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Chapter 3
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Lili-Ann Wolff, Janne Elo, and Michael Uljens ⓘ

Abstract In a time that many researchers have started to refer to the Anthropocene, the role of higher education (HE), as predominant educational institutions, is most relevant. Humanity faces big challenges with climate change that have become too obvious to be denied, a faster biodiversity loss than ever, growing inequality and poverty problems, and a zoonotic pandemic that has revealed that humans are parts of viral ecosystems. In such a world, the idea of the university and higher education in general is crucial in preparing for the future. This chapter discusses more precisely HE curriculum leadership (HECL) in the Anthropocene. The argumentation explores the topic from a view of *Bildung* and *non-affirmative education*. Based on the literature, the study specifically explores if the non-affirmative education theory could be an option to develop HECL in the Anthropocene. The paradoxical situation with an education that promotes freedom for humans, who live on a planet that noticeably limits their activities, is all but easy. Therefore, the HECL challenge includes the promotion of responsible discussions about values and urgent activities now, but also about how to enable the students to live in an unknown future.

Keywords Curriculum leadership · The Anthropocene · Non-affirmative theory · Sustainability · Higher education leadership

Introduction

The current world situation calls for an increased global focus on the future to secure the living conditions on the earth. In addition, it calls for responsible actions from all social sectors. Thus, higher education (HE), and higher education leadership (HEL)

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have inescapable steps to take, both on the management and curriculum levels. This chapter will especially discuss the role of higher education curriculum leadership (HECL) in relation to the world situation. According to contemporary Didaktik and curriculum theory, it is widely accepted that curriculum development is about choosing *what* to teach, but also about questioning who should have access to the knowledge, why particular content should be taught, based on what rules the content should be selected, and how the curriculum parts should be interrelated (Kliebard, 1992; Ylimaki, 2011; Klafki, 1997a, 1997b; Hopmann, 2007). If curriculum leadership is employed critically, it is more than leading work based on these questions.

After the transition from pre-modernity to modernity, educational theory operates with an idea of the future as open. Therefore, education faces the paradoxical dilemma of preparing *for* the future even though the future, in principle, cannot be known. The future itself is shaped by actions to be taken in the future. Humankind has abandoned a teleological cosmology according to which the development of human culture follows a predetermined plan. Yet, the near future is not totally behind a veil of ignorance. In fact, there is enough convincing knowledge about the direction and magnitude of where the world is heading. In addition to what is obvious, humans are forced to envision the future and what role future generations will have in its continuous shaping. While education for a long time has operated with a dyadic idea of generational change, humans need to reconcile and truly incorporate the idea of a multi-generational future perspective. Such a perspective centres intensely around an idea of responsibility for generations to come, or differently expressed, a responsibility for humanity in large. The idea of modernity was connected to the rise and development of nations, states, and nation-states, decentring the Kantian idea of education as related to a cosmopolitan view of humanity. Today humanity needs to rethink education and view it from a global perspective including education of the individuals for humanity's sake, and even the planets sake.

In such times, universities, including leaders and teachers, cannot be the ones who transform the students in a specific direction. Rather their task is to provide conceptual, experiential, historical and research-based perspectives that help students to construct a shared and individual platform for future engagement in professional, cultural, and societal participation. This includes collaboration in their visioning of a better future, which helps in attaining a critical consciousness (cf. Freire, 2021). A critical curriculum leader in any educational institution works in partnership with various other groups inside and outside the HE institution, and actively influences policies when needed.

Curriculum leadership, as education in general, is often reflected in relation to a broader or narrower context. In a longer historical perspective various contexts have significantly influenced how people think about education. In premodern cosmology, religion was important. Later, education was to a large extent connected to the idea of a nation-state. More recently, with the evolving global knowledge economy, the market has received an increased role. We argue that increased awareness of global interdependencies of various kinds, requires a rethinking and broadening of

the contextual issue. Uljens and Ylimaki (2017, p. 107–117) ask: "(H)ow should we conceptualize education, leadership and curriculum in order to make sense of these phenomena in a contemporary cosmopolitan perspective?" In arguing for 'globopolitanism' as a new leitmotif they make a distinction between cosmopolitanism as an education ideal and cosmopolitanism as empirical interconnected transnationalism. Identifying the validity of Uljens and Ylimaki's (2017) argument this chapter intends to continue the debate by presenting what is meant when calling the current time for the Anthropocene. The chapter starts with a background on why the quest for sustainability has arisen. We hope that this opening strategy will make it easier to understand the argumentation related to education that will continue in the subsequent sections of this chapter.

The Anthropocene

Numerous researchers, especially in the field of geoscience, argue that planet earth has entered a new geologic epoch and left the Holocene, which started about 12,000 years ago (see, Crutzen, 2006). They call the new epoch the Anthropocene, and in this word the first part comes from the Greek word *anthrōpos*, which means 'human being'. Thus, the Anthropocene is the name of the time when humans started to influence the atmospheric, geologic, hydrologic, biospheric and other earth systems, and make an impact on the globe far beyond the physical spheres. Many are those who mean that the so called 'Great Acceleration' started in the middle of the twentieth century or after the Second World War (e.g., Autin, 2016; Waters et al., 2016). At that time a growing world population began to consume resources and create new materials at an exponential rate (e.g., Sörlin, 2017), and to treat almost everything on earth as a resource (Paulsen, 2021b).

The Anthropocene is described in various ways by researchers from various fields. Sverker Sörlin, whose research field is environmental history, compares the idea of the Anthropocene with an intense light, and they also use the metaphor 'Janus faced'. Both the light and the metaphor reflect that this idea reveals how vulnerable the earth is and how it has reacted to the politics and science of the last centuries. It also reveals that humanity is in a dangerous situation, which people living now need to solve. Thus, the light points simultaneously backwards and forwards, from destruction to responsibility (Sörlin, 2017). With this Sörlin means that humans need to look backwards to understand what has brought them to this point and why their current lifestyle might be destructive, and to look into the future to solve the problems. In the book *Risk Society,* the sociologist Ulrich Beck (1992) describes how humans are entering a new era of social transformation in which the time of excuses is gone, and the time of self-criticism is the only option. In this new era, other means than politics may be required to decide about the future. Similarly, the educational researcher Michael Paulsen (2021b), calls the Anthropocene 'a time of transition', while Ole Kvamme (2021, p. 1) from the same research field talks about a time of 'global corporate capitalism', a time when "central imaginaries associated

with identity – human being, personhood, person, and the self – are, in fundamental ways, being shaken". Subsequently, to be a human today entails both to have insight into the state of the world, and to be willing to jointly change it, when needed.

Various positions exist regarding the consequences human activities have on the planet, and solutions are offered. Among them are solutions that are scientific, technical, philosophical, or political. In social sciences, the Anthropocene is viewed as a break that can denote both an environmental awakening and the end of the society of today (Autin, 2016; Wolff et al., 2020), pointing towards the unpredictability of the outcome. Climate change and biodiversity decline are the most obvious signs of the human impact on the earth, and neither of them can be denied. Still one sign of the problematic relation humans have with other parts of nature is the pandemic. In an oft-downloaded article in *Science*, Holmes states:

> Major changes in land use, increasing urbanization, and global connectedness are well documented as driving disease emergence through increasing human–animal contacts and accelerating transmission rates, and climate change will similarly accelerate the rate of zoonotic events. (Holmes, 2022, p. 1114)

Huge social problems like war, poverty and hunger are often interrelated with each other as well as with issues like climate change (see, e.g., Davies & Riddell, 2017; O'Riordan & Sandford, 2022). What happens to the earth has an immediate effect on humans.

A Quest for Change Through Politics and Education

It has become increasingly obvious that the state of the world is all but durable, and that a change is necessary. Many people have been aware of this for decades, among them the members of the Club of Rome.

> . . .change is perhaps already in the air, however faintly. But our tradition, education, current activities, and interests will make the transformation embattled and slow. (Meadows et al., 1972)

The Club of Rome was created in 1968 to address the environmental crises. In the 2020s, it has about 100 members, including notable scientists, economists, business leaders and former politicians (Club of Rome, 2022). Since its first book, *The limits of growth* (Meadows et al., 1972), the club has regularly published alarming reports on the state of the world.

Since the 1990s, attention on 'sustainability' and 'sustainable development' issues has rapidly increased. According to UNESCO, 'sustainability' is a long-term goal, whereas 'sustainable development' acknowledges the process towards this goal (UNESCO, 2018). Thus, sustainability had already emerged as a visionary notion in the 1960s, while sustainable development became a political agenda in the 1980s (WCED, 1987). These concepts are all but clear, and have multiple meanings in various contexts, and are even used as synonyms. Salas-Zapata and Ortiz-Muñoz

(2019) distinguish four ways that sustainability is employed in research. They are as: (1) a set of social-ecological criteria guiding human action, (2) a vision of human-kind realised when uniting social and ecological objectives of a particular reference system, (3) an object or phenomenon taking place in certain social-ecological systems, and (4) an approach involving the incorporation of social and ecological variables into a study, process, or product. In educational research all these approaches occur, and a problem is that the interpretations as well as the implementations most often are normative.

A political plan for moving towards sustainability that has received much attention is *Transforming our world: The 2030 Agenda for Sustainable Development* (in brief, called Agenda 2030) with its 17 goals (SDGs) and 169 targets (UN, 2015). This political agenda strives for action on climate change stressing that humans must live in harmony with nature, but they must also develop a more equal world with a target to end poverty and hunger. Thus, the agenda is a political 'plan of action for people, planet and prosperity' (p. 3). However, an increasing number of voices do not find the Agenda 2030 and its SDGs radical enough (see, Briant Carant, 2017; Scott, 2015; Swain, 2018). On the contrary, they call for a global redistribution of economic resources. They see a so called 'green economy' as a way to uphold prevailing societal capitalist models trying to simultaneously promote economic development and sustainability (see also Loiseau et al., 2016).

Irrespective of if the SDGs and similar policy agreements striving for a sustainable transformation of society are regarded as convincing or not, they are still guidelines pointing out that the state of the world is all but defensible, and that the course needs to be changed. A positive future depends on human capability and willingness to change and learn to act differently. At this stage, humanity needs more than technical innovation and economic growth, humanity needs tools to solve huge planetary problems and handle unpredictability. Both groups and individuals need basic knowledge about the planetary limits, and what is needed to change the situation in various sites and situations. In addition, the state of the world requires inhabitants with an understanding built on ethics to be willing to live without causing damage to the earth, so it will remain inhabitable (see, Wolff et al., 2020). Accordingly, there is a quest for an education that prepares people to handle an unpredictable future.

Since the 1980s, politicians have repeatedly given education an important role in the transition to sustainability (e.g., UNESCO, 2020; WCED, 1987). An increasing number of educational researchers, NGOs, teachers, and others have also actively informed and educated others about the planetary challenges. Not least, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Union for Conservation of Nature (IUCN) and World Wildlife Fund (WWF) have mutually and separately acted on the forefront both to initiate actions, but also to discuss the consequences for education (Wolff et al., 2022). Many educational researchers also call for more thoughtful actions, and do not think transformation is any easy task. Transforming society is neither the same as transforming education

nor transformative learning. Hitherto the effect of education has been slow, as Meadows et al. stated already in 1972 (see the first quotation above, see also Wolff, 2011). A problem is that many voices seem to mix the role of politics and education, subordinating education as a tool to reach political aims. Instrumentalising education jeopardises the potential of education to develop students´ capability to critically reflect and to act based on their own judgements. Thus, both in schools and universities, students must learn to make responsible and cogitative actions. A learned individual demonstrates a discerning intellect and morality. In this light, educational institutions cannot be places in which the students learn to uncritically fulfil political aims. This concerns especially higher education institutions. However, let us be clear, since the establishment of modern universities in the seventeenth century, also Nordic universities have fulfilled parallel motives. Generally taken, for universities to act in the interest of economic productivity is not necessarily problematic. In fact, most of them have increasingly started to be cast in the same neoliberal mould, thereby losing their critical potential.

This chapter will discuss the role of education, especially higher education (HE), and of HE curriculum leadership (HECL) in the transformation that is required to tackle climate crises and other challenges in the Anthropocene. The text will especially focus on which vistas Bildung and non-affirmative pedagogy could offer in the context of HE and HECL. We begin by clarifying what international policies have to say about HE in relation to sustainability, and the role of HE in the transition to sustainability. Second, we discuss three educational positions offered as the means. Third, the focus is turned towards affirmative and non-affirmative education. The chapter ends with a reflection on if a non-affirmative approach could be an answer to what education needs in the Anthropocene.

Higher Education and Sustainability

Among the many international policy documents stressing the role of education in promoting sustainability, is the Global Partnership for Education (2020), which explicitly emphasises education to promote peace, tolerance, and sustainable development. On the contrary, the World Economic Forum 2015 report emphasises that students must adapt to the labour market, even if the UNESCO Secretary-General Irina Bokova, in her foreword, emphasises education as a path to sustainability (UNESCO, 2015). This report is no exception, since sustainability is not at the forefront in common international education policy. In general, policy pays main attention to socio-economic aspects, like the twenty-first century skills aiming at the promotion of knowledge and skills to succeed in a future labour market, in which high competition and rapid change are the target (Griffin & Care, 2014; Wolff et al., 2020). In many parts of the world the biggest unsustainable problem when it comes to education is a lack of education, especially if attending HE is impossible for most of the world's inhabitants.

Sustainability as a HE Goal, Among Others

Kaplan (2021) agrees that higher education is the topmost educational institution leading research and innovation. From the viewpoint of being a dean, he also argues that the survival of these institutions is not self-evident without radical changes of the rules of the game. To stay on the top is to be part of an already existing game. What he sees as the main transforming directions the current time calls in by HE are digitalisation and artificial intelligence (AI); both will need a stronger focus on developing students with skills like adaptability and autonomous learning. Other necessary changes he asks for include adapting to cross- and interdisciplinarity, as well as educating responsible and sustainability-minded leaders. In addition, he stresses the need to collaborate with stakeholders outside the HE institutions and that the HE members need to match their actions with their words. However, one can ask if all these goals are mutually within reach. Like many other voices, Kaplan's ideas about how a university can survive and compete in the global educational field have many ingredients that are difficult, even impossible, to combine with sustainability. To be a part of an existing top game, one must play hard since the rules are hard ─ games have both winners and losers.

> Not only have competition and competitive schemes dramatically developed in the last decades, from competition for students to competition for budgets and competition for professors, but the nature of competition has also evolved, leading to new forms of competition, especially on the segment where this evolution has been the strongest, i.e., research universities. It is argued that competition in higher education is no longer only occurring between individuals and countries, but has become institutional, leading to a multi-level form of competition and transforming universities into competitors (Musselin, 2018, p. 657).

When HE strives to be competitive on a global educational market and to contribute to economic growth, these goals easily contest with sustainability goals in HE policies (Wolff et al., 2017). The practice of HE institutions is similarly the target of many incompatible wishes from a large number of staff and student groups and various stakeholders, like funding agencies, politicians and managers (Wolff & Ehrström, 2020). Thus, the HE institutions and HE leadership are interwoven with myriad political, economic, cultural, and religious interests and ideologies (Elo & Uljens, 2023). They might be entangled in various power constellations and must operate and balance between contrasting interests. Therefore, they may be forced to raise external funding, even if this involves meddling with businesses that are unethical from a global equality view. Expectations upon HE to deal with sustainability and sustainable development are thus merely one among many expectations of HE. Balancing expectations of sustainability, while simultaneously recognising expectations to contribute to economic growth or technological innovations can sometimes be at odds with each other. Balancing between different and sometimes contradictory expectations is one of the challenges for HE curriculum leadership.

Another difficulty is the epistemological dissimilarities between various disciplines. However, even if separate disciplines and faculties have dissimilar interests

and ideologies, complicated sustainability problems call for interdisciplinary approaches both in education and research (e.g., Dillon, 2006; Wolff et al., 2017). The problems cannot be solved without innovative methods (Christie et al., 2013) through which students learn to criticise normative assumptions and to search for alternative views (Zilliacus & Wolff, 2021; Wolff, 2011), and acknowledge both collective and individual interests in various timeframes (Roos, 2015) from an ethical view (Wolff, 2011; Wolff et al., 2017).

Universities are the leading producers of knowledge, and besides education, they have two more central tasks: research and societal engagement. Nonetheless, they have a strong subject orientation with a lack of interdisciplinary understanding, and administration that often hinders collaboration between subjects and institutions. The researchers include an increasing number of specialists even though sustainability issues are widely connected and complex (Wijkman & Rockström, 2012), and call for cross-disciplinary, even transdisciplinary approaches. However, cross-disciplinarity action is not possible without leadership and management support.

Collective HE Actions and Prospects

Since the end of previous century, many international associations aiming at sustainability in HE have seen the light of day, and many of them are especially involved in campus greening, but they also have other wider targets (Niedlich et al., 2020). An interesting new agent in the last decade is the *Planetary Health Alliance* (PHA) that is a growing confederation of more than 300 universities, non-governmental organisations, research institutes, and government bodies from more than 60 countries. The PHA is a result of the *Rockefeller Foundation-Lancet Commission on Planetary Health*'s report *Safeguarding human health in the Anthropocene epoch* in the renowned medical science journal *The Lancet* in 2015 (Whitmee et al., 2015, 22 authors, cited nearly 2000 times). This report highlights many issues that need to be studied and developed for humans to be able to live on a healthier planet. Nevertheless, like many policy documents, this report also strongly trusts in increased knowledge and behaviour change interventions. The idea that knowledge can trigger action, and that attitudes of others can be purposefully changed is a recurring issue in the sustainability debate. Unfortunately, there is no linear route from knowledge to action, and the hindrances on the way are numerous (see, Wolff, 2011). Therefore, the mode of the pedagogical enactments is crucial.

"Planetary Wellbeing might be defined as the highest attainable standard of wellbeing for human and non-human beings and their social and natural systems", according to Antó et al. (2021, p. 1). With 'planetary wellbeing', the authors extend the 'planetary health' concept, and call it a normative ideal for both the entire planet and for humans. According to Antó et al. as the leading educational bodies, HE institutions have a key role in encouraging awareness and promoting actions to improve planetary wellbeing. Nevertheless, this is easier said than done, and with a normative goal as the guideline, there might be a risk of *affirmatively* promoting a

fixed ideal. However urgent a goal might appear, when education is guided by preset goals, it is similar to if education strives towards conserving a society of status quo or to aim at an ideal or utopian future state (see, Uljens, 2020). Nevertheless, to change other peoples' attitudes and values is not the same as to ask for changes to the procedures and the principles that guide education. In contrast, to raise awareness of the state of the planet and encourage actions for change based on the students' own critical considerations, needs a non-affirmative approach by HE and HECL. We will penetrate deeper into this issue when discussing non-affirmative education later in the chapter.

Higher Education Leadership

According to Balsiger et al. (2017), sustainability is not only competing with contradicting goals in HE policies, but there is also a lack of capacity and knowledge about how to transform higher education practice. It is crucial for HE leaders to reflect on what goes on in the world and change course in relation to what takes place, but the sight of what is most essential for the earth's survival and its inhabitants cannot still be lost. Undoubtedly, the organisational change processes are vastly complex and include many aligned development parts with various actors and simultaneously occurring internal and external impacts (Azizi, 2023). Global events, crises, and trends have a strong influence, or rather *influences*.

HEL in All its Complexity as a Part of Change

Despite the significance of leadership for a successful transformation of HE's promotion of more sustainable societies and to face the challenges of the Anthropocene, the literature on the role and practices of sustainability leadership in higher education is poorly developed (Aung & Hallinger, 2022; Azizi, 2023), and the studies have also been fragmented (Azizi, 2023). Leadership in and of HE differs from leadership in private businesses due to its object: education. This means that HEL has a pedagogic dimension (cf. Elo & Uljens, 2023; Tigerstedt & Uljens, 2016; Uljens, 2020) in two respects. On the one hand, the end object of HE leadership is pedagogic (HE teaching and studying) and on the other hand, parts of HE leadership aims at development (staff or organisational) and thus includes supporting and influencing the learning processes of others. Curriculum development in HE combines both, as it consists of the learning and development processes of staff, aiming at transforming HE teaching and studying, i.e. pedagogical leadership of pedagogical praxis. In Leal Filho et al.'s (2020) study, one of the main sustainability leadership tasks mentioned by HE leaders was curriculum development, pointing towards the key role of the pedagogical dimensions of leadership when dealing with sustainability issues. Yet, curricular development is not without challenges.

Because of the many challenges, HEL is intricate in many ways. As already stated, to understand the pedagogical role of HEL, one needs to see it as a part of a dynamic process in a large context involving multiple agents and players that influence each other in many ways (Elo & Uljens, 2023). This does not only make HEL into a dynamic commission altering between what takes place on internal and external arenas, but also in relation to the past and the present time (Uljens, 2020). Like HE in general, HEL involves a great number of both internal and external stakeholders. Therefore, both HE and HEL form parts of complex dialogues or discourses, as they are context-dependent and interrelated with many other sectors of society (Elo & Uljens, 2023; Tigerstedt, 2022). This is challenging, since people are multifaceted, they have a variety of backgrounds and conditions (Wolff & Zilliacus, 2021). The influences are also many, both international and national, when it comes to visions, management, work processes, as well as evaluation of outcomes. This means that the situation may quickly request adjustments. Not at least concerns like an enlarged privatisation (Uljens, 2020), the increased student volumes and institution numbers, growing costs, as well as the political visibility and the economic significance attributed to education and research have all affected HE (Schofer et al., 2021). In Europe, there has been a clear shift from an input-centred to an outcome-oriented curriculum policy (Uljens & Ylimaki, 2015).

To increase the potentials to change HE, it is crucial to initiate both internal and external discussions about where HE is heading, what the ultimate aims of HE are, and what kind of life in what kind of a world the students enrolled today might have to live in (Wolff, 2007). Similarly, it is crucial to discuss what kind of educational and didactic approaches might lead to a change. Such discussion could be initiated top-down by the leaders or bottom-up, by students for example, but even a bottom-up approach needs a response from the leadership. Following Leal Filho et al.'s (2020) description of leadership, its role is to align people with visions, motivating and empowering them. Yet, they also emphasise that anyone in an organisation can become a leader and initiate change.

The Political Goal Diversity of HEL

In many countries, HE has been influenced by ideas of new public management (NPM) (e.g., Elo & Uljens, 2023) that is a management model based on a neoliberal ideology. NPM is built on the ideas that the quality and efficiency of the civil service should be developed by management techniques and practices mainly employed in the private sector (Bleiklie, 2018). However, NPM built on elements like accountability and measurement might not suit very well an aim of transformation towards what the Anthropocene dilemmas demand. The combination of HEL based on NPM and the quest for a transformation because of the challenges of the Anthropocene is all but easy.

HE institutions have strong cultural and historical traditions (Uljens & Ylimaki, 2015). They are old-fashioned when it comes to procedures (Wolff et al., 2017), and

leadership is hierarchical and divided on a succeeding scale as well as on a parallel level, which makes all changes demanding. The notion of Bildung and the non-affirmative theory that will be in focus in the next section offers an alternative to market and economic imperatives in HE (see, Taylor, 2017), since leadership is not merely about management and pragmatically leading people, but also about creating conditions for other people's growth. Tigerstedt and Uljens (2016) call leadership *pedagogic* when it supports human growth and learning in interaction.

Three Diverse Options for HE

There are impediments of many kinds slowing down the transformation of more ecologically sound and equal societies, many of them ideological. Since education is given a major role in the transformation process, the following discussion will concentrate on what educational options are commonly offered and what a transformation to fit the challenges of the Anthropocene could denote from the view of education and curriculum development. This section discusses three positions often offered to handle future challenges in educational contexts, in relation to higher education, leadership as well as to sustainability. These positions are competencies, transformative learning, and Bildung. Even if these positions sometimes are mixed, we will here present them separately as three examples on the many ways sustainability is approached in HE curriculum and HEL today.

Competencies

Following the twenty-first century skill discussion and other contemporary education policy approaches, the focus on *competencies* has risen to the top. This is obvious when it comes to HE as well as sustainability education, but also HEL and sustainability HEL (e.g., Purcell et al., 2019; Segalàs et al., 2009). There are efforts towards the development of education competencies, higher education competencies, sustainability competencies, and leadership competencies. The origin of this interest is the OECD that started to aim at competency development in education more generally in the 1990s (OECD, 2014). Hundreds of sustainability programs have emerged in the global HE context the last two decades (Brundiers et al., 2021), and many sustainability attempts in HE are striving towards developing the students' competencies (Pacis & Van Wynsberghe, 2020; Evans, 2019; Levesque & Wake, 2021). However, competency is a vague concept that might relate to psychology or sociology, a performative ability to operate in practical situations, or entail something interpersonal, organisational, or theoretical (Schaffar, 2019). There are many lists with sustainability competencies, seldom explaining which theories these lists are built on (Brundiers et al., 2021). Among them is a much-cited list created by Wiek et al. (2011), according to whom a student needs to develop systems thinking,

anticipatory thinking, strategic thinking, values thinking, interpersonal collaboration, and integrated problem-solving. To this list, UNESCO (2017) has added self-awareness competency, which is controversial as a competency, according to Jaakkola et al., 2022). A more basic division is knowledge and understanding, skills and abilities, and attitudes (Segalàs et al., 2009).

Since the sustainability competencies are listed in various ways by various authors (Jaakkola et al., 2022), the whole competency concept is as such very hard to interpret (see, Schaffar, 2019). Competency is also used as a synonym of competence, even if the meaning shifts (see more about this in Jaakkola et al., 2022). An attempt with this concept has been to measure the learning results. However, measuring competencies is hard, since features like someone's agency, responsibility, motivation, and morale are often situational and varies with the content of knowledge area. In addition, competencies are often viewed as intra-individual capacities and not socially distributed or relative contexts and contents. Thus, the competency approach instrumentally focused on changing people, be they leaders, students, or others, but not communities. Therefore, one can ask if a competency approach is suitable for HE, which aims to prepare the students for an unknown future.

Transformative Learning

Another approach that is often emphasised in relation to sustainability education and leadership is *transformative learning*. Opposite to the competency approach, transformative learning is a learning theory with a theoretical background based on many thinkers, like the philosophers Karl Popper, Jürgen Harbermas, John Dewey, and Thomas Kuhn, the educator Paulo Freire, the psychiatrist Roger Gould, and many others (see Kitchenham, 2008; Mezirow, 1990, 1991). Based on these and other theories Jack Mezirow developed the so called 'transformative learning theory' aiming at adult learners and valid for adult learning contexts. A transformative learning approach strives to promote the students' critical reflection on postulated meaning and values, and to identify and judge their earlier assumptions (Mezirow, 1990, 1991). A key element in transformative learning is critical reflection, implying that the learners become aware of their frames of reference and are willing to expand them. According to Mezirow (1990), the educator is an 'emphatic provocateur' and a model for critical reflection.

Transformative learning is built on trust. Therefore, shaping trustful relationships in authentic practices is a foundation for transformative learning (Taylor, 2009). Trust is a prerequisite, both between the students, and the students and teacher, if the educator wants to promote the afore-mentioned critical reflection. While transformative learning can awaken strong emotions and feelings of vulnerability, the educator needs to be responsive and aware of the students' comfort levels (King & Heuer, 2009; Tisdell & Tolliver, 2009), so the learners develop confidence, and readiness to deal with learning even if affective (Taylor, 2009). Lange (2009) states

that transformative learning is about 'creating a learning sanctuary', which first means that the educator leaves the door open for unseen transformation to occur. Second, it is about shaping new relationships between the social and natural world, and third, offering a safe space to enable the participants to ask deep questions that can lead to broader societal relationships. The notion of trust in the transformative learning theory relates to recognition and vulnerability. All these three elements occur in Habermas' communicative action theory (Petherbridge, 2021), which was crucial for Mezirow.

Like competencies, transformative learning is often used in sustainability education discussions. The transformative learning theory is strongly based on theories, but still it is often implemented in a shallow way in sustainability education contexts without relating the concept to any theories (Giangrande et al., 2019; Aboytes & Barth, 2020). However, Sterling (2011, p.27) states that even if transformative learning is difficult, a "mainstream emphasis on cognitive learning with a little 'values education' thrown in", will be insufficient to meet the contemporary unsustainability challenges.

The ideas of competencies and transformative learning are also often combined, even if shallowly (e.g., Peterson & Lundquist, 2021; Sahakian & Seyfang, 2018). OECD (2019) combines these approaches by outlining three transformative competences [sic] for 2030. They are: 'creating new values', 'reconciling tensions and dilemmas', and 'taking responsibility'. With these competencies, OECD (2019, p. 4) implies "the types of knowledge, skills, attitudes and values students need to transform society and shape the future for better lives". However, a transformation process is complicated and far from any easily adoptable competency, and it is a theory that must be developed further to suit new contexts, like sustainability and HEL. When implementing sustainability in HE through a transformative learning approach including a focus on competencies may easily end up in normativity (Sahakian & Seyfang, 2018).

Bildung

The idea of Bildung has many aspects in common with transformative learning (see, Buttigieg & Calleja, 2021). They have partly the same root in the thoughts of the Enlightenment with philosophers like Rousseau and Kant, and the German philosophical tradition built on classical thinkers like Schleiermacher, Hegel, Herbart, and later also Habermas. Especially elements related to Habermas are similar (Sørensen, 2015).

In the eighteenth century, the Enlightenment philosophers started to refer to the 'Bildung' concept. They saw Bildung as a holistic educational approach aimed at the development of humankind. The concept of Bildung, became a part of the vocabulary of the culture and education minister of Prussia, Wilhelm von Humbodt. He used Bildung when he talked about the university reformation and civil servant education at the beginning of the nineteenth century. In contrast to the word

education, Bildung has no preset aim, but describes a progression, like a journey, in which someone leaves the homeland or hometown and enters an adventurous journey open for new experiences and understandings (Gadamer, 2013). The experiences during the journey may change the traveller's way of thinking and acting and when returning home, this person may have changed, and initiates change in the surrounding society, as well. When viewing HE through this metaphor, HEL is about leading in a way that is *non-affirmative* towards the community with staff, students, and stakeholders, being willing to influence and act in the society and even globally, to see what is possible in others, and thus promote transformation (cf., *Bildsamkeit* below). In this context, non-affirmative means that the process does not recognise and affirm a predefined end goal, instead, the question of the future direction is regarded as being open for deliberation. The critical power of non-affirmative curriculum leadership then lies in that it avoids conservative reproduction of existing practices but also avoids acting instrumentally with respect to any external interest. Such an idea of education and curriculum leadership also implies that the pedagogical interventions operate indirectly by reminding that, in the end, it is in the hands of the learner what comes out of the process.

The idea of Bildung assumes that humans can act in a way that exceeds the immediate present. Bildung is a kind of a creative dialogue in which a newcomer (novice) discusses with the world. However, the Bildung process has no preset aim, the outcome remains open. Therefore, Bildung does not suggest a specific way of life, but is "a guiding concept that reflexively ties together a diversity of different life experiences and lifestyles" (Riese & Hilt, 2021, p. 99). Bildung includes critical reflection on the past to be able to transform the present into a better future. Uljens (2020) also emphasises that Bildung is about realising the shortcomings of one's hitherto knowing, and an ability to envision the future.

A problem with the Bildung approach in relation to sustainability and the challenges of the Anthropocene, is that the idea of Bildung is often perceived as strongly human centred. From the beginning it has dealt with humans both as individuals and groups, but not with humans as a part of nature. According to Paulsen (2021b, p. 212), the idea of Bildung "marginalises nature as a scene to be tamed and mastered". However, this is a misconception. Given that the idea of Bildung refers to an unending interchange (Wechselwirkung) between the subject and the world, the subject is made dependent on something it is not by itself. Instead, the subject is constantly questioned by the resistance put up by the world. Paulsen (2021b) mistakenly reads the concept of Bildung too normatively. In addition, the classic representatives of Bildung typically saw education of a moral character as the highest aim of education. The highest aim was not to learn to reason following any predetermined morality, as perhaps implied by Paulsen, but to live with the question of good life as an open one, or as a constant companion in life. As morality is renegotiable, the individual must learn discerning thinking in moral issues.

At the end of the 1980s and the beginning of the 1990s, German educators started to ask for an ecological Bildung (ökologische Bildung) (e.g., Müller, 1994; Möhring, 1996; Waldmann, 1992). Müller (1994) wanted to see an ecological Bildung as a part of the general Bildung, and not as any add on. The dilemma

with the absence of natural world from the Bildung discussion, has also been raised by Peltonen (1997), who sees Bildung as a process in which humans acts alone and jointly in cultural, social, and natural environments, and thus recreate, define, and transform both themselves and their environment. Similarly, Wolff (2007) calls for a Bildung approach in HE that creates a more realistic view of the future, and that is built on interdisciplinary approaches, acknowledging diverse forms of knowledge including scientific perspectives other than Western ones. Such an education incorporates ethical discussions about how current and future dilemmas relate to human history, and how humans have exploited the non-human part of nature and each other in the past. Suhr (2021) combines transformative approaches and ecological Bildung, when they search for a 'transformative social ecologic education' through the philosophy of Herbert Marcuse.

Even if there are many voices that are critical of the notion of Bildung, it has also found its way to the posthumanism through for example Carol Taylor (2017), who situates it in an English HE context:

> I make the case for a posthuman Bildung which recognises the inseparability of knowing and being, the materiality of educative relations, and the need to install an ecology of ethical relations at the centre of educational practice in higher education. Such a conceptualisation situates Bildung not purely as an individual goal but as a process of ecologies and relationships. (Taylor, 2017, p. 422).

Still Taylor (2017, p. 423) argues that Bildung with its origin in the Enlightenment is firmly tied to "Western-centric, individualistic and colonialist modes of understanding". Nonetheless, Taylor sees Bildung as a flexible concept, and states that regardless of this burden, the idea of Bildung can be modified like any other concept, since "concepts find their value in being put to use". By this argument, Taylor means that Bildung is not any static notion, but can be developed and must be developed constantly, since the circumstances today are different from what they were in the eighteenth century.

Another representative of the Bildung tradition that has put the concept to use their (take 'their' away) when writing about didactics from a Bildung perspective in the late 1900s is the German educational researcher Wolfgang Klafki, who correctly claims that teachers today cannot have knowledge about what cognitions and attitudes students will need in the future (Klafki, 1997b). Klafki also warns against making school education into a simplification of scientific knowledge, and wants to include so called 'epochal key problems' in the Bildung concept. By this, Klafki addresses global issues related to the environmental crisis, social inequity, and war, as ways of presenting educational content more universally (Klafki, 1997a, 1998). All the complicated challenges of Anthropocene are epochal key problems, and Klafki (1997a, 1998) and Scott (2009) call for an education that creates students' capacities to live in an unpredictable future world and makes them prepared to adjust to changing physical and material circumstances. In addition, Klafki (1998) calls for an education that promotes critique, argumentation, and empathy. Klafki's view of epochal key issues is in line with what Jean-Jacques Rousseau had already sketched out in 1765 in the supplement part of the book *Émile*, *Émile et Sophie.* The most

important aim of education, in this often-neglected part of Émile, is not that Émile should achieve a particular kind of knowledge or competencies, nor specific values or attitudes, but to become capable of living whatever life would bring in his way (Rousseau, 2009).

Paulsen (2021a) is critical to the ideas of Klafki, since Paulsen means that the Anthropocene cannot be regarded as an epochal key problem among others, but must be viewed as a new world-horizon that demands a reinterpretation of the previous epochal key issues, and a rethinking of the notion of Bildung. Therefore, Paulsen suggests three aspects of education relevant in the Anthropocene. These aspects are: (1) *A new awareness*. This aspect entails that humans need to reflect on who they are and how they relate to the rest of the world, (2) *A double entanglement*. This aspect emphasises the bonds between *humans and humans* as well as between *humans and non-humans*. It also includes reflections on how these two bonds interact. (3) *A new epoch*. Since there is nothing like a nature-free human or a human-free nature, this aspect implies opening a new understanding of both old and new relations and problems.

Like Paulsen, Kvamme (2021) is critical of Klafki's epochal key issues and asks where the non-humans are in this anthropocentric theory. Undoubtedly, humans are the core of the traditional Bildung theory. However, like Paulsen, Kvamme sees potential in Klafki's Bildung theory, because of its global viewpoint and since it has a transformative outlook including both ethical and political dimensions. In contrast to the instrumental competency concept, the German *Bildung* concept is an alternative that partly overlaps transformative learning and has an aim more in line with an education that the Anthropocene dilemma quests for.

Säfström (2021, p. 236) raises the question "how we are to mobilise pedagogy to respond to the forgetfulness of earth and its spiritual life without repeating the fallacies that brought us to this point?". Therefore, as a didactical approach that might have something to offer the HEL and Anthropocene discussion of today the following section will discuss non-affirmative education, which has its root in the Bildung theory.

Affirmative Vis-a-Vis Non-affirmative Education

The German and the Nordic educational traditions distinguish between a Bildung and a pedagogic action theory. We will first present the ideas of affirmative and non-affirmative education, and thereafter discuss the role of a non-affirmative Bildung approach in HEL, which could be called a pedagogic action theory. Finally, the section ends by answering the question of whether a non-affirmative educational approach could be utilised in a HE context to suit the challenges of the Anthropocene.

Affirmative Education and Action

As already stated, in the policies on how to implement sustainability through education, the aim has often been to try to change the students' attitudes and behaviour to suit predefined values. The question is how such a process is carried out. If it is only a question about learning values that are presented as self-evident, then this kind of change attempt is called *affirmative education*. Of many reasons, politics have aimed at changing the younger generation in a specific direction. The concern has been religion, economy, or to uphold some specific social order. When the 15 authors from various research fields in Antó et al. (2021. p. 9, see Higher Education Leadership above) talk about the flourishing of humanity, it might first sound similar to Bildung and a non-affirmative approach:

> that humanity can aspire to flourish only alongside non-human beings and in ways attentive to environmental boundaries and the political, legal, economic, cultural, and social systems shaping Earth's natural systems.

However, these authors see education as leading learners to a given, and in a sense closed, normative system, when they propose a new concept, 'planetary wellbeing', as a defined conceptual framework:

> Planetary wellbeing has a global reach that concerns us all, and we should endeavour to define a conceptual educational framework that can be taught not only at universities but also at primary and secondary schools, as well as in life-long learning programs open to everyone, regardless of their educational background. Finding a pedagogical template that can be refined by teachers working at all educational levels should be one of the goals of a project such as this.

Not only education, but also culture can be affirmative. This is obvious in the *affirmative action* concept that relates to how people treat each other and stipulate unequal laws (Van Alstyne, 2000). The affirmative action concept is much used in relation to supportive processes aiming at upholding racist and sexist cultures by law and actions (Hanson, 2020), and thus the concept is associated with social sustainability. Research related to the notion of affirmative action shows that the HE culture is far from offering equal opportunities for all (Ibarra, 2001). Repeatedly, empirical research shows how applicants from under-privileged social groups are underrepresented among university students, even in countries in which students can study free of charge, and, therefore, not dependent on familial economic resources. Similarly, in public education in countries like Finland, boys are systematically performing less well than girls. However, in many parts of the world girls faces huge barriers to education because of poverty, norms, lacking infrastructure, violence, and various forms of fragility (World Bank, n.d.). Educational policy and school systems thus affirm certain kinds of unequalising cultures, which affects the students' subsequent school careers and thereby the rest of their life.

A changing world needs leaders that are willing to initiate and trigger change processes in many arenas, from the global to the institutional, and from laws, regulations, and strategies to actual activities in daily campus life. This is not only about the so called 'campus greening' of the buildings, gardens, and consumption,

but also about shaping institutional educational cultures in which people can safely mature and flourish together. An HE culture includes patterns of assumptions shared by the members of the institution, and it develops and is transmitted in the daily interactions (Niedlich et al., 2020). Thus, a culture includes directly visible structures, language, and practices, as well as invisible principles, and it is apparent in many other ways than through language.

When considering the way non-human animals, plants, water, and land are treated in law and discourses, an affirmative action related to other than humans is also obvious, even if the concept affirmative action is not typically used to indicate this kind of unfairness. However, even if this is not the case, it is HE's task to address wrongness against other parts of nature as well as against humans by studying the reasons, processes, and possible consequences of such societal discourses. In a political initiative, Taylor (2017, p. 432) wants to see 'ecological universities' caring for the world, not only humans, and she sees the university education as entangled in "a posthuman partnership in worlds-making", since education cannot anymore be only a 'human affair'. Likewise, it is not only an 'inner process', but an educative practice that makes a difference in the world.

Affirmative education has probably existed for as long as there have been humans bringing up their children. Benner (1995) also clearly stresses the importance of affirmative education before an individual can learn to criticise and aim for change. This means that the process of socialisation comes before transformation. All animals perform affirmative education when they instruct their offspring on necessary issues, for example, when they teach them how to search for food, but they do not perform non-affirmative education. To transfer knowledge could also be called affirmative education, even if this task is often crucial. Thus, to have knowledge about the state of the world is a precondition before somebody develops capacities that make them ready to change it. Therefore, both affirmative and non-affirmative education are needed, even if their aims differ. However, for humans to grow, education is about teaching and learning how the world operates, and about one's own and others' options, and even obligations, to influence and change these processes. A critical frame of mind that sees change as an essential option becomes a lifelong endeavour, a Bildung process. Humans need to act in accordance with what they know today but be ready to accommodate and critical search for new routes.

In addition, the opposite of an affirmative education, a *non-affirmative* educational theory has existed for a long time, at least the seeds to it. Friedrich Schleiermacher was already writing about non-affirmative education at the beginning of the nineteenth century. The following section will introduce this concept, and how it could be implemented in a sustainability HE pedagogy, institutions, and leadership.

The Non-affirmative Education Theory (NAT)

For the most part, Bildung is taken to refer to an open, unending and dynamic process between the subject and the world. This is how Humboldt saw it. For such processes to occur, no education is needed. Bildung in this sense, is an anthropological way of being in the world. Yet this understanding of Bildung presupposes the existence of something external to the individual. In addition to that way of understanding Bildung, we can identify a class of human activities that are initiated by pedagogical interventions. Such Bildung activity does not happen by itself but depends on pedagogical activities in which the students are promoted to question what they experience. Based on the philosophy of Schleiermacher, Herbart and Fichte, Dietrich Benner, has developed a Bildung based education theory approach focusing especially on a *non-affirmative* view (Benner, 1995; Elo & Uljens, 2023). Non-affirmative education includes a critical treatment of topics like democracy, equality, and sustainability (Uljens, 2023). In the following sections, we will focus on a few elements that are central in the non-affirmative educational theory. They are 'Bildsamkeit', 'summoning to self-activity' (Aufforderung zur Selbsttätigkeit), recognition (Anerkennung), and the idea about non-hierarchical social areas.

The German concept *Bildsamkeit* is based on the idea that individuals are free and self-reflecting subjects, who can be "provoked" to continue reflecting and thus, further develop. Individuals are already subjects actively experiencing the world and influenced by the world, although not determined by it (Elo & Uljens, 2023; Brinkmann, 2021). In a similar fashion, individuals are also active agents influencing the world, without determining it either. The relationship between individual and world is thus characterised by reciprocal influence without determination. Only if students are treated as free subjects (not empty bottles to be filled), they can develop their ability to think independently and act in accordance with their own reflective decisions. They are provoked to make sense of the world.

The non-affirmative education theory (NAT) conceptualises a pedagogic intervention as a summons of self-activity, an invitation or provocation to an already self-active Other to direct their attention in a certain direction and engage in self-transcending activity that likely will result in a process of learning. In this process, the other exceeds their current way of understanding and being in the world. A pedagogical intervention is thus an interruption in the open and reciprocal relation between the Other and the world as described by *Bildsamkeit*. Due to constitutive subjective freedom, the summoner does not possess coercive power over the Other's way of perceiving themselves and the world. The Other is not determined by the summoner, who is unable to transfer ideas, knowledge, values, and competencies to the Other directly. Pedagogical influence is thus always mediated by the Other's self-activity. Even if Humboldt emphasised the role of language in the Bildung process (see Brinkmann, 2021), the summoning is also bodily and emotional. It is the whole individual who changes, not only the cognitive faculties (see also, Merleau-Ponty, 2012).

Pedagogical leadership, understood as a pedagogic summons, entails directing an Other's self-activity to transcend their current state through a process of self-directed transformation and is not tied to any formal leadership positions, as all actors are potential objects as well as initiators of pedagogical summoning. In a leadership context, this means that formal leaders as well as co-workers provoke others to reflect, and question preconceived notions and norms. This includes their relations with themselves, with others and with the entire world (see, Wolff, 2011). In the Anthropocene, the reflection on a human's relations to the biotic as well as the non-biotic parts of the earth and its atmosphere is extremely crucial. In a HE context, this means that students, co-workers, and others are provoked to jointly transcend the given. They are invited to dialogues (Uljens & Ylimaki, 2015), but also to act. In a HE context there are various players summoning each other "in complex, rhizomatic webs of summons" (Elo & Uljens, 2023, p. 1291) through various forms of relations and interactions that change over time.

NAT calls for recognising others and confirming them as anthropologically indeterminant subjects with a right to their own freedom (Benner, 1995). This offers educated individuals with opportunities to choose and influence how human culture develops in the future (Benner, 2001). To become a citizen is considered to be a privilege, but it cannot be taken for granted. However, it comes at a price, and that price consists of commitment, responsibility, and participation. The non-affirmative view on Bildung emphasises that individuals reflect on how their own interests are promoted in relation to others' interests.

Educational situations, in which someone promotes another's self-reflection and self-creative activities, offers opportunities for the learners to exceed themselves, and understand more than they otherwise would (Uljens, 2002, 2005). However, a paradox is how both to influence individuals' actions, and simultaneously encourage the development of their freedom. Benner (2005) regards this paradox as an educational starting point. The educator must prevent harmful deeds but can also promote learning processes that the students never might accomplish without the educator. Thus, the students become capable of achieving what they could not have done without supervision. To some extent, this compares with the 'zone of proximal development' that Vygotsky (e.g., 1978) developed. Awareness of the paradox can operate as a warning signal that prevents education from becoming too utopic or being derailed into indoctrination. Also, Rousseau expressed the idea that people must be encouraged, invited, and provoked to freedom (Affeldt, 2006). What Benner (2005) points out is that non-affirmative education is about recognising and treating another individual as something they are not yet, and to adapt the demands so they most likely engage the other individual in relevant self-activity.

Based on Axel Honneth, who was Habermas' student, Fleming (2022) has developed the notion of recognition into the transformative learning theory. "Learning involves an intersubjective process of mutual recognition that is a precondition for self-realisation, critical reflection, and engagement in democratic discourse and transformative learning (p. 574). Undoubtedly, Fleming's version of transformative learning has much in common with NAT, and Fleming sees adult learning as an

"intersubjective process of mutual respect and recognition" (p. 574). Therefore, Fleming emphases learning as something social.

However, freedom always has its limitations. Since humans are social beings, they are parts of social communities, such as HE institutions. This means that NAT criticises education theory positions that merely promote freedom and neglect the role of social responsibility. Such a pedagogy would compromise most visions of mutual covenants and actions, like responsible actions on behalf of the entire planet. Thus, contemporary HE is in a constant struggle between the goals of individual autonomy, social responsibility, and the survival of the earth (see, Wolff & Zilliacus, 2021). The leaders' responsibility is to recognise and care about individuals as well as the community. However, this is not enough; they need to include the entire planet. Without a vital planet, all human activities are in vain. Therefore, the human future and survival need attention. Humans are dependent on both the biotic (living) and the abiotic (not living) environment. An orthodox human-centred approach is impossible because humankind is completely dependent on other parts of nature for survival. Therefore, recognition in the Anthropocene epoch means that both the individuals' right to well-being and survival and the whole humanity's well-being and survival are acknowledged. In addition, the entire planet must be recognised. A non-affirmative leadership creates opportunities for individuals to develop their judgment and make their own choices based on recognition. From an anthropocentric view this means that other people are recognised as individuals, as members of society as well as natural beings dependent on a viable planet (see, Wolff, 2011). Therefore, humans need other parts of nature to survive. From an eco-centric view, all parts of nature have an intrinsic value, and need protection.

Education in a liberal democracy cannot have as its goal to merely train people for specific work tasks or leadership roles in a definite field and according to a teleological or hierarchical system. Instead, the education of today needs to prepare people holistically and include them in the understanding of various human activities (Benner, 2005). According to Benner, various human practices are equal and build a unity in which all parts are important for human coexistence in the future. Therefore, Benner (2005) divides human practices into six non-hierarchical practice fields or co-existentials, which are economy, ethics, politics, art, religion, and education. These generation transcending practice fields are neither predetermined nor hierarchical. In addition, Benner (2005) follows Herbart, and regards *education*, *ethics*, and *politics* as three branches of the same human intercourse. Thus, none of these three branches is hierarchically above the other, but they are equally important. Every individual must be introduced in these branches to be able to participate in common human practices, and in joint development of the entire world community, in a cosmopolitan way. The non-hierarchy between education, ethics, and politics in HE creates a discursive culture and an openness (Tigerstedt & Uljens, 2016). Thus, summoning in a HE context means to support the others towards professional, political, and cultural autonomy and to problematise norms, practices, and knowledge (cf., Tigerstedt & Uljens, 2016). A non-hierarchic order of practices makes it possible to criticise and critically study the policies and values education is built on from an inside HE position, but also vice versa, it gives opportunities for politics to

study education (Uljens & Ylimaki, 2017). This enables dialogues as well as mutual development actions between the practice fields.

Benner does not directly discuss sustainability issues, but he is aware of the conflict that may arise between values that recognise the world as a home for all humans, and those who want to protect the interests of distinct states. Similarly, he distinguishes between a conflict between seeing work as a general human activity, and exploiting nature and eliminating workers in a competition between labour and capital. When reflecting on the idea of non-hierarchic practice fields, we cannot help wondering why some fields are absent. We don't view Benners's description of the practice fields as a definitive description, but rather as communicating the point that a liberal democracy can be seen to consist of various fields of practice influencing each other in a non-hierarchical manner. However, the division into these fields itself can vary, and depending on how they are divided, the fields themselves can be more or less intertwined with each other. Other divisions of society into fields of practice have been presented over the years by Flitner (1961), Fink (1995) or Derbolav (1987). From a HE point of view, as well as from the point of view of the Anthropocene, one relevant co-existential that is included in Derbolav's (1987) framework but missing in Benner's description is the field of research. From the perspective of the Anthropocene, the recognitions of the scientific field could open for a better understanding of the role of other living organisms than humans and of their environments, as well as of life-supporting processes on earth. From a HE perspective, research is the foundation for all activities within HE and maintaining a non-hierarchical relation between research and other fields such as economy, politics or religion is a fundamental prerequisite for HE. From the perspective of HE in the Anthropocene, highlighting research as a field of practice could be justified from the perspective of the Anthropocene.

However, although emphasising the recognition of the voice of scientific research when deliberating on the relation between the human species and nature, it still does not communicate a position on the matter itself. It is one thing to point towards recognising the input from research, and another to take a position on the human/ non-human nature relationship. The discussion on the Anthropocene has pointed towards the importance of recognising that the biological preconditions for humanity's existence on earth are *beyond* the levels of societal practice fields. The biotic and abiotic preconditions for human existence can be seen as fundamental prerequisites and points of departure, without which engaging in societal fields of practice is both meaningless and impossible. The environment is the fundament that makes all other things possible. From the perspective of the Anthropocene, it is a weakness that NAT is silent on the question of the relation between education and the existential prerequisites formed by the biotic and abiotic environment.

So, how is education to deal with this relation? NAT states that the relation between education and other societal fields is non-hierarchical. This entails that in a liberal democracy, no field of society is either totally subordinated or totally superordinated to another. In other words, education does not exist in total autonomy and splendid isolation from economics or politics, nor is it totally subordinated to economic or political interests. NAT's point of departure is that education must recognise the interests of economics and politics, but instead of affirming them,

education has the autonomy to make these the objects of reflection and elaboration by maintaining a non-affirmative position. However, the question is if the same principle of recognition without affirmation is viable in the relation between education and the environment? On the one hand, the relation between humankind and the environment is non-hierarchical and reciprocal, since human is nature. The human species is indeed influencing the environment, this is the root cause of the Anthropocene era. On the other hand, the environment is also clearly influencing humankind. To this extent, the relation can be seen as non-hierarchical and reciprocal because mankind and the environment are influencing each other. However, there is a substantial difference between the relation between the societal fields of practice themselves, and the relation between the practice fields and the environment. The practice fields are areas of human activity created and upheld by humans. The environment is neither created nor upheld by humans. The biotic and abiotic environment preceded humankind and will continue to exist after humankind in one form or another. As the Anthropocene condition has shown, there are limits to the extent and character of human influence on the environment, otherwise this influence becomes a fundamental threat to the existence of humankind. In contrast to the societal practice fields, the environment is not an actor or field, intentionally influencing another actor or field. Rather, the environment is the fundament for the existence of humankind that cannot be ignored. The mechanisms of the biotic and abiotic environment are not the choice of an active actor, or negotiable, they are there whether one likes it or not. Without a vital nature, there are no humans. Adopting a non-affirmative approach to "the laws of nature" themselves is thus not a viable option. The environment thus emerges as a *fundamental* point of departure that all fields of societal practice, education included, must relate to and cannot ignore.

One conclusion could thus be that to educate for a sustainable future, education would have to both recognise *and affirm* the prerequisites for human existence that the environment sets. Accepting the biotic and abiotic frames for human existence as a fact does however not dictate how education is supposed to approach the question of what present and future generations of humans are supposed to do about it. The answer provided by NAT would be to recognise human dependence on the environment as a fact but raise the question of how to handle this is an open question. Accepting and affirming human subordination to the environment does not itself solve the problem of how to arrange human activities in a way that does not jeopardise this relation of dependency. NAT emphasises the importance of treating this question of human dependence on the environment as an open one. The role of education is to bring the question to the table and to summon the growing generations to understand the *question,* without providing normatively closed understandings of the solutions. Treating the question of the dependence of humankind on the environment as an open one instead of as a normatively closed one leaves the possibility open for growing generations to develop new answers to this question that goes beyond the ones imaginable today. It also acknowledges that the solutions to the problem are different in different contexts and for different aspects of the problem. Similarly, the challenge of sustainability emerges very differently in different scientific disciplines.

Higher Education Curriculum Leadership in the Anthropocene as a Non-affirmative Approach

For HE curriculum leadership, the consequence of the argumentation above would be that the biotic and abiotic fundaments for human existence cannot be ignored in HE curriculum and curriculum leadership. The question would have to be recognised and its importance affirmed. As the role for HE is to educate growing generations to understand the key questions and challenges of present time, with the ability to develop new solutions to them as well as to identify altogether new challenges in the future, the challenges of the Anthropocene cannot be overlooked. Recognising the challenge of the Anthropocene at various levels of HE leadership does not, however, entail advocating any normatively closed *solutions* to the challenge. Quite the contrary, to live up to the task of HE to develop the capacity to develop new solutions to existing as well as future problems, a precondition is that the topic of humanity's subordination to the environment is treated in a non-affirmative way: raising the question without advocating for any singular predefined solution. As the environment can be regarded as a fundamental for all fields of practice, the question of how to deal with the challenges related to the Anthropocene is relevant for most disciplines, even though the challenge emerges in quite different ways within different fields. This also calls for cross-disciplinary approaches as the challenge is common to all, but the solutions are similarly diverse as the problem.

Non-affirmativeness in leadership means that leadership is based on an awareness of the diversity of perspectives and interests both inside the organisation and among external partners and stakeholders. The task of leadership is thus not so much to guide others in a specific predefined direction, but rather to expose to various alternatives and encourage others to critical thinking and questioning by shaping an inquiring culture. This will not happen if the approach is merely affirmative.

Based on the view of the environment as a fundamental that goes beyond the societal fields of practice, we could argue that HE institutions need to broadly implement an open-ended sustainability approach, if they want to encourage students to become active thinkers and to act in the Anthropocene epoch. In most countries, sustainability in HE has mainly been implemented at the course level. In response to how to bring about a more profound change through education, Niedlich et al. (2020) and many others present a so-called 'whole institution approach'. This idea implies that an entire institution works as an active community aiming at change that acknowledges the situation of the planet at all levels of its operations. This is in line with a non-affirmative approach, viewing the environment as a fundamental. Thus, HEL creates a professional pedagogical culture, "in which individual learners learn about what it means to find a voice of their own and what it means to develop towards democratic citizenship" (Uljens & Ylimaki, 2015, p. 37).

Conclusion

> The Earth has now crossed a point of no return; its great cycles have changed, the chemical compositions of air and ocean have been altered in ways that cannot be undone. By the end of the century it will very likely be hotter than it has been for 15 million years. (Hamilton, 2015, p. 237)

The 'good old days' will not come back, since the earth systems have already changed their basic processes. In the Anthropocene, a non-affirmative theory must go beyond its humanistic focus and also recognise the non-human nature. When it comes to recognising the wellbeing of the entire planet, recognition includes the idea that both the society and individuals must limit their freedom to promote the survival of human individuals and groups as well as other species and to protect vital habitats (Wolff & Zilliacus, 2021). This view of recognition challenges the idea of humans as master species, superior to the non-human nature. Wolff and Zilliacus (2021) state: "Without the group, humans are nothing, and without a functioning planet, they are dead". This means that humans are social creatures, which is obvious in many of their activities. Humans cannot live a good life alone (see Wolff, 2011), since there are also other species on the earth that have a right to a good life. Most importantly, a vital earth must be of a higher priority than all other human practices, since without a home planet neither the human species nor others can survive. This means that all human activity forms cannot have equal roles in all decisions that involve the future of the earth. The humanistic approach must step back by decentring the human and recognising humanity as a part of the wider environment.

Educational leadership for a sustainable future has a paradoxical obligation. On the one hand, it must develop an institutional culture that recognises everyone's freedom, on the other hand, it must courageously protect everyone's mutual future by learning to limit this freedom. This entails recognising all individuals as both parts of the community, but also as parts of the entire planet (Wolff & Zilliacus, 2020). In institutions like HE, leadership must recognise policy aims and assure the continuity of existing structures and systems. However, leadership also mobilises change for a future that is fundamentally open.

The Anthropocene is a story about how to move toward a better future (Sörlin, 2017). For this to happen Hamilton (2017) calls for a 'cognitive leap' to make people understand the severity of the situation, and which responsibility and willingness this craves from them. To be able to handle the contemporary global challenges mutually, the HE institutions need to become places in which leadership entails 'live as you learn', since the culture not only affects one's own community, but also has a larger impact. Therefore, the culture must be reliable, even if it is not constant and the aims predestined. A non-affirmative way of relating to democracy means that the youngest generation is not nurtured into a given form of democracy, but that they are given the opportunity to reflect critically on historical and prevailing forms of democracy and participate in the design of future forms of society (see Uljens, 2020). A non-affirmative way for leadership to relate to a whole institution with people of various ages, is like the way a teacher relates to young students. Thus, the

HECL becomes a reflexive way of viewing the institution as a part of a larger Bildung project.

Paulsen (2021b) suggests a 'co-creation' as an educational aim and to 'reshuffle' the Bildung concept, and a re-description of the contemporary age (Paulsen, 2021a). Consequently, the institutional community needs to learn, create, and rebuild the common space, its internal and external relations, its education, research, and all other activities. The institution could be seen as an organisation of individuals building flexible and changing groups, like a pulse in which new people come in and others leave, as is the case in all educational institutions. In such an organisation, the power is steadily divided and changing from the top to the bottom, which means that all individuals and groups, despite their hierarchy positions, are encouraged to make suggestions that will change the structures and procedures at the entire institution. Learning is also seen as flexible undertakings, in which knowledge is a complexity built on various subjects and scientific fields, and in which learning is more than a cognitive process. It is also embodied and emotional.

An HECL that is willing to work for change also needs to focus on puzzling issues like ethics and worldviews and dares to question both planet-devastating policies and practices, and to create new discourses in a constant joint learning process (see, Zilliacus & Wolff, 2021). Paulsen (2021b) calls for an approach that deals with the relations between humans and the relations between humans and non-humans as open-ended questions. This includes a 're-interpretation', 're-evaluation' and 're-identification' of humanity's crucial concerns acknowledging the human species' necessary development of responsibility for the earth, but also for interesting interspecies opportunities. The non-affirmative education theory has much to offer HECL in the Anthropocene, but first it must take off its non-human protective glasses to avoid human centred reluctance to seeing.

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