how we think about ourselves in relation to our chosen approach. With the examples of algorithmic thinking and the chatbot, I propose that these technologies are not tools that we can innocently utilize in research and education; rather, they are entangled with the way we view human and non-human abilities that moreover become imbued with different values. Posthumanism also suggests that technology is more than a mere tool for human use and that it is agentic beyond our control, which intra-acts with us in unforeseeable ways. The validation of the agentic capacity of technological systems and other non-human entities is highly prevalent within

posthumanism. I have, in a way, inverted the posthuman approach by interrogating subjectivity as relational *and* as an experience of *what it is like* to elaborate on different levels of agency. Through this move, specific parts, or levels, of subjectivity have been highlighted rather than putting most focus on relationality.

When we interrogate subjectivity with a critical and creative openness, we can cultivate an understanding of different perspectives and, therefore, our judgment, which I believe can help to counteract totalitarian and taxonomizing practices from gaining a foothold in our life world. Moreover, subjectivity as employed in this thesis is materially situated and not bound to a generic trope, which points toward concrete lived experiences and perspectives.

Thus, we can never detect or create a “true” subjectivity to perfect, keep, or strive for since the difference between different viewpoints is sought to be acknowledged, discerned, and thought about. However, important to keep in mind is that there is no predefined terminus for the endeavor to think about subjectivities; nor are there any pre-set requirements for reaching consensus or deeming the gaps unbridgeable. We may end up in consensus or antagonism, of course, pertaining to some or numerous questions, but the aim of the endeavor is to ascertain how we arrive at certain answers and how we can go from there. In addition, difference has become a bit of a buzzword in posthumanism and in the present thesis, which is why I would like to clarify that even though difference is crudely opposed to sameness, difference can still *lead* to sameness⁵ and vice versa. Again, how we arrive at certain answers and viewpoints conjoined with asking how we could go further (or momentarily pause) is what I deem to be of value to the endeavor.

Thinking with different entities

In Article I, following in the footsteps of Hayles, I brought nonconscious and conscious cognition together. Through the example of algorithmic thinking in reading practices, I showed how answers to already designed questions always bring forth new questions that themselves do not originate in our computational instructions. In an educational context, this can be explicated further by drawing on Sylvia Wynter’s theory of sociogeny and her two sets of codes: our genetic codes and our cultural codes. For instance, if we discover through a reading program that most Swedish female authors in rural parts of Sweden use male names in their titles, we have the opportunity to examine which cultural codes/meanings they envelop and thus avoid committing a reductionist reading by referring that phenomenon back to a presumed genetic

⁵ With sameness in this context, I do not refer to the act of mirroring oneself in others; rather, I refer to feelings of kinship and affiliation based on views of the world, regardless of identity. Hence, as I define it here, sameness does not erase difference.

makeup (or whatever terminus might be proposed). The result gives rise to further questions pertaining to how we as scholars choose to proceed. For instance, is a reading practice built on algorithms considered to be more “real” or “scientific” than a human interpretation? Is a description always severed from interpretation? Does it threaten our human abilities to interpret and make sense? To provide an answer to these questions, the values that we imbue in the different operations (algorithmic reading versus human interpretation) must be acknowledged, together with how that impacts what human reading, interpretation, and thinking become. Thus, even though we might conclude that human interpretation, reading, and thinking decline in value in relation to algorithmic reading, we are still doing the thinking that reaches that conclusion. In other words, we are, if not thinking, then at least reasoning when we are willing to give up a certain aspect of what human thinking is and can be, as if our human abilities freeze when technology expands.

Furthermore, I argue that engaging with different levels of abstraction within the phenomenon of human subjectivity is important within posthumanism. The subject in relation to underlying mechanisms, our two sets of codes, relationality, etc., constitutes the place from which we can theorize about enacting new ways of being in the world through thinking. For example, our two sets of codes comprise an objective level that pertains to all subjectivities, including those of animals. From this claim, further investigations into how the subjective realm can create change involve a plurality of positions that temporarily transcend the level of two sets of codes; it now encompasses particular responses to specific problems. This is why I propose that philosophical thinking in education can bring insights on par with those of neuroscience, particularly in the realm of human affairs.

Again, even the move of discarding the human subject does something in terms of thinking and subjectivity, which I claim paves the way for further thinking and becoming, not the end. When we make claims about the world, we always speak from a specific position that, regardless of what claims we might make, warrants an interrogation of that specific from *and* to which they point.

Post-anthropocentrism and subjectivity

How can we reconcile post-anthropocentrism with subjectivity, thinking, and origin stories? As I have advanced in this thesis, scrutinizing the being of being human is, in short, a pluralist endeavor that does not fix “humans” as a separate set from “animals”. In addition, I showed how, with Wynter’s hybrid human, we can trouble a fixed demarcation line between humans and non-humans in that human nature is relational *in itself* and thus not necessarily in need of a presumed contrastive “non-human” to make the nature of relationality visible, which, furthermore, warrants a continuous examination of what being human entails. Moreover, subjectivity is not exclusively human;

the *what it is like* aspect that I interrogate in this thesis is an answer to the space of expansion found in posthumanism combined with the pressing need to address these kinds of questions under present societal conditions. Of course, if we inquire into animal subjectivity, for instance, a necessary requirement would be to drop a human subjective *what it is like*, yet remain within the framework of autopoiesis in that, to even begin to meditate on these matters, we must assume, however crude, a transspecies constant. Braidotti's *transversality* points in this direction, just like Hayles' *nonconscious cognition*, Barad's *entanglement*, and Wynter's two sets of codes. In my reading of Wynter, discerning the seedbeds from which anthropocentric taxonomizing practices emerge can work as an avenue for promoting counteraction. Thus, to inquire into animal subjectivity and to promote counteractions to fight anthropocentric practices are two different modes of operation in which the first requires the annulment of human subjectivity, whereas the latter relies on subjectivity to make a sustainable case. Both approaches, I claim, constitute fruitful ways to counteract anthropocentrism. They part ways in terms of a starting point and unite in ontological outlook and normative claims. With the notion of autopoiesis combined with taxonomizing practices, an avenue for warding off instrumentalist conceptions of nature, animals, and people comes forth.

To show how and why subjectivity remains a crucial and growing part of posthumanism, education, and our times, I will now turn to thinking, judgment, and origin stories.

Thinking, judgment, and origin stories

Is it the origin of the result of the different operations of thinking that influences how we imbue value? I elaborated on that question in my third article in which I draw on the philosophy of Sylvia Wynter to better approach the phenomena of taxonomizing practices (different reductionist views) by utilizing her notion of origin stories. I exemplified with the emergence of the chatbot and the hype around it in terms of how it affects our views on thinking, which furthermore can give rise to taxonomizing practices regarding human abilities; not just how we evaluate abilities, but which ones might become viewed as redundant and no longer worthy of cultivation.

In *The Atlas of AI* (2021), Kate Crawford interrogates what happens with the expansion of AI and growing algorithmic assistance in terms of humans being increasingly treated like robots in the workplace. Thus, rather than asking if AI will replace humans in the workplace, Crawford asks what the robotization of humans does, which resonates with my overall angle in the present thesis. If a chatbot is evaluated as faster, better, and more intelligent than a human being, then rather than asking where this leaves us poor humans, I am interested in examining how the evaluation of AI ends up taxonomizing

human qualities since this evaluation process is undertaken by us poor humans. However, as we have seen, there is no universal “us” from which such an evaluation of artificial and human intelligence can be made, meaning that a definition of intelligence that deems AI as superior is severely circumscribed, starved, and provisional.

I passionately ask: would we necessarily want to, or must we, let some of our qualities such as thinking and writing shrivel just because we can make use of AI? If we answer in the affirmative, a presumed causal link gets instated that is strictly political, ideological, and corporate capitalist, thus performatively severed from our life world. AI is more than a mere tool in that it is a virtual world – a living archive – that continuously expands and intervenes in our daily lives. The virtuality of this world, however, is partly based on myth and speculation about origin and “pure” objective thinking, which I have problematized further in the present thesis by drawing on the philosophy of Wynter (see Article III and Chapter 5).

As I elaborate in Article III, I suggest the practice of interpreting and explicating origin stories drawn from our private and/or public realms. Origin stories must not be on par with grand origin stories such as a Christian one, or Wynter’s biocentric Man². They can be mundane, seemingly, or de-coupled from a bigger enveloping narrative. The point of the pedagogical practice is to interrogate taxonomizing practices hinged on origin stories (or traces thereof) that we use to structure and make sense of our world. Through this model, I believe that *what* we are will surface as always accompanied by *who* we are, and that subjectivity, thinking, and origin stories comprise both dimensions.

In Article II, I propose that the notion of common sense is discarded too swiftly by Deleuze. In my reading of Deleuze and Arendt together, I show that common sense is an arena in flux that furthermore carries forces of change. It is not the chief function of common sense; rather, forces and change make their way through the multiple gaps and cracks that interaction with others creates. To let interactions with others influence our point of view, I claim that a demarcation line between internal and external should be kept in place. This implies the level of particularity in which the ability to represent the views of others has the potential to cultivate our thinking and judgment. This instantiation of representation has nothing to do with representationalism that assumes a tripartite division of the world. Instead, the ability to represent the views of others in the subjective realm fosters a flexible and creative approach that seeks to contribute to our common world.

Mårten Korsgaard has written about making use of exemplars in education by drawing on the philosophy of Hannah Arendt, particularly her concept of judgment. Korsgaard poignantly puts it thus: “It seems clear that Arendt’s idea of judging is more a matter of reconciliation than of finding ‘the truth’. More a matter of finding one’s bearings than about finding fixed and final answers. Rather, what we are primarily concerned with is revealing the commonness of the world” (2020, p. 248). In totalitarian times, or when mass society threatens

to make human relationships fragile, finding back to a commonness without fixed truths is needed more than ever. Korsgaard furthermore puts the finger on why Arendt appropriates Kant's aesthetic judgment to condition all aspects of human reflection (moral, political, aesthetic), "since we can no longer rely on universal principles in any of our domains of thinking and judging" (2020, p. 254).

Korsgaard proclaims that, with Arendt's notion of judgment, we can search for "exemplary validity" in (educational) thinkers since the validity would not put a halt to further thinking and examination; rather, finding and making use of exemplary validity entails being inspired by how these potential thinkers chose to relate to the world, which can never once and for all be set universally. Korsgaard suggests that judging in educational settings through exemplary validity confirms our shared world. Educational judgment can never become a directive that tells us what to do but works to facilitate "developing the ability to visit and understand the perspectives of others" (2020, p. 257).

In this thesis, I propose that a synthesization of thinking, subjectivity, and origin stories constitutes a scaffold for creative exemplary validity to emerge in educational practice.

As an educational practice, a first step could be to work by the principle of non-exclusivity; to begin with the eradication of either/or. Just like the two sets of codes in Wynter's philosophy depend on one another to make sense, so too do different perspectives on certain events. For instance, to demand responsibility in terms of instigators of conflict runs the risk of enhancing the conflict by posing two antagonists and thus glossing over the complexity and/or historical conditions. On the other hand, if we involve historical conditions in our argumentation, we need to be vigilant about which point(s) in history we invoke and why, not to mention that the same historical date can signify the same disaster for opposing reasons – a clash rather than a mutual understanding of how things unfolded. As a point of origin, I instead insert our transcultural two sets of codes with the in-built principle of non-exclusivity. By revisiting examples such as the desegregation proposal and questions about AI and neuroscience in education, we can identify and address taxonomizing tendencies by analyzing their origin narratives.

The desegregation proposal seems to indicate that some people have the mandate to remove other people from a certain area to make that area ethnically "even". Ethnicity appears to emerge from the soil itself, together with markers such as whiteness and Christianity. The assumption in the desegregation proposal appears to be that homogeneous ethnicity entails sameness in terms of worldviews and actions in the world; that there is a genetic firm point of origin that determines actions in the world, rather than different human beings acting in the world. When these types of worldviews function as something reminiscent of axioms, then employing the philosophical perspectives presented in this thesis can aid in questioning

presumed axioms. Moreover, in questioning presumed axioms, the “origin” will surface as containing worldviews that deny plurality and a transcultural constant. Important to note is that in the desegregation proposal, plurality *within* a group is also denied, let alone plurality within an individual. Another important note is that claims of origins and worldviews often contain traces of truth; a proper approach to counteract views with harmful and scientifically invalid assumptions needs to consider the different components of the claims. For instance, some segregated areas in Sweden indeed have a low percentage of ethnic Swedes among their inhabitants. I argue that this proposition is not an answer to a presumed problem; rather, I would examine which values and metaphysical claims such a statement implicates to fully comprehend what similar statements seek to project. For example, is it a problem that some areas have a low percentage of ethnic Swedes? If that is proposed to be the case, then what does “ethnic Swedes” constitute to be valued as suitable to solve the problem that goes beyond mere numbers? What is it with “Swedishness” that is supposed to fix the problem of unemployment? If “Swedishness” is considered to be an unmalleable category, then some form of assumption of origin underpins it. These kinds of assumptions, be they implicit or explicit, can be counteracted by drawing on Wynter’s philosophy in educational settings.

Hence, what I propose ought to be interrogated in relation to the desegregation proposal is ethnicity as a phenomenon in itself; where does it come from? How is it created and maintained? By utilizing Wynter’s two sets of codes we make room for asking broad ontological questions that underpin institutional “facts”, and, consequently, ways to elide these proposed “facts”. Non-exclusivity paves the way for interrogating phenomena instead of (at the outset) buying into existing dichotomous categories, for instance, Swedes versus non-European immigrants. By investigating how we autopoietically engage with our surrounding world, we can better understand how stagnated and harmful positions arise. Drawing on this understanding, combined with sociogenic interactions, allows us to approach the origins of these positions more thoughtfully. This philosophical-pedagogical approach does not offer definitive solutions or roadmaps but instead provides ways to address societal problems by incorporating insights from several disciplines for a broad and flexible perspective.

When it comes to thinking, AI, and neuroscience in education, similar questions pertaining to origin surface. The connective tissue of cognitive biology (Hayles), our two sets of codes (Wynter), and ontological inseparability (Barad), all suggest a relational plane of origin. We can analytically perform agential cuts and draw out different units for analysis. In this thesis, I have focused on subjectivity, thinking, and origin stories as parts of relations, although foregrounded, showing that it is consistent with posthuman ontological inseparability while expanding on a human-centered realm. Either of these connective tissues annuls the workings of human

subjectivity since it always relates and responds to states claimed. Since our neurobiological architecture and sense modalities are part of subjectivity, how we relate to that biological make-up contributes to how we want to affect that interplay, albeit on a conscious level that plays out in a different temporality than our underlying mechanisms (Smith, 2023). Combining an attunement to how we relate to this interplay with Braidotti's philosophy of vital monism, in which the transversal subject is configured, a sharpened propensity to enter new modes of relations can be activated, both philosophically and pedagogically.

Let me, in addition to my discussion, insert a thought experiment to stir things even more: could subjectivity as a unique voice of testimony elide taxonomizing practices when spoken through an AI? An artificial voice, speaking stripped of all genre-markers that all bodies carry? Would it make sense? First, I assume, we would want to know from where the information has been gathered, a databank? A godlike omnipresence? Second, when knowing the origin of the AI's information, we would, I assume, assess the credibility of the statements spoken, and probably also the alleged origin. Or, if we believe that the AI is giving a descriptive account of our empirical reality, would we then not feel the need to seek an origin or validation of the claims being made? Does that then become the origin? Either way, I believe that some form of origin will most likely be tethered to claims about our empirical world in which we categorize, confer meaning, and dwell in a pluralistic common-sense realm.

Following Snir (2020), I believe that cultivation of thinking can be initiated by making use of examples in which the movement of thought is exemplified. Such examples can be drawn from education, science, literature, philosophy, art, history, or from wherever it is found. To read literature, for instance, is to encounter signs in need of interpretation and explication, as we saw in Proust's apprenticeship above. The use of examples can be seen as a heuristic for further thinking. And examples can be old, mundane, and worn out, but what they envelop, their signs, that have caught someone's attention, can be virtual and new.

Thus, in our common sense (commonness), we, in varying degrees, draw on origin stories to find our place therein and to pass judgments. In this regard, I believe that it is fruitful to read Arendt and Wynter together since our social fabric is not metaphysically "there", meaning that to examine questions pertaining to common sense and origin stories makes visible our continuous creation of it. What is more, interrogating origin stories and cultivating judgment and thinking is never performed in a strictly social sphere severed from science; a point emphatically stressed by posthumanism, Hayles, Wynter, and this present thesis. Next, I will discuss the science question further.

Truth, objectivity, facts, and science

The examples of algorithmic thinking and thinking with the chatbot, together with a transdisciplinary approach in the form of utilizing scholars who draw on cognitive biology (Hayles), neurobiology in terms of our endogenous opioid system, and autopoiesis (Wynter), I have shown that our philosophical, educational, and social worlds expand, rather than being invalidated, by findings in natural and technological science. As we saw in Chapter 3 above, I claim that it is not solely cognitive biology (that both Hayles and Wynter draw on) that qualifies to operate as the “connective tissue” between underlying processes of nonconscious cognition/genetic codes and our human social realm. Instead, I argue throughout this thesis that, although cognitive biology, neuroscience, and quantum entanglement are parts of our hybridly human makeup, we require critical insights from philosophy, decolonial philosophy, and education for questions of subjectivity, thinking, and origin stories to arise and make a difference. There is no severance taking place in either direction, as it were. Wynter, drawing on Aimé Césaire’s call for a “new science of the Word” (2015, pp. 65-69), seeks to critically and philosophically devise a human science pursued to bring about a cognitive leap out of our predominantly biocentric neoliberal human/Man2 viewpoint. Thus, Wynter addresses the subjugating function of biocentric Man2 (the Vitruvian man; view from nowhere), not by turning to non-human entities to demonstrate our cosmic littleness, but through digging deeper into what it means to be human as praxis, which will inevitably tap into questions traditionally investigated within natural sciences. As I touched upon in the previous chapter, Wynter has been faulted with granting too much power to our social and natural realms, respectively. I concur that the first fault line can be traced somewhat in that she indeed examines what it means to be human and demonstrates throughout her writings the power of narratives, genres, and mythmaking. However, I also believe that her slipping into that language is a direct result of her adamant combating of our invented biocentric trope Man2, which is steeped in a vulgar and kitsch “natural scientific” uptake mixed with capitalist neoliberal politics, and, thus, *myths* about what a proper human is. To make a cognitive leap and face how these narratives are being spun, and to forge new understandings of what it means to be human, we must dedicate proper attention to questions where natural science has nothing to offer other than a murky point of origin. An origin, as we have seen, that never makes a halt at “mere” nature, and when we do this, the presumed demarcation line between the two sciences will not hold, since they are indebted to one another for their existence and thus entangled. In line with Hayles and Wynter, I claim that natural science and technology are integral parts of our human fabric. What I am contesting in this thesis is the tendency to invoke findings from natural science and/or technology to usurp the praxis of being human in terms of subjectivity, thinking, and origin stories, in order for taxonomizing practices

to emerge. Wynter's proposal of the Third Event as a new origin story in which humans are cast as hybridly human displays "exemplary validity", I claim, when it comes to accounting for the entanglement of the two sciences. But what about facts? Is Wynter's Third Event a fact? Is it true? The short answer: it's part science, part myth on par with Darwin's theory of evolution. The long answer: facts come in multiple guises. It is true and a fact that Stockholm is the capital of Sweden. It will always be true about this time, regardless of what happens in the future. It is true and a fact that photosynthesis is a process that converts light energy into chemical energy. It is true that climate change exists. The first two statements will probably not be subjected to heated fuss, whereas the third statement is hotly contested, denied, and politicized. The third statement is also the one out of the three that has an explicit political bearing and impact on our lives. Although firmly anchored in natural science for over 70 years, climate change is not necessarily taken to be a "pure" fact; in fact, the opposite is frequently voiced, meaning that scientific facts do not automatically get a free pass. To wriggle our way out of this mind-bending pickle, entanglement, human as hybrid, and our two sets of codes constitute an ontological outlook that does not chop up the world into discrete units as a starting point, an origin. The point I'm trying to make is that perspectives on what it is like to be human always have a say in matters that, at a cursory glance, might be deemed to be strictly "scientific" and thus placed outside of the world of human affairs. Wynter's utilization of our two sets of codes exemplifies an interconnection between physiological and social conditions, with ramifications for everyday life pertaining to self-referentiality in a surrounding society. As mentioned above, the two sets of codes, how I use the distinction in this thesis, are mainly analytically set apart to gain a fuller understanding of what it means to be hybridly human. With the examples of AI in education, I have shown that the usages have implications for how we think, learn, and practically engage with these matters in educational practices that far exceed questions of assessment. When making use of AI in education, nonconscious cognition (Hayles) is enacted that runs through both the technology and the user, which we can further grasp through the potential impact it has on our endogenous opioid system (Wynter) and educational abilities. Thinking as making meaning that gives rise to actions in the world through judgment (Arendt) and thinking in terms of creation (Deleuze) are capabilities that need to be fostered to enact a broad scientific gaze. My theoretical contribution in this thesis is the synthesis of these perspectives that chisel out a viewpoint that moves beyond respective philosophers, and that furthermore can be employed to interrogate various problems mentioned above, which also tap into neurobiological questions.

Future research

In this thesis, I have touched on many subjects and current problems that educational philosophy and educational practice should address. It is my firm conviction that philosophical queries about education always have practical implications for agency and being. Hence, I have argued throughout this thesis for the relevance of expanding posthumanism to better facilitate the flourishing of educational and societal abilities that meet the conditions of our society. However, since the scope of this thesis is limited, several themes are touched on that would warrant further research.

Common sense and indigenous storytelling: a prospect

I propose that common sense as an arena for interaction and change can be extended by adding Wynter's decolonial philosophical lens onto it. For instance, in *The Politics of Storytelling: Variations on a Theme by Hannah Arendt* (2013), Jackson claims that although Arendt's notion of judgment is anchored in the tradition of Western Enlightenment, she "unwittingly echoes the communitarian logic of non-Western thought" since she foregrounds plurality and a vast web of relationships from which reality is sensed and known (2013, p. 251-252). I agree with Jackson and see a promising future for reading Arendt's politics of storytelling in conjunction with decolonial narratives. This conjunction would furthermore put the searchlight on narratives from different life worlds, which constitute components of our multiple origin stories. Another important benefit of reading Arendt's storytelling together with decolonial narratives is that the risk of ending up with "universal" models for understanding our humanizing practices is considerably minimized.

Education and AI

For future research, I believe that the effects technology and AI have on education must be properly scrutinized. By effects, I mean both the positive and negative nudging that AI performs on our human brain and knowledge production. As advanced in this thesis, questions pertaining to the functioning of our neurobiology will find potential answers across the scientific board. In addition to examining the effects AI has on education and educational abilities, I also believe that more research is needed pertaining to how AI is constituted; that is, the origin of the phenomena itself. The philosophical perspectives that I have advanced in this thesis make a ground for the furthering of these types of questions.

Education and neuroplasticity

Neuroplasticity in relation to education and educational practices is a hot topic that I believe would benefit from being scrutinized further, especially with a firm grounding in educational theory and philosophy of education. The vast bank of knowledge that educational science contains can contribute to neuroscience as much as neuroscience can contribute to education. For example, neuroimaging methods reveal which regions of the brain are activated during learning, but what does this tell us beyond the understanding of working brain circuits common to all? How do our nonconscious and conscious mental models, along with the ways we interpret and internalize cues from our environment, transform in relation to surrounding conditions?

Summary of the articles

Article I: The subject in posthumanist theory: Retained rather than dethroned

The first article of the thesis explores how a posthumanist subject can be formed within a philosophy that challenges anthropocentrism by engaging with non-human entities. In the article, I show that engaging with technology, while leaning on Hayles' terminology of conscious and non-conscious cognition, contributes to the expansion of a posthumanist subject in that highlighting the workings of non-human entities affects how we think about ourselves and the surrounding world. The article starts with a short introduction of posthumanism where I account for how different prominent posthuman scholars have sought to rehabilitate the subject within named frameworks. What they all have in common in their philosophical/theoretical outlook is a focus set on our material-discursive reality that they claim previous thought traditions have not accounted for; thus, they seek to bridge that gap. Notably, the theorists I draw on use numerous hyphenated concepts to enact an entangled ontology where material-discursive and intra-action surface as the most important.

What I problematize in the article is how the posthuman scholars that I refer to tilt toward non-human entities to show that materiality is a vital component of our human makeup without properly demonstrating a clear interconnection with a bearing on how it effects human being and/or thinking. I seek to provide an interconnection between human and non-human entities by expanding on Hayles' example of algorithmic reading of texts, in which a conscious and interpretative dimension plays a pertinent role in how we can change our thinking pertaining to post-anthropocentrism without letting go of the subject. Hence, I make a case for a posthuman subject that is aligned with posthuman philosophy and educational practices while focusing on the subjective dimension of proposed and potential entanglements with non-human entities.

Article II: The relationship between common sense and thinking: Keeping with the event in education

In my second article, I diffractively read Gilles Deleuze's and Hannah Arendt's philosophies on thinking, common sense, judgment, and the event. Both Deleuze and Arendt have written extensively about the notion of thinking, which I claim converges and diverges in interesting ways, thereby contributing to how we can enact thinking in educational practices. Although neither of these philosophers is part of the posthuman movement, Deleuze is considered a forebear of posthuman thought by many posthumanists, and his concepts are frequently employed in posthuman scholarship. Hence, I delve into the notion of thinking that Deleuze puts forward and interlink it with Arendt's understanding of thinking, since the lion's share of posthuman scholarship draws on the philosophy of Deleuze. I put Arendt's understanding of thinking in relation to Deleuze to enact the posthuman method of diffraction, and, moreover, to chisel out a broad understanding of thinking comprising several components suitable for educational cultivation.

The main interesting divergence between Deleuze's and Arendt's respective understandings of thinking that I picked out is the one between thinking/creation/difference (Deleuze) and thinking/imagination/common sense (Arendt). While Deleuze holds that common sense is dogmatic and a hindrance to proper thinking to actualize, Arendt regards common sense as a representational arena in flux in which we cultivate our judgment and our ability to think. My aim in the article is to bring these divergences into conversation with one another, while keeping with the tensions, to provide an expanded notion of thinking that comprises all the above-mentioned components. For Deleuze, philosophy is the creation of concepts, and thinking emerges when explicating signs. However, to explicate emitted signs and to counter-actualize something requires that we do this from a specific somewhere; thus, actuality must precede a counter-actualization. This is where I insert Arendt's understanding of thinking and judging in which representational thinking stemming from common sense constitutes a locus for change, and, hence, counter-actualization. In other words, representing the views of others, for example, can bring about change as a second instance of thinking; not thinking as a shocking encounter (Deleuze), and not thinking as a withdrawal from the world of particulars (Arendt's first instance of thinking). From this, I claim that the different notions of thinking can be understood as on a continuum rather than completely merged. In educational practice, we can thus both *enact* thinking and *learn about* thinking by, for instance, drawing on literature and exemplary thinking.

Article III: Sylvia Wynter's decolonial philosophy: How being human needs an origin story

The third article in this compilation thesis examines the philosophy of Sylvia Wynter alongside posthuman concepts such as *entanglement* and *ontological inseparability*. It discusses Wynter's concepts of the *hybrid human* and *origin stories*, which encompass related ideas including the *liminal subject*, *sociogeny*, *autopoiesis*, and the *Third Event*. The article aims to outline an approach for analyzing taxonomizing practices based on origin stories and considers strategies for addressing these practices in educational contexts.

Since the overall aim of the thesis is to contribute to posthuman philosophy/theory, within and outside of education, the article starts with a brief overview of how posthuman scholars Francesca Ferrando and Karen Barad have delved into the matter of the ontological assumption that everything is entangled. I seek to expand the notion of entanglement by making a case for the importance of highlighting human innate entanglement as part of our human hybrid makeup drawn from Wynter's philosophy. Thus, in my reading of Wynter and posthumanism, I stretch the notion of hybrid human to include both post-anthropocentric ambitions, in that there is no universal "I", and sociogenic instantiations rooted in culture and origin stories.

In showing the pedagogical implications and potential implementation of my perspective, I use two examples containing political ambition; one from an established political party in Sweden presenting a desegregation proposal in which designated areas should be more ethnically even, and one stemming from a European neo-Nazi ideology claiming that the white race is under threat, titled "the great replacement theory". I chose two very different examples to show that traces of assumed origin stories commonly underpin ideas regarding the organization of our society. I also exemplify the relevance of my perspective by discussing the usage of chatbots in educational settings, proposing that it runs the risk of taxonomizing abilities worthy of educational cultivation.

Svensk sammanfattning

Denna avhandling argumenterar för att inkorporera en mänsklig subjektiv sfär inom posthumanistisk teori och filosofi, särskilt i samband med utbildningsteori och praktik. Avhandlingen består av tre artiklar var och en vägled av ett nyckelbegrepp lämpligt för det aktuella ämnet: subjektivitet, tänkande och ursprungsberättelser. I den första artikeln behandlar jag frågan om subjektivitet och hur den förändras inom posthumanismen, och föreslår att en utvidgning behövs där det tänkande subjektet rymmer den "materialitet" som eftersträvas inom posthumanismen. För detta syfte bygger jag vidare på Katherine Hayles arbete och visar att även om våra kognitiva förmågor är beroende av underliggande mekanismer, kräver samspelet mellan dessa och vår subjektiva upplevelse att vi identifierar olika nivåer av abstraktion och handling. Även om detta också är ett mål inom posthumanismen hävdar jag att samspelet måste konkretiseras ytterligare för att bli både filosofiskt och utbildningsmässigt relevant.

Den andra artikeln kretsar kring begreppet tänkande, såsom det har reflekterats över av filosoferna Hannah Arendt och Gilles Deleuze. Deras förståelse av tänkande har många likheter såväl som skillnader, och det är ur spänningen mellan dessa jag konstruerar en bred definition av tänkande som innefattar fantasi, meningsskapande, omdöme, sunt förnuft, mönsterigenkänning och handling. Tänkande blir därmed en flerskiktad dimension där olika komponenter kan aktiveras vid olika tillfällen, ibland överlappande och ibland inte. Den definition av tänkande jag utvecklar utifrån en gemensam läsning av Arendt och Deleuze är en fortsättning på min förståelse av ett levande posthumant subjekt som interagerar lika mycket med sig självt som med omvärlden. Även om posthumanismen mest fokuserar på vikten av en subjektberoende omvärld, menar jag att det aktiva subjektet, såsom världsligt, är kärnan för utbildningsförändring. Att påstå detta är inte antropocentriskt; det handlar om att odla vårt omdöme, vår förmåga att skilja rätt från fel, och därmed gå bortom oss själva.

I den tredje artikeln vänder jag mig till filosofen Sylvia Wynters tankar och centrerar diskussionen kring mitt nyckelbegrepp ursprungsberättelser. Att berätta historier om oss själva och omgivande gemenskaper, hämtade från olika typer av förmodade ursprung, är en mänsklig aktivitet som är betingad av vår biologi och vår kultur. Gränsen mellan dessa är huvudsakligen analytisk, för att bättre kunna argumentera för samspelet mellan dem. Jag föreslår att det är i det nämnda samspelet vi hittar möjligheter till förändring

av vår inneboende benägenhet att kategorisera människor och andra entiteter på ett hierarkiskt sätt.

Tillsammans utvecklar dessa tre artiklar ett filosofiskt-pedagogiskt tillvägagångssätt rustat för att ta sig an problem med inbyggda hierarkiska taxonomier kring människor, natur och teknik. Jag visar hur detta förhållningssätt kan omsättas i praktiken genom exempel som AI, datadrivna metoder inom utbildning, kritiskt tänkande och odlande av omdöme, samt biologiska-rasistiska föreställningar grundade på förmodade ursprung.

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