

NORDEUROPA-INSTITUT

Humboldt-Universität zu Berlin



Dagny Stuedahl/Jandrea Grobbelaar (Hg.)

Natur – Denken – Handeln

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Herausgegeben von
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Vorwort

Das Konzept der Henrik-Steffens-Masterclasses 2023–2024 bestand darin, den norwegisch-deutschen Austausch und den Aufbau von Beziehungen zwischen Dozierenden und Studierenden zu organisieren. Die Idee hinter dem Konzept war, dass die Henrik-Steffens-Vorlesungen zum einen ein Treffpunkt für norwegische und deutsche Dozierende sein sollten, die an ähnlichen Themen arbeiten; gleichzeitig sollten sie norwegischen und deutschen Studierenden wie auch der Öffentlichkeit und dem Henrik-Steffens-Netzwerk offenstehen. Ziel dieser Begegnungen war es, dass ein norwegisch-deutscher Austausch im Dialog und in Echtzeit stattfindet – und dass der Austausch die Teilnehmenden dazu anregt, über norwegisch-deutsche Unterschiede und Gemeinsamkeiten in der Herangehensweise an zentrale sozial- und geisteswissenschaftliche Themen nachzudenken.

Das Konzept beinhaltete auch, den norwegisch-deutschen Austausch als Teil der Vorbereitungsarbeiten für diese Lehre zu betrachten. Jeweils drei Dozent:innen aus Norwegen und Deutschland planten die Seminare gemeinsam und bezogen – wo möglich – die einzelnen Vorträge eng aufeinander. Im Anschluss leiteten die Dozent:innen gemeinsam eine Masterclass, die sich über drei Tage erstreckte und insgesamt 18 Stunden Zusammenarbeit bot. Jeweils etwa die Hälfte der Teilnehmenden jeder Masterclass waren norwegische Studierende der Universität Oslo (im Rahmen der Circle-U-Kooperation) und deutsche Studierende der Humboldt-Universität zu Berlin.

Die Masterclasses bestanden somit aus sehr unterschiedlichen Formaten für die Studierenden: Neben klassischen Vorlesungen gab es praktische Workshops, gemeinsame Diskussionen sowie das Schreiben von Essays, so dass sich die Studierenden umfassend in die Thematik vertiefen konnten. Jede Masterclass wurde in Form dreitägiger Blockseminare als Präsenzunterricht (Donnerstag bis Samstag) organisiert. Studierende, die für ihre Teilnahme Leistungspunkte (ECTS) erhalten wollten, reichten außerdem Hausarbeiten ein.

Das Format dieses intensiven, interdisziplinären Lehrprogramms bot die Möglichkeit, neue pädagogische Aktivitäten zu erproben. Das Programm musste so konzipiert werden, dass die Studierenden in 18 Unterrichtsstunden sowohl Lehrinhalte im erforderlichen Umfang erhielten, Erfahrungen im norwegisch-deutschen Dialog und Austausch machten, aber auch mit neuen Formaten akademischer Dialoge experimentieren konnten. Die vier Masterclasses im Wintersemester 2023/2024 fanden unter dem Rahmenthema *Natur – Denken – Handeln* statt. Insgesamt nahmen 70 Studierende teil – 36 von der Universität Oslo und 34 von der Humboldt-Universität zu Berlin.

Natur – Denken – Handeln wurde in insgesamt vier Masterclasses behandelt und thematisch folgendermaßen umrahmt:

Unser Verständnis von menschlichem und nicht-menschlichem Leben, von menschlichem Handeln für eine nachhaltige Zukunft und unser Denken über Veränderungen und Transformationen wird von unserem Verständnis und unserer Definition von Natur beeinflusst. Die Henrik-Steffens-Masterclasses *Natur – Denken – Handeln* umfassen unterschiedliche Perspektiven, wie die Ansätze der Geisteswissenschaften für eine Weiterentwicklung und Änderung/Veränderung von Mensch-Umwelt-Beziehungen fruchtbar gemacht werden können:

- Wie können Kreativität und Schaffen uns dabei helfen, neue Einsichten zu gewinnen und zur Selbstverwirklichung zu gelangen?
- Wie und mit welchen Unterstützungsstrukturen kann uns die Ökophilosophie dabei helfen, menschliche Eigenschaften zu entwickeln, die für die Bewältigung des Klimawandels relevant sind?
- Wie kann uns eine Neudefinition des Naturbegriffs eine andere Grundlage für das Verständnis der Beziehung zwischen Menschen und anderen Lebewesen bieten?
- Wie können kulturelle Aktivität und Kreativität zur Neuorientierung des Menschen im posthumanistischen Weltbild beitragen?

Folgende Dozierende haben mit ihren Vorträgen in den vier Masterclasses zum Programm beigetragen:

Prof. Dr. Andrew Morrison

Institute of Design, The Oslo School of Architecture and Design

Language, narrative and relational anticipatory designing

Prof. Dr. Patricia Ribault

weißensee kunsthochschule berlin

Trans-making: On Means and Powers of Transformation

Prof. Dr. Laurene Vaughan

School of Design, Royal Melbourne Institute of Technology:

Curiosity and Care: designing our way into disciplinary collaboration

Dr. Katie Ritson

Center for Environment and Society, Ludwig-Maximilians-Universität München

Fuelling a Fairytale: Petroculture in Norway

Odin Lysaker

University of Agder

Ecological Democracy: Caring for the Earth in the Anthropocene

Lars Risan

Wolf Children – The Natural History of Culture and Care

Li Jönsson

Kristina Jönsson

School of Arts and Communication, Malmö University

Maria Göransdotter

Umeå Institute of Design, Umeå University

Åsa Ståhl

Department of Design, Linnæus University, Kalmar/Växjö

Design After Progress (research project group HDK)

Dr. Solvejg Nitzke

Technische Universität Dresden

Ghostly Trees and Evil Plants. The Dark Sides of Literary and Cultural Plant Studies

Dr. Dörte Linke

Nordeuropa-Institut, Humboldt-Universität zu Berlin

»Nature writing« as World-Making?

Marianne Takle

Welfare Research Institute NOVA, Oslo Metropolitan University

Acting in Solidarity with Future Generations

Kirsten Jüdt

Technische Universität Dresden

Mapping Urban Spaces

Astrid Sinnes

Norwegian University of Life Sciences

Conditions for change. The university's role in the sustainability transformation



Diese Ausgabe der Kleinen Schriften des Nordeuropa-Institutes enthält einige der Essays, die die Studierenden im Anschluss an den Besuch der Masterclasses geschrieben haben. Die Form des Essays wurde bewusst gewählt, um den Studierenden die Möglichkeit zu geben, andere Formen des Verfassens akademischer Texte zu erkunden. Auf diese Weise ist die Publikation auch ein Versuch, Studierenden und Dozierenden einen Raum zu geben, in dem sie akademisches Schreiben neu überdenken können. Die Notwendigkeit eines »anderen Schreibens« (»writing otherwise«)¹ und die kritische Reflexion über die Grenzen des akademischen Schreibens sind seit den 1980er-Jahren ein Thema in der Anthropologie.² Die vorliegende Publikation zeigt, dass diese Überlegungen auch bei unseren Studierenden und angehenden Akademiker:innen sehr lebendig sind – solche Überlegungen werden durch die aktuellen Diskussionen über politischen Aktivismus und institutionalisierte Wissenschaft kontextualisiert.

Katie Ritson, als Dozentin an einer der Masterclasses beteiligt, hat ihre Gedanken zum Schreiben als Denken so formuliert:

Die zweite Steffens-Masterclass im November 2024 trug den Titel »Rethinking nature, democracy and our existing narratives«. Wir Dozent:innen kannten uns vorher nicht (oder zumindest nicht alle), und es war nicht leicht, unsere Forschungsinteressen zu verbinden (Öl und Kultur in Norwegen; Wolf-Mensch-Beziehungen; Liebe und Trauer in Naturbeziehungen), aber während unserer Vorbereitungstreffen kamen wir darauf, dass unser aller »(Re)Thinking« oft erst durch das Schreiben zustande kommt. Es sollte also um Schreiben als Denken gehen.

Eine Schreibpraxis kann auch innerhalb der Wissenschaft verschiedene Formen annehmen: Man kann sich z.B. an ein wissenschaftliches Fachpublikum richten, populäre Sachbücher schreiben oder sich sogar literarisch dem jeweiligen Gegenstand nähern. Daher haben wir Dozent:innen darauf verzichtet, eine bestimmte Schreibweise vorzugeben, sondern das Schreiben an sich wurde in den Mittelpunkt gestellt. Unsere Vorträge und die darauffolgenden Diskussionen dienten als Impulsgeber. Im Anschluss daran haben die Studierenden eigene Texte verfasst, die bis zur nächsten Sitzung von uns Dozent:innen gelesen und kommentiert wurden. Entstanden sind englische, deutsche und norwegische Texte, in ganz unterschiedlichen Genres, je nachdem, wie der/die jeweilige Student:in den eigenen Inhalt verarbeiten wollte.

1 HANNERZ (2016).

2 MARTINEZ (2023).

Das Lesen von so unterschiedlichen Texten war eine reine Freude! Durch die ganz verschiedenen Reaktionen auf die drei Vorträge und den intensiven Austausch haben wir viel über uns als Gruppe gelernt: Für uns Dozent:innen war es ein bereicherndes Wochenende, das uns viele Denkanstöße gegeben hat. Es freut mich sehr, dass einige Texte nun in diesem Band erscheinen und uns helfen, Natur, Demokratie und bestehende Narrative neu zu denken.

Die Henrik-Steffens-Masterclasses sind somit nicht nur ein Experiment mit Lernformaten, sondern auch mit Formaten, in denen die Studierenden das in den Masterclasses gewonnene Wissen und ihre Reflexionen weiterverarbeiten und entwickeln konnten. Der Begriff Essay ist vom Verb *exigere* abgeleitet, was unter anderem ›prüfen‹, ›untersuchen‹, ›beurteilen‹, ›abwiegen‹, ›erwägen‹ beinhaltet und Möglichkeiten bietet, den Gegenstand einer Überlegung aus verschiedenen Perspektiven und in persönlicher Auseinandersetzung zu betrachten. Die Studierenden haben neue Genres erprobt, sich einen persönlichen Ansatz erlaubt und mit verschiedenen Schreibstilen experimentiert. Als Ergebnis weisen die Aufsätze ein breites Spektrum auf, das um das Rahmenthema *Natur – Denken – Handeln* kreist.

Nicht nur die Studierenden, auch die Dozierenden hatten auch die Möglichkeit, mit eigenen Beiträgen auf das in den Masterclasses erlebte Lehrexperiment zu reagieren. Einige haben davon Gebrauch gemacht, sodass die vorliegende Kleine Schrift des Nordeuropa-Institutes mit den Beiträgen von Odin Lysaker, Åsa Ståhl und Lars Risan auch von dieser Seite ein paar sehr verschiedenartige Texte enthält.

Wir danken dem Nordeuropa-Institut für die Möglichkeit, die Gedanken und Texte der Studierenden im Rahmen der Kleinen Schriften des Nordeuropa-Institutes zu veröffentlichen. Unser besonderer Dank gilt Dr. Tomas Milosch für seine freiwillige und unermüdliche Hilfe bei der Textarbeit und der Fertigstellung dieser Publikation.

Berlin, im April 2025

Dagny Stuedahl
Henrik-Steffens-Professorin 2022–2025

Jandrea Grobbelaar
Studentische Hilfskraft der
Henrik-Steffens-Professur 2024

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- MARTINEZ, Francisco (2023): »How to write Things: Fiction, Anthropology and Foreignness in Berlin«. In: *Ethnologia Europea* 53(1), 1–20.
doi.org/10.16995/ee.9032 [9.1.2025].

ODIN LYSAKER

Connecting with Nature Through the Heart

How can I, we, connect deeply with the entirety of nature, relate to the living Earth, feel at home here? This is possible by surrendering to all of our being, especially to the senses and the feelings of our own body. That may open a pathway to mysterious experiences, to hitherto unknown facets of reality—while we fall in love with nature, listen carefully and with presence to the song of her heart.

Listen to my heart and live from my heart, listen to the heart's song, open up my heart to Mother Earth and the rest of the cosmos—to love nature from there and be loved by nature from there. I open up my heart to spiritual experiences, to be thankful for all the gifts and the magic created by our Mother Nature. It is also a portal through which to express grief and rage when life on our beloved Earth is killed and goes extinct due to the deeds of some humans.

It is a way to listen deeply to all the senses of my entire body—live and experience the world from there. Even listening with presence to the silence in nature, to let my breathing become increasingly calm. Recognizing that to go inwards is simultaneously to go outwards.

Along this path, I am invited to slow down, breath out, take in the surroundings through my senses—not to be in a hurry. Remain in a concrete place—a sit spot, a Gaia place—for a while, which in my everyday is most often the Aker River in Oslo, a place to which I return every time I can. I wish to see how that place changes through the seasons and get to know that place better—to care for the river by checking if she is fine.

To recognize that everything existing is nature and that all the elements of nature are alive—even such inorganic stuff as the air of my breathing and the stones of holy mountains. To recognize that all these living beings are of the same kin.

To feel and honor that this very moment is precious, to care for the fact that all beings are on the same footing as human nature, have an intrinsic moral value. We all have the same basic need to thrive in our uniqueness and diversity—to mutually love and be loved.

ÅSA STÅHL

Design after Progress: Reimagining Design Histories and Futures¹

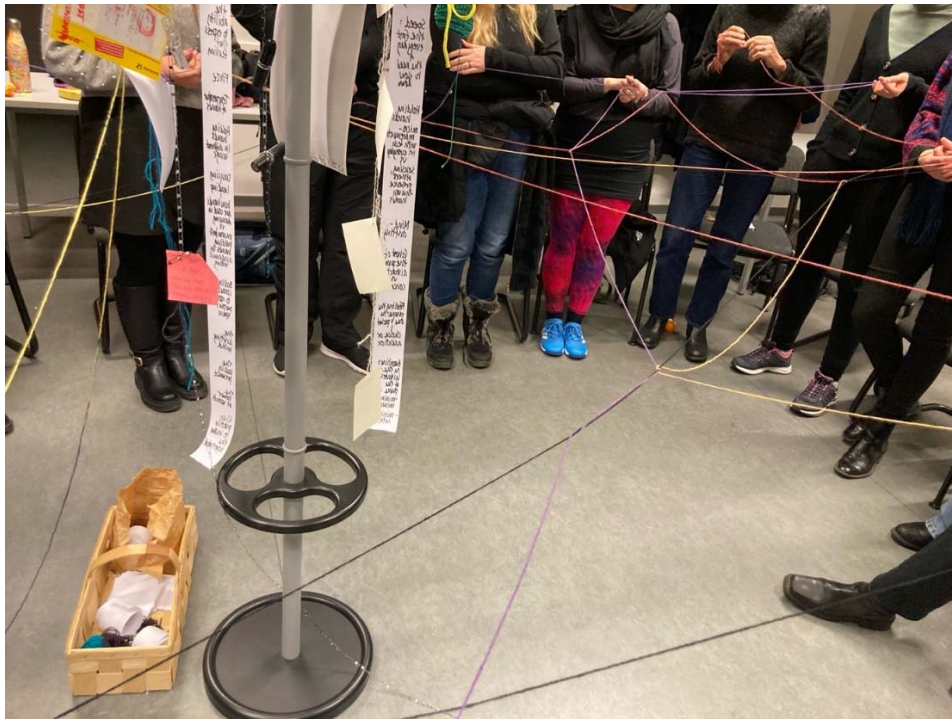


Photo: Åsa Ståhl

February 2024 in Berlin, Saturday late afternoon. A slight tremble in the string travelled from one hand to another. As a reflection activity after a weekend on »Thinking: The fiction, the human-environment relationship«, students and teachers passed on yarn while voicing how progress is haunting us in transportation, sewage, food provisioning, media, consumption and studies. While holding the yarn and sharing hesitations when it comes to flying to an international gathering with a focus on sustainability, we could all feel the fibrous interdependence between the self and the ecosystemic. Words materialised on how *the ghost of progress makes one do it although knowing its wrong*, how *entitlement puts the planet under the self*.

In the middle of the human-string-circle, on a clothes hanger, hung sticky, plastic yarn inherited from a granny in DDR. Made to be thrown away, but paradoxically lasting almost for ever. Who needs sheep when there's oil?

Getting together around these socio-ecological material and conceptual complexities produced experiences and insights beyond the control of pedagogical planning. Whilst we were forming a string figure, a sharing centered on the power of holding hands in a ring, mediated by a thread or not. In the moment of making a quirky circle, holding on to the shared space and communal wisdom, we were forming both individuals and interdependent entities haunted by progress and rearticulating what could be desirable. I asked myself: when and for what do I ask the fossils for help?

¹ <https://lnu.se/en/research/research-groups/design-after-progress/> [11.4.2025].

LARS RISAN

Det umistelige

Vi er ikke alene. Vi er ikke først. Vi skal ikke alene bære barnet.

Det er en mulighet, men vi vet ikke sikkert, for at menneskeskapte klimaendringer leder noen av Jordklodens store fysiske og økologiske systemer inn i selvforsterkende prosesser. En tørrere Amazonas, for eksempel, kan begynne å produsere så mye mindre av det nattlige regnet som skogen trenger om dagen, at mindre regn leder til mindre skog, som leder til mindre regn, som leder til mindre skog. Og så videre. FNs klimapanel, IPCC, skriver om noen av disse prosessene:

Multiple lines of evidence indicate that the majority (70–90 %) of warm water (tropical) coral reefs that exist today will disappear even if global warming is constrained to 1.5 °C (*very high confidence*).

Og:

AMOC [the ocean stream leading hot water from the Gulf to Northern Europe] will weaken over the 21st century and substantially so under high levels (more than 2° C) of global warming (*very likely*).

Noen klima-økonomer har regnet ut at det vil være ganske billig for menneskeheten å tilpasse seg klimaendringene. Relativt sett billigere enn kostnadene ved rask avvikling av olje og kull – som jo vil bli dyrt. Nobelprisvinneren i økonomi, William D. Nordhaus, har regnet ut at selv etter at jorden har begynt å bikke over i selvforsterkende globale prosesser, vil dette bare koste verdenssamfunnet 8 % av dets bruttonasjonalprodukt. Det er ikke så mye, så noen økonomer spør seg hvor kjapt det lønner seg å avvikle den nyttige olje- og gassproduksjonen?

Andre økonomer kritiserer Nordhaus, og hevder at det vil bli »ganske kostbart« – om enn fortsatt mulig, som et rent økonomisk foretak.

Spørsmålet vi kanskje heller må stille oss, er om vi klare for å la det umistelige fare, som de perplekst vakre korallrevene?

Har vi noe valg?

Kan hende er de tropiske korallrevene tapt. Men vi kan kanskje vi redde regnskogene dypt inne i de norske fjordene, for også de vil forsvinne hvis Norge blir noe sånt som 5 grader kaldere, og det kan skje hvis AMOC svekkes. Det kan hende at temperaturreduksjonen i Nord-Europa som vil følge av svekket AMOC, ikke blir større enn den generelle oppvarmingen. Men det kan også hende det blir 3,5 grader kaldere langs Norskekysten hvert tiår fra 2050 og utover, til vi i nord drives sydover, mot et alt for varmt Spania.

Tør vi ta sjansen, eller er det håpløst?

I denne utgivelsen av studentessay ser vi både håpet og og alvoret, kreativiteten og trusselen. Mange av essayene er preget av poeten Jan Erik Volds berømte strofe: »Det er håpløst og vi gir oss ikke«. Thomas Hylland Eriksen, som vi nettopp mistet, var både pessimist og utrettelig aktivist, og det er med et nikk til ham at tittelen på denne lille teksten er lånt fra hans siste bok, *Det umistelige*.

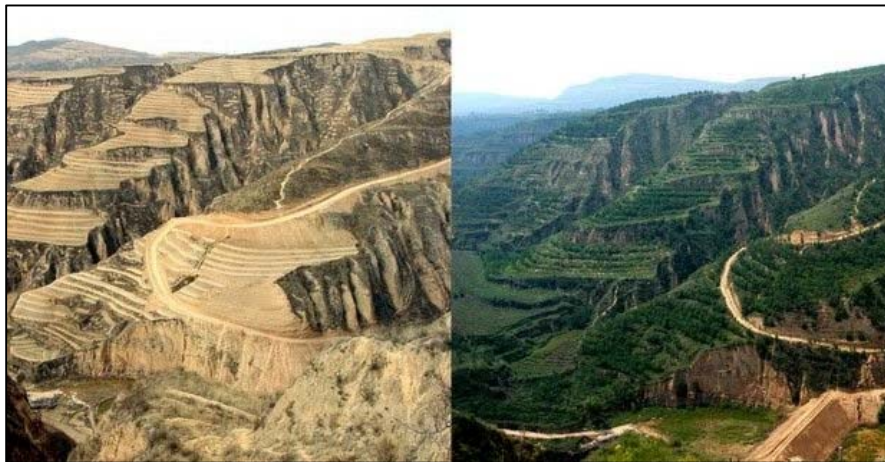
Jeg tror ikke et øyeblikk på de økonomiske analysene av livet etter vippepunktene. De er ikke »vitenskapelige regnestykker«, de er ren fantasi. Vi må kjempe for det umistelige på samme

måte som vi bærer et barn, varsomt på armen. Men så tror jeg også noe annet, og dét er dette essayets viktigste budskap:

Vi er ikke alene. Vi er ikke først. Vi skal ikke alene bære barnet. Naturødeleggelsene begynte ikke med »oss«, eller med »kapitalismen«, ikke en gang med »Vesten«. Det er heller ikke opp til oss alene – eventuelt dere som er en generasjon yngre enn jeg – å snu skuta. Skuta kan hjelpe til, ved å snu seg selv, bære seg selv.

Her er to historier som setter kampen i perspektiv:

For omtrent 7000 år siden oppsto landbruket i Kina, omtrent samtidig eller bare litt etter at det oppsto i Midt-Østen. Det oppsto på et tykt, fruktbart jordlag kjent som »Løssplataet«, et område på størrelse med Frankrike, vest for Beijing. Jordlaget er flere hundre meter tykt. Den kinesiske sivilisasjon vokste fram på det plataet. Men det tykke jordlaget tålte dårlig at trær ble hugget, for uten et tett lag med røtter var jordlaget sårbart for erosjon. Allerede under Song-dynastiet (960–1279) var store deler av skogen hugget, og ørkenen spredde seg. Under Ming-dynastiet (1368–1644), satte han-kinesere fyr på store deler av plataets gress, for å stoppe mongolene, som trengte gresset til sine hester og ponnier. Erosjonen satte ytterligere fart. Området ble fattig og karrig. Det lille som kunne gi befolkningen et visst livsgrunnlag, var spredte buskas. De som bodde der, satt etter hvert sin lit til geiter og sauser, som kunne spise det som var igjen av planter. Det gjorde dyrene også, og på slutten av 1900-tallet var hele området gjort om til klodens største menneskeskapte ørken.



Løssplataet helt i begynnelsen av »Grain for Green«-programmet (terrasser blir etablert) og et stykke ute i prosjektet (2007). De viktigste ressursene for å lykkes var menneskelig arbeidskraft og naturens egne regenerative evner. Småbønder ble lovet »korn«, eller avlinger generelt, i bytte mot deltakelse. Veksten i fruktbart landareal har vært enorm. Veksten i biodiversitet har vært begrenset, gitt satsingen på monokulturer, så langt. Noen steder har monokulturene feilet spektakulært. Men større vekt på økt biodiversitet har etter hvert blitt vektlagt mange steder i Kina.

Ikke alle ørkener lar seg omskape til skog – kineserne har gjort mislykkede forsøk på det – men det ser ut til at de stedene hvor ørkenen er menneskeskapt, så kan kan systematisk, kunnskapsbasert beplantning og oppsamling av regnvann nytte. Dette er jo områder hvor det regner jamnlig, og hvor det er næringsstoffer i jorden. Løssplataet lot seg dyrke opp og beplante. Etter studier av området og i begynnelsen i samarbeid med Verdensbanken, begynte kinesiske myndigheter, og ikke minst flere millioner fattige bønder, å bygge vannmagasiner, og plante trær og landbruksavlinger. Siden 1994 har noe sånt som 25 % av det store området er nå både grønt og

fruktbart. Samarbeidet med bønder har vært viktig, for de bidro med et enormt manuelt arbeid, fikk lov til å dyrke avlinger som mais og epletrær, og fikk derved et incentiv for å holde trær i live og avvikle det frie sau og geiteholdet.

Vi kan gjøre mye, hvis vi vil, hvis vi organiserer oss, og hvis vi samarbeider med de delene av det ikke-menneskelige livet som kan trives. Vi – menneskeheten – har allerede begynt, i erkjennelse av gamle synder og vanskjøtsel.

Et eksempel til:

NRK har vist oss 44 000 naturinngrep i Norge bare i perioden 2017–2022. Naturdirektoratet på sin side har vist at kun 11 % av norsk natur fortsatt er »inngrepsfri natur«.

Det høres ikke bra ut, men det følgende er viktig å legge merke til: Begge disse tallene er laget på en spesiell måte. NRK har brukt flyfoto og KI til å analysere »før« og »etter«. Naturdirektoratet bruker kartdata over registrerte inngrep, det vil si inngrep som er byggemeldt og registrert i kommunale kart, i elektronisk form. Med de dataene registrerer direktoratet automatisk nye inngrep.

Begge disse automatiserte registreringene er sensitive til brå, menneskelige inngrep, sånn som byggingen av et hyttefelt. Men ingen av dem klarer å registrere den sakte regenereringen av naturen, den som ofte skjer bare vi snur ryggen til.



»Gammel skog har høyere andel død ved enn annen skog og inneholder leveområder, såkalte habitater, som er viktige for det biologiske mangfoldet. Flatkjuke på død selje. Nordmarka, Oslo.«

Foto: John Yngvar Larsson, original tekst: Lars Sandved Dalen (2016):»Mer gammel skog og død ved«, www.nibio.no/nyheter/mer-gammel-skog-og-dd-ved [16.1.2025].

For å registrere slik gjengroing må man måle manuelt, og når det gjelder norsk skog, er det skognæringen selv som måler både mengden skog og typen skog. Den gror til. Det blir mye mer av den i Norge, men jeg skal bare trekke fram ett tall: Forskningsinstituttet NIBIO brukte tallene til skognæringen og fant at fra år 2000 til 2015 økte mengden »gammelskog« med 4315 kvadratkilometer i Norge. »Gammelskog« er definert som furuskog som har blitt mer enn 155 år gammel, og granskog som er eldre enn 135 år. Furuskog mellom 80 og 155 år gammel regner skognæringen som »hogstmoden«. Gammelskog er på et vis »overmoden«, og en del av de eldste

trærne har begynt å råtne på rot. Dette er et tap for skognæringen. Men en gevinst for skogen, som blir mer artsmangfoldig.

I dag beslaglegger alle landets 500 000 hytter til sammen 680 kvadratkilometer land. Det er mindre enn en sjettedel av det arealet som har blitt gammelskog, bare etter år 2000.

Vi teller hver eneste hytte som tap, men ingen miljøvernmyndighet eller TV-program teller den nye gammelskogen som vinning. Ikke i det samme regnskapet, sånn at vi sammen kan se både vinning og tap.

— * —

Vi er ikke alene. Av økofilosofien kan vi lære at vi ikke er alene – ikke alle aktører er mennesker – og enda viktigere: Ikke alt *verdige* liv er menneskelig. Det ikke-menneskelige livets verdighet er uadskillelig knyttet til dets subjektivitet, til det å ikke bare være objekt for oss. Den subjektiviteten er ikke noe livet på en passiv måte *har*. Den er noe livet *gjør*.

Vestens drøm om »kontroll« er motsetningen til økofilosofiens respekt for ikke-menneskelig liv. Den drømmen iscenesetter den mest bisarre versjonen av liv, for enveis kontroll er død. Vi har ikke kontroll, vi har *partnere*.

Men også vår øko-pessimisme er noen ganger formet av den samme mangelen på anerkjennelse av hvordan ikke-menneskelige aktører intervensjonerer, som i den manglende offentlige anerkjennelsen av at gammelskogen nå vokser i utbredelse, og det uten at vi gjør noe som helst. Det er politisk viktig å etablere den erkjennelsen utenfor skognæringen, for vi må se det ikke-menneskelige livet som både skjørt og strekt, som både sårbart og handlekraftig. Og husk: Innad i skogbruksnæringen er »gammelskog« et begynnende tap: tap av »hogstmoden« skog.

Vi er heller ikke først blant menneskene. Noen har allerede begynt, sånn som når kineserne er i stand til å vinne tilbake det fruktbare landet på Løssplataet, som tidligere tiders dynastier ødela.

La gjerne dette være eksistensielt frigjørende: Det er ikke opp til oss alene å redde verden. Noen har begynt, og det verdige, ikke-menneskelige livet hjelper oss, der det kan. Vi trenger draghjelp der vi kan hente det, for det er nok utfordringer i sikte. Vi har det umistelige å redde. Hjelpen kan vi noen ganger finne ved å jobbe systematisk som landskapsingeniører, mens det andre ganger er jobben vår å gi slipp.

CATHRINE NORTHUG

Skriving i fellesskap:

Et ubehagelig og givende driv på veien mot en indre omstilling

Hvordan kan vi tenke nytt om forholdet mellom menneske og natur? Hvilke konsepter, metoder og tematikker kan bidra til å utfordre gjengrodde, kulturelt betingede og antroposentriske tankesett om dette forholdet? Spørsmålene var en del av universitetet Humboldts klimaseminarrekke *Natur – Denken – Handeln* med tittelen *Rethinking nature, democracy and our existing narratives*, og utforsket de innledende spørsmålene gjennom utradisjonelle og kreative metoder i en akademisk kontekst. Gjennom konsepter og metoder fra seminaret vil essayet reflektere, stille spørsmål og noen steder gi et personlig innblikk i hva jeg som deltager satt igjen med av svar og videre tanker om klimakrisen og dens fremtid i academia. Essayet vil innlede med å tegne opp et bilde av klimakrisens status quo: Hvor forskningsfeltet står, og hva klimakrisens tilsynelatende kompleksitet består i. Deretter vil jeg reflektere over bidraget til en tysk litteraturprofessor analyse av kulturelle og litterære fremstillinger av Norges oljeeventyr gjennom tekst og film, etterfulgt av hvordan tematikken fungerte i samspill med metoden »Shut up and Write« som en kreativ, kollaborativ og noe utradisjonell akademisk forskningsmetode.

Klimakrisen er unektelig en av de største og mest kompliserte krisene menneskeheten står i. Selv om den er klar i sin tale – ved dens enkle og insisterende appell: verden er på vippepunktet og vi må gjøre noe – ser det ikke ut til at vi får det til: Tall fra klimaforskningen peker i feil retning, havnivået stiger og tørken brer om seg. Mens jeg skisserer opp de dystre katastrofene som allerede finner sted, vegrer jeg meg for å skrive mer, fordi setningene er brukt opp. Krisen er ikke ny, og klimabevegelsen startet for flere tiår siden. Avisforsidene alarmerer og prøver samtidig å finne kreative eller nye måter å engasjere og informere den til tider mette og trette samfunnsborger. Storbyuniversitetet Oslomet startet for få år siden en forskningsgruppe på klimajournalistikk og Universitetet i Oslo satser nå spennende på Oslo School of Environmental Humanities (OSEH). Klimakrisen er med andre ord ikke lenger kun et område for naturvitenskapen, og nå plasseres også mennesket under forskningslupen. Selv om vi skulle ønske mennesket handlet i tråd med hva en vet og hva en gjør – at med viten om noe vondt, forsøker vi å snu – ser det store bildet mer komplekst ut enn som så.

Gapet mellom hva vi vet, og hva vi burde gjøre er noe av det som ser ut til å kjennetegne klimakrisens kompleksitet. Litteraturviter og klimaengasjerte Anders Dunker vever sammen intervjuer fra ti av verdens topp intellektuelle og forskere på klimafeltet i boken *Gjenoppdagelse av jorden: 10 samtaler om naturens fremtid* (2019). Her innleder han med et gap som jeg mener er sentral i den indre og kulturelle forvandlingen som må til:

Gapet mellom hva vi mennesker vet vi burde gjøre og det vi faktisk gjør, ligger i kjernen av miljøkrise og kommer tilbake i alle samtalene« [, hvor] avstanden mellom tanke og handling er et av etikkens hovedproblemer«.¹

Videre, i en samtale med den franske vitenskaps-sosiologen Bruno Latour, en av de store toneangivende miljøtenkerne, svarer han på spørsmålet om hva han mener er løsningen:

1 DUNKER et al. (2019), 16.

Min løsning i disse dager er å søke en ny definisjon av hva det innebærer å leve på jorden. At vi forstår jorden som noe annet og mer enn globaliseringens totalitet. Vi må forholde oss til en enda større sammenheng og hvordan vi skal innrette oss. [...] Vi må tenke samfunnet, allmenningene, byene på nytt. Vi har mislyktes i å handle.²

Jeg vil argumentere for at Latour er inne i forestillingenes og språkernes verden. Å »søke en ny definisjon«, »forstå jorden som noe annet« og »forholde oss til en større sammenheng« krever indre og dyptgående mentalt endringer. Det er nettopp her skriften, språket og kunsten kan stille de kreative, undrende og dyptgående spørsmålene om hvordan vi kan leve annerledes. Med dette som bakteppe, hvor jeg har skissert det store gapet og de humanistiske fagernes potensiale i å fylle nettopp dette, vil jeg introdusere en av professorene i seminaret som tvang oss videre inn i den mentale omstillingen gjennom å rive oss fra etablerte og komfortable forestillinger.

Film og litteratur har evnen til å forme og endre hvordan mennesker forholder seg til klimakrisen. Det er særlig et interessant tilfelle i norske kontekst hvor oljen på den ene siden har gitt velstand og et rikt og lykkelig folk, og på den andre siden bidratt til å forurense og sette varige og uopprettelige mén på en felles klode med begrensede ressurser. En av de sentrale på forskningsfronten som har gravd nærmere i denne tvetydigheten er litteraturprofessor Katie Ritson. Under Berlin-oppholdet bidro hun med nye og konfronterende konsepter og tematikker som utfordret deltagerne til å tenke nytt om vårt forhold til etablerte forestillinger. Tittelen i foredraget var »Fueling a Fairytale: Petro-culture in Norway«, med referanser til en litterær komparativ analyse av bøkene *Puslingar* av Atle Berge og *The Waves Burn Bright* av Iain Maloney, sammen med den norske tv-suksessen *Lykkeland*.

Den litterære analysen tvang fram følelser som tar del i den større historien om dagens klimakrise. Ritson sammenligner det britiske og det norske oljeeventyret, hvor de på hver sin måte – og med ulikt utfall – handler om en generasjonskonflikt med oljeeventyret som kontekst. Analysen tar for seg ulike følelser som i romanene er sentrale for å takle eller gi mening til arven etter oljen – på godt og vondt.³ Kort fortalt sentrerer bøkene seg rundt de to tragiske ulykkene på 80-tallet, kjent som Alexander Kielland-ulykken og Piper Alpha-ulykken, hvor til sammen i overkant av 300 døde. I hver av bøkene var fedrene til stede under ulykkene og lever i dag med traumer som forgrener seg i familien og i forholdet til barna sine, som i bøkene spiller hovedpersonene. Barna forsøker å finne ut av hvordan å håndtere den mørke fortiden, og løfter samtidig historien opp på en kulturell og samfunnsmessig dimensjon.⁴ Med andre ord er ikke historiene kun enkelthistorier; men utvider seg til å illustrere og si noe om hvordan vi som mennesker nå må håndtere det tvetydige oljeeventyret. England og Norge sitter ikke bare igjen med en velstandsarv, men også en arvesynd som må tas stilling til: Er og var velstanden og rikdommen verdt det, på bekostning av en stadig mer ødelagt planet og en fortid som tok livet av tidligere generasjoner? Spørsmålet slår sprekker i selvforståelsen og tvinger oss – de rike oljelandene – til å redefinere vårt såkalte oljeeventyr.

Videre bringer Katie Ritson selv på bane hvordan de to ulykkene på 80-tallet tvinger oss til nye kollektive forståelser:

2 DUNKER (2018), 122.

3 RITSON (2023), 164.

4 Ibid., 165.

Hvordan kunne det skje? Hvem stod for ansvaret, og hvem var de skyldige? Hvordan burde vi minnes historiene i nåtid? Det er spørsmål som nettopp kan forlenge seg til hvordan vi tvinges til å forstå nåtidens klimakrise: med økologisk uaktsomhet, dårlig sikkerhet og menneskelig grådighet.⁵

Videre bærer spørsmålene med seg en affektiv kraft overfor leseren.

Følelser trigget gjennom lesing av en novelle, som empati, medlidenhet, skam eller nostalgi, skaper responser til [krisen], hvor sentimentalitet er et viktig verktøy for å generere affektive responser.⁶

Slik fungerer samspillet lesningen av en novelle og dens ettermæle, hvor den er i stand til å skape bevegelser hos et individ og deretter til et helt samfunn. Hvordan vi skriver og forstår den økologiske historien, bærer med seg følelser som kan lede oss inn i handlingens verden. Fra hit og utover, er det på et riktig tidspunkt at essayet drives innover i samspillet mellom novellens emosjonelle verktøy og kraften i skrivingen, her med diskusjon av »Shut Up and Write« som metode.

I Berlin under seminaret *Natur – Denken – Handeln* var det å skrive under press en fruktbart og ble til gjenstand for uventede diskusjoner og nye innsikter. I seminarrommet hadde klassen tre runder med »Shut up and Write« med varierende tidsrom, fra 30 minutter til en kveld i forveien av neste forelesning. Senere ble tekstene enten lest opp og diskutert med innspill fra hele klassen, eller så ble den diskutert i grupper eller par. Professorene var også deltagende og kom med innspill og tilbakemeldinger. Fra oppgaven ble vi bedt om å skrive i den sjangeren som falt oss inn, hvor til og med dikt var lov. For flere av studentene, som kom fra ulike fagfelt, var dette en utradisjonell og mer fri akademisk metode.

Metoden kan trekke likheter fra et større forskningsprosjekt i Australia hvor de så på fordelene ved å samle inn data gjennom en mer handlingsrettet forskningsmetode med design og skriving. Ikke bare var den åpen i sin metode, men også i samspill med medstudenter og lærere, med andre ord en mer kollektiv pedagogikk.

I kontrast til dette, [skriver forfatterne] veiledes ofte studenter i de humanistiske fagene privat mellom en veileder og studenten, uten tilbakemeldinger fra andre studenter eller kolleger, og fokuserer snarere på den akademiske skrivingen snarere enn verktøy og teknikker.⁷

Forskerne argumenterer for hva som nettopp gir et økt læringsutbytte, og viser til den ukonvensjonelle, åpne måten i det å vise sitt arbeid overfor andre, slik at det åpner for diskusjon og kritikk og at man som student på denne måten bringer inn sine følelser i arbeidet.

Nettopp slik var seminaret i Berlin en mer fruktbar læringsmetode ved at metoden var mer åpen, inkluderende og intim. Klart dette kunne føre med seg ubehag for enkelte som ikke er vant til å lese opp sine tekster og stille dem åpne for kritikk. Det var imidlertid noe som ble tatt i betraktning under forberedelsene til seminaret, virket det som. Å dele teksten med andre hadde også en kollektiv bevisstgjørende funksjon, som også forskerne refererer til: »Hensikten med metoden er å forme skrivepraksisen fra en ensom erfaring til en sosial erfaring.«⁸ Under seminaret i Berlin da vi diskuterte ulike tekstlige bidrag, ble det tydelig at klimakrisen fører med seg en rekke indre kvaler og følelser. Krisen er både en individuell og kollektiv erfaring ved at den rammer den enkeltes tanker og følelser i tillegg at det er en del av en felles forståelse av hva som står på spill og hvordan vi skal jobbe sammen. De nærliggende følelsene i seminar-

5 Ibid., 166.

6 Ibid., 167.

7 CALDWELL et al. (2016), 1356.

8 Ibid., 1361.

rommet så ut til å dreie seg rundt eksistensielle dilemmaer om fremtiden, om overbærende følelser som apati, sinne, kompleksitet, lammelse og ensomhet. På en måte finnes det nok flere terapeutiske og psykologiske funksjoner ved å dele disse følelsene i felleskap, men på den andre side kan det virke samlende og givende for videre arbeid i en akademisk kontekst, vil jeg argumentere for. Å ta med innspill fra hva folk flest assosierer klimakrisen med, kan også engasjere flere ved å tenke at dette ikke bare er en krise som løses bak lukkede dører blant de mest fremragende forskerne. Ved å bruke en mer åpen og kollektiv metode, kan samlingen av data til forskning føre til en mer kalibrerende og edruelig samtale om hva vi faktisk står overfor av individuelle og kollektive floker. Og viktigst av alt: Skape et driv og engasjement for handling.

Skriving er et verktøy som tjener det å forestille seg nye og mulige verdener etter oljen. Rachel Horst holder en doktorgrad i kvalitative og mer kunstneriske metoder, som blant annet eksperimentell skriving og fiksjon som forskningsmetode. Hun treffer spikeren på hodet når hun ser hvordan metoden gjør seg fruktbar i å (be)gripe klimakrisen:

Det er gjennom å forestille seg verden annerledes, på ulike måter og nådeløst, at vi kan konfrontere, takle og gripe den verden vi har arvet i dette øyeblikket og alt det det innebærer – det fysiske, det ontologiske, det epistemologiske og det metaforiske. Vi må driste oss til de vanskelige stedene hvor ting ikke alltid kommer klart til syne [...].⁹

Som tidligere nevnt krever klimakrisen at vi radikalt omstiller oss. Det store spørsmålet er imidlertid hvordan? Flettet sammen med Katie Ritsons analyser som bærer med seg spørsmålet om Norge etter oljen, tror jeg forestillingen og språket er en av flere brikker i det store puslespillet.

»Shut up and Write« ble en avgjørende metode for å belyse følelser og tematikker som til vanlig ikke var godt kjent. I innledningen av dette essay skisserte jeg opp det store gapet mellom viten og handling: Vi vet hva vi står i, men vi handler ikke deretter. Et spørsmål å stille seg, kan derfor handle om hva som nettopp forblir usagt og usynlig – enten bevisst eller ubevisst. Jeg tror spørsmålet rører ved det intrikate samspillet av følelser Katie Ritson bringer fram ved hjelp av de to novellene. Å bevege seg framover handler også om å se seg tilbake og omdefinere historien, noe Anders Dunker også er inne på: »Vi må strekke bevisstheten til fjerne steder, utvide forståelsen vår av fellesskapet, tenke lenger fremover og bakover enn vi er vant til«. ¹⁰ Suksesshistorien om lille julaften 1969 lever enda i beste velgående, men når oljen viser sitt stygge ansikt, hvem er vi da? Og hvordan skal Norge se ut etter oljen – i et land hvor den pipler og siler seg gjennom alt av velferdsstatens kriker og kroker? Spørsmålet er mildt sagt vanskelig. Men å anerkjenne ved å se tilbake er ogs å bevege seg framover. Å skrive om den tvetydige skammen i den tilsynelatende suksesshistorien, er hva jeg sikter til. Under seminaret delte, diskuterte og lyttet vi til hverandres tekster. Da kom det ubevisste og bevisste fram: Noen kjente på skam, andre redsel og flere på sinne. Det ubevisste ble bevisstgjørende, noe som virket skjerpende og styrende for videre samtale – også utover seminaret. Skammen ble gjort om til et nytt driv: Hvordan skal jeg svare for min rikdom og er oljepumpingen verdt det? Skrivingen i kombinasjon med samtalene førte til en ubehagelig og givende selvkonfrontasjon, som ga videre driv i klimaomstillingen.

⁹ HORST (2021), 50.

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IRIS KIRÁLY

Sustainable Education in Kindergarten Activities and Ideas that Promote Sustainable Development in the Kindergarten Age Group (2–6 years old)



Education is the most powerful path to sustainability. Economic and technological solutions, political regulations or financial incentives are not enough. We need a fundamental change in the way we think and act.¹

Introduction

In this essay I will be discussing a variety of creative activities and ideas focused on sustainable development, that educators who work in the kindergarten sector might implement in their own institutions. The prime goal of suggesting these activities is not only to raise awareness to the local and global environmental surroundings and impending climate issues, but rather to render a sense of hope in shaping the behaviour of the future generations towards a climate-friendly approach. For the purpose of this paper, I will be using Astrid T. Sinnes' ideas expressed both in her research volume and during the lectures held at Humboldt University of Berlin during the winter semester 2023–2024 as the primary source of inspiration.

Furthermore, I will also be referring to a variety of activities proposed by Solvejg Nitzke and Kirsten Jüdt during the same seminar blocks held in February 2024. Although Astrid T. Sinnes' book focuses mostly on sustainable education and development in the school age, I firmly believe that the discoveries and research insights are applicable to the kindergarten sector as well, as long as the prime objectives and activities are adapted for the age group in cause.

The motivation for this paper is both personal and academic. Through observation and reflection, it has become apparent to me that children's capacity and potential of understanding and participating in complex activities (which are designed in an age-appropriate manner) are severely underestimated. When it comes to the correlation with sustainable development and creating environmental-friendly behaviours in kindergartens, both an overtly theorized operational framework and traditional pedagogies pose a real impediment. This is visible especially when it comes to implementing modern, flexible and adapted teaching and learning methods suitable for the present and future needs of the younger generations. As Astrid Sinnes affirms in her writing: »to teach students as if the world they are going to live in will be the same as it is today, means not offering them relevant education«.²

1 Irina Bokova (Director-General of UNESCO). Quoted from UNESCO (2014), 18.

2 SINNES (2022), 17. All translations of Sinnes by the author.

Inside the kindergarten sector, I have been observing a deeply trivialized attitude regarding the importance of education for sustainable development from an early age. This distrust is particularly expressed with regards to the idea of conducting excursions, walks or guided tours in the local surroundings. This is based on the restricted view spread among numerous caretakers that the children are too young to understand the intricate dynamics of the ongoing environmental issue. However, in the updated version of the Norwegian Framework Plan for Kindergartens, one of the core values is represented by sustainable development, stating that:

children shall learn to look after themselves, each other, and nature. Sustainable development covers the natural environment, economics and social issues and is key to preserving life on Earth as we know it. Kindergartens therefore play an important role in promoting values, attitudes, and practices for more sustainable communities.³

Education for Sustainable Development (ESD)

What is represented by the terms sustainable education and development? And where do we stand exactly according to the 17 sustainability goals proposed by the IPCC (Intergovernmental Panel on Climate Change) for 2030? According to Astrid Sinnes, »sustainability« seems to be a word that is increasingly used in our daily lives, covering a broad spectrum of partial meanings. It encompasses everything, ranging from sustainable solutions to travelling methods, extending to what it means to lead a sustainable lifestyle, for example. This represents one particular reason why the concept of sustainability seems to be so difficult to be defined. However, there appears to be a mutual understanding that when we discuss the concept of sustainable development, the spheres of economy, nature and social environment become interdependent, much like the definition offered above in the Norwegian Framework Plan for Kindergartens. Additionally, the nucleus of sustainability is epitomized by the concern for future generations and their needs that must be met, especially regarding the equitable division of earth's resources. As Marianne Takle⁴ argues in her research, there has to exist a binding contract in the legislative and policy measures which includes future generations, both born and unborn, since they cannot represent themselves independently yet.

There are different views about what nature means to us and in this manner, what sustainable development should look like. Due to the fact that there are manifold perspectives about the natural environment and mankind's role inside of it, two stringent directions have been developed. The first one believes that nature has an innate value in itself, with or without the human implication, whilst the second belief encircles nature's value only in relation to how humans administer its utility.⁵ A pillar of the first view was the Norwegian philosopher Arne Næss, who underscored humans' dependency to nature, whilst also acknowledging the substantial changes that have to be made in order to properly achieve a sustainable lifestyle. These changes can, however, start with each and every one of us. Extended educational pathways often bring the ethical and moral responsibilities of education into focus, particularly related to the formation of the future generations towards an environmentally friendly approach on their lives.

3 *Framework Plan for Kindergartens* (2017), 10.

4 TAKLE (2023).

5 SINNES (2022).

Education for Sustainable Development (ESD) is described by UNESCO as the chance to give

learners of all ages the knowledge, skills, values and agency to address interconnected global challenges including climate change, loss of biodiversity, unsustainable use of resources, and inequality.⁶

In order to achieve the necessary competencies for sustainable development, there are a number of core values that have to be cultivated at the same time, such as: human rights, equality and equity, global citizenship, peace, valuing cultural diversity and the role of culture for sustainable development.⁷ As a result, the aim of the pedagogical institutions should be encircled in a holistic approach to development, that seeks to focus on all aspects of children's evolution and future participation in a, hopefully, more sustainable society. For this, it is of utmost importance that the institutions start leading by their own example, with methods and strategies that are anchored in students' immediate reality. Sinnes argues that attitudes create the will and power towards action, while strong examples from educational institutions could aid in shaping the behaviour of their children and youth towards a climate-friendly view on their community and their inbound connection to nature.

Emphasized also by UNESCO's goal for 2030 towards a more sustainable education and practice, it is not enough only for teaching and learning activities to be more sustainable, (that is to say, their inscribed pedagogy) but rather there has to be a change at the institutional level, including the way institutions are formed and driven.⁸ The elements which are considered fundamental for ESD are represented by (though not restricted to) the following: 1. academically updated knowledge; 2. interdisciplinary approach to teaching; 3. knowledge linked to the students' context; 4. emphasis on developing various competencies, not just the purely theoretical ones (these include creativity, critical thinking, communication and collaboration, future oriented thinking and belief for the future, and ultimately the ability to act); 5. the pedagogical institutions themselves have to be an arena for learning how we can live in a sustainable way.⁹ Following this theoretical framework, in the next part of this paper I will attempt to offer an alternative answer to the pedagogical question of how educators can promote sustainable development in the kindergarten sector by proposing activities and ideas in the hope that these might inspire the drive towards more action.

Sustainable Activities in Kindergarten

In every kindergarten, the most pulsating moment of the day is represented by circle time. This is the perfect communal setting when both the children and the educators gather around together with the objective of engaging in a variety of pedagogical activities that stimulate active learning, social skills development, and the introduction of new key concepts. With just a few modifications, circle time can become more sustainable, regardless of the season or weather conditions outside. The most accessible transformation is to move circle time from an indoor setting to the outdoors. The outdoor location could vary from the kindergarten's proximal

6 UNESCO (2023).

7 SINNES (2022), 20–21.

8 Ibid., 22.

9 Ibid., 55.

spaces, such as a nearby forest or park, to the integration of the playground and a sustainable garden where the educators, in collaboration with the children and their parents could grow their own vegetables and plants. Notwithstanding, there are on the other hand kindergartens that encounter a number of problems when it comes to size, spacing, or their distance from a nearby green location. In spite of these issues, there are multiple options to creating a sense of the outdoors right in the heart of the kindergarten, such as building a pergola or veranda with reusable materials. In this environment, there could also be space allocated for flowerpots and reusable wooden boxes where children, together with their parents and educators grow their own plants and vegetables. The activity of building a sustainable garden together, whether it is big or small, planting their own seeds and reaping its harvest, represents a valuable experience both for the youngest children and for the older ones, since the project itself is anchored in their immediate context. As Astrid Sinnes accentuates in her study, the quintessence of a more sustainable education is represented by the teaching and learning that are »both about the environment, inside the natural environment and for the environment itself«. ¹⁰ In this way, children can acquire both the theoretical knowledge that will serve as the foundation for their future practices, but also the practical knowledge that creates memorable experiences anchored in the reality of the time they are living in.

Several studies have shown that the students are capable to efficiently correlate the received knowledge among different areas of life, as long as the initial context is similar to the future situation they are going to find themselves in. ¹¹ This means that, by creating a green space inside the kindergarten itself, not only do the children develop their creativity, critical thinking, communication and collaboration competencies, but also the action-taking skills are activated by participating in a project that is connected both to their local environment and the global context. Some preparatory circle time topics of discussion could include, for example, questions like: Which plants, flowers and vegetables grow in the local environment?; What about the vegetables and fruits we export from other places in the world?; How do we recycle our materials?; What materials could be reused for future projects and why?; What about the natural ecosystems and the conditions for living: introduction to animals, birds and insects in the proximal environment. Subsequently, what is fantastic about these ideas is that they do not need to limit themselves here, since they can be open to adaptation and improvisation based on the kindergartens' curricula, monthly themes and their objectives. For example, if the kindergarten chooses to focus on the theme of outer space, planets and the universe, the educators together with the children could build by themselves a NASA/ESA station with reusable materials in their »sustainable corner«. Instead of buying a new playing station, the children could learn about the importance of living a better life with a lower rate of resource consumption. If the monthly theme is, for instance, groceries and shopping, the kindergarten could build another playing station with reusable boxes, while the toys could be the already existing milk cardboard, water bottles or food packaging, designed and adapted in a child-friendly manner. One possible circle time subject before creating the play setups could be represented by, for

¹⁰ Ibid., 24.

¹¹ Ibid., 125.

example, colours and recycling. In this way, children will learn both about what colours are used by their local community when it comes to recycling, and how we recycle in a correct manner, showing them the trash bins and the garbage truck that comes to pick up the rubbish. Additionally, there could also be a separate discussion about healthy food and food waste (which kindergartens face on a daily basis. The educators could also show the children what ingredients can be used as compost for their sustainable garden, maximizing all the resources they have before buying something new. As a result of the deeply sensorial experience (seeing the real size of the grocery products, touching different types of wrapping papers, plastic bottles, spending time in the sustainable garden etc.), children will be more prone to understand how these aspects interact in the communities outside their kindergarten, obtaining access to a deeper understanding of the society they are a part of.

A brilliant activity proposed by Astrid Sinnes is to lead a discussion about aspects of life that make us happy without using money, whilst also underlying the relation between happiness and money throughout life. In a kindergarten appropriate discussion, children and their educators could discuss the primary emotions (anger, fear, disgust, sadness, happiness, and surprise), whilst also introducing the children to the issue of money and overconsumption. The representation has to be visual for the children to understand these concepts. For example, the educators could propose a dramatic play with dolls, with the theme of the clothing industry, finalized by role-play in which the children could open their own second-hand store with the reusable materials they have from the previous activities. Another role-play idea for this theme is to create costumes with second-hand clothes, for example a gardener's overall, or the garbage truck driver's clothing, in order for children to experience these roles and the responsibility that comes with them. Furthermore, at the entrance of the kindergarten, it could be displayed a »second-hand corner«, in which both the parents, educators or the members of the local community could donate toys, clothes, blankets, gaming boards or other resources that they do not need anymore, which could be used and transformed by the kindergarten for a variety of purposes.

One essential activity that focuses on sustainable development is represented by excursions and trips to different local places, such as: nearby forests, farms, parks, flea markets, farmer markets, natural history museums or local businesses that focus on sustainability issues. Unfortunately, these types of activities are not conducted enough, especially with the younger children. The reasons behind the lack of action could be various, for example the lack of public transportation which impedes remotely located kindergartens from travelling far distances, to the problem of core staff ratio and teacher-to-child ratio in kindergartens to lead such an activity. However, for the kindergarten groups that cannot travel far distances, there is always the solution of using the nearby environment as the prime landscape of performing their activities, such as the garden, or the closest green space. Furthermore, there is also the option of inviting special guests to the kindergarten such as: people who are actively involved in the public sector; individuals who work for the municipality that could talk about sustainability in a kindergarten appropriate manner; local farmers that could talk about the object of their activity by bringing plants, vegetables or other items for the children to see the final products; museum guides,

science teachers or environmental researchers that could initiate the children in the domain of the environment and climate status, as well as the natural conditions for our world.

On the other hand, for the kindergartens that do meet both the employee ratio quota and the proximity to green spaces criteria, these excursions would be treasured for the rest of the childrens' lives. In this manner, both the local surroundings at the kindergarten itself would represent a learning arena that becomes an active participant for the teaching context, while also helping the children in understanding how the world functions the way it does and what can be changed to create a more sustainable future.¹² One possible activity could be focused again on dramatic play, where the children get the chance to hear one of their favourite stories, »The Very Hungry Caterpillar«, in a natural surrounding, like the nearby forest, lake or meadow. The educators could use all the materials they can find in the given environment: everything from leaves, flowers, stones, branches, to even finding caterpillars or other insects that might fit in the story's description. Of course, the choice of the story should be open, since there are manifold narrative representations that could grasp the childrens' attention. Another possibility for the educators, together with the children, is to create their own environmental fable/narration or adventure story focused on the outdoors, or on the setting that they find themselves in. Here, the ideas are inexhaustible: what about a story focused on the secret life of insects; or the magical forces that change the natural landscape each season; what can we find inside tree stumps once they are dried out; does the forest have its own voice (raising awareness to the sounds and silences in nature, such as the wind, the birds chirping, the leaves rustling etc.). This activity could also be characterized as one type of nature reading/writing which accentuates our dependence on nature, but also our fascination towards it, which in turn would inspire the children to wonder upon the beauty and fragility of their environment.

One special activity proposed by Kirsten Jüdt is to map urban or natural spaces using the INIWIRMO method (I notice, I wonder, It reminds me of). Applied to the kindergarten sector, children could use all their senses in trying to grasp their inherent connection to nature once they are outside on a trip. Together with their educators, they could play games, such as: I hear (...); I see (...); I taste (...); I touch (...); I smell (...). The kindergarteners could also assemble their own forest map, as their own process of cartography. By using this mapping method, all types of activities could be included: from trying to draw or paint the natural space, to taking objects, like stones, branches, leaves, back to the kindergarten with the purpose of creating an environmental exhibition for the parents to see. Additionally, another activity could also be to record the sounds of nature or the different songs the birds sing. This would lead to a supplementary circle time discussion: by using creativity, imagination and fantasy, educators could ask their students questions like: What do you think the birds are saying/singing about?; What birds do you think we have recorded so far?; Could we describe together how these birds might look?; Could we create our own melodies and music based on the birds' songs? Here again, the ideas are limitless, promoting both authentic learning contexts, modern approaches to education and variation in teaching methods.

12 Ibid., 58.

Following the same thinking strategy, one activity inspired by Solvejg Nitzke is for the educators to create a workshop with the theme »Unprofessional Botany«. In this workshop, children could learn about different plants from their local environment, as well as what it takes to be a flower, a tree, a bush and so on. They could experiment on the amount of water given to their plants, as well as the exposure to sunlight in order to observe how they grow and where they take their energy from. During project time, children could also be asked to create their own plant by using their imagination, and at the end to present it in front of the group. One possible project that would span for a longer period of time, which would involve preschool children, could be to conduct a research report, or at least to make them familiar with this method. The aim would be to choose a designated green area from the local surrounding and to see how the landscape evolves in all the seasons of the year, by investigating its constituents during excursion time. The educators, together with the children, would take pictures of all the natural elements, store them in a photo album or wall exhibition and then show the result at the end of the year. The group would be able to make comparisons and talk about what they have learned together, how it felt to get attached to the place, what they have observed in the ecosystem. As Astrid Sinnes argues, to be outside in nature offers the children the opportunity to use all their senses, to learn through movement by using their bodies and to experience the joy of mastering new abilities.¹³ The beneficial results of outside activities also include the possibility of creating a stronger emotional bond between the children and their educators, while also enhancing the social communion of the group, which in turn, promotes a healthy frame for new learning outcomes.

Conclusion

Throughout this paper I have offered numerous solutions for educators working in the kindergarten sector, focused on ideas and activities that could create a more sustainable teaching and learning environment, both for the children and for the adults. Firstly, I have presented one possible definition for the concept of education for sustainable development, as illustrated in the research literature mentioned. For this purpose, Astrid T. Sinnes' work was a valuable source of information and inspiration. Secondly, I have attempted to propose manifold circle time activities in kindergarten, spanning from discussions about the local and global environment, to more action-oriented projects, such as building a sustainable garden, creating an authentic environmental narration inspired by the local surroundings, or conducting a research report focused on a green area from the kindergarten's neighbourhood. Creative and critical thinking, action-taking skills, as well as cooperation and communication have been some of the competencies the proposed activities have focused on. There are, of course, some topics that are highly valuable and relevant for the area of education for sustainable development, which I did not have the time to debate for the purpose of this paper. Further reflections and investigations could be centred around topics such as food culture in the Norwegian kindergartens, which is strongly focused on ultra-processed products from chain supermarkets. This could be the focal point of a future research paper for the people interested to develop this line

¹³ Ibid., 70.

of thought. The field of education for sustainable development should, first of all, show the children and the youth that it is possible to lead good lives in a sustainable manner, both now and in the future, but in order to achieve this, we have to change the way we live.¹⁴

At the end of this document, I have added a glossary with pictures from previous activities focused on sustainability. I have managed to conduct some of these projects myself with children from numerous kindergartens in Oslo, Norway (the photos from harvesting, the NASA space station, the vehicle created with reusable materials), while others are taken from the website *Idebroen – Barnehage*, which operates as a private, national database for kindergarten project ideas in Norway. The purpose of illustrating these pictures is to render a clear example of the infinite possibilities that can be done on the theme of nature and sustainable education, while also to show that action towards a more sustainable lifestyle is taking place at the current moment and numerous children, parents and educators are embracing the movement (Nature-Thinking-Acting).

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¹⁴ Ibid., 184.

Glossary



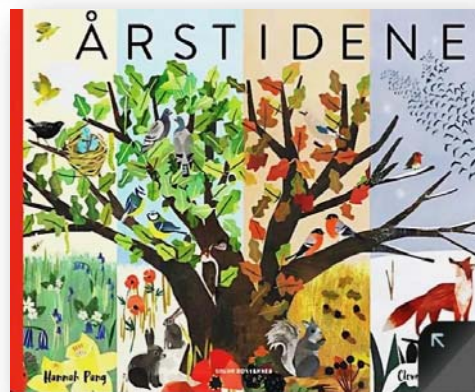
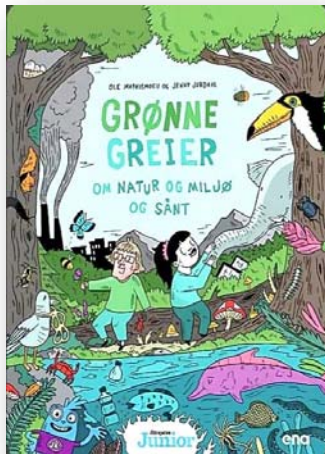
Stationary Bed Gardens Solutions and Harvesting Activities



Play Setups Created with Reusable Materials



Projects and Dramatic Props Created with Reusable Materials



Book Recommendations for Nature Reading (in Norwegian)

JUSTYNA SIUDAK

Creativity and Destruction

During the series of lectures *Natur – Denken – Handeln* (Henrik-Steffens-Seminar 2023/24) we were confronted with such a variety of topics, it is hard, at least for me, to choose one thing to fully concentrate and reflect on. I do have to admit, I was lucky to participate in seminars which covered topics I care most about, so I am simply going to try to tackle the issues I found most interesting or relevant, or the ones which were the easiest for me to wrap my mind around. I do have to confess: Art and Nature are my main interests. That is why I participated in the first block seminar about design, transformation and creativity and the second one which revolved mainly around nature, ecological crisis and human-animal dynamics.

I would like to divide my essay in two parts where I am going to try to reflect on certain issues: the first part, more optimistic, is going to be about creation, loosely referring to the first block of the seminar, where I would like to concentrate on art (personally I do think design belongs to the vast notion of art) and its transformative powers. The second part of my essay would be referring to the second block of seminar where I will reflect on the environmental crisis and all the destruction resulting from it.

Creativity

What is art? What is creativity? Why do people create things? I used to study history of art with the emphasis on history of painting back in the day and I still consider it my main field of interest. Personally, I do have great respect for masters of various periods of time but what really interests me is the time when art, especially painting, stopped being a matter affordable only for very rich people, and started to be accessible for almost anyone who was willing to try. Thanks to the industrial revolution, oil painting became cheaper and this is also the time when magic began to happen. To simplify my discourse, I am leaving aside the fact that creativity and artistic expression was for a very long time a man's domain but so was almost everything else.

So let's just go back for a while to the end of the 19th century. The first breakthrough happened when they invented a tube for oil paint, which allowed the artist to take the painting outside of the studio. For the very first time, the artists, at that time mockingly called »the impressionists«, go out and actually paint nature en plain air concentrating mainly on the light and its effects, what they see and how it makes them feel. They execute a painting quickly – wet paint on a wet ground – going against all rules and naturally being rejected by the mainstream and cold, academic art community. Amongst them, at least at the beginning of the movement, was Paul Cézanne, nowadays considered the father of modern painting, who during his life was not accepted and generally rejected by the general art community opinion up until his death. When we talk about rejection and lack of general acceptance at the end of the 19th century, we also have to mention Vincent van Gogh, who spent all his life painting pictures no one wanted to buy. And now let's skip a couple of years ahead and imagine Paris, which at the beginning of the 20th century was the epicenter of art, offering every artist the freedom of expression, liberty and fertile ground for the imagination (if only one was willing to put up with

poverty and merciless bed bugs). Let's take for example the phenomenon called »École de Paris«. All these artists coming from all over Europe (but not only) and from various cultures had one thing in mind and were ready to sacrifice a lot for this one thing. I am not referring to fame or riches but to their art. This powerful drive, the impulse to create that makes you forget everything and puts everything else in perspective for you. No destruction, apart maybe collateral self-destruction (Modigliani) or extreme self-criticism (Soutine and his obsession to destroy all his paintings from a certain period of time), but pure realization of one's inner vision and creativity. And in the case of Soutine, coming to Paris from a small village with nothing except the desire to create, and in the end attaining pure liberty and freedom on canvas, and even the financial success during his lifetime.

Let's not forget about the importance of a place for a creative process and how crucial it is for a creative force to be at the right place surrounded by the right people. Even though most of the artists at the beginning of the 20th century lived in extremely miserable conditions (Montmartre and Montparnasse had at the time the cheapest places to rent), Paris offered at that time not only an interesting night life, inspiration and the company of like-minded people, it also provided a sense of liberty like nowhere else. It was possible and acceptable to disregard academic rules and still be taken seriously, it was possible to disregard the rules of one's culture and not get punished or ostracized for it. Let's take for example all the Jewish painters, pursuing the art of human portrait even though it was forbidden by their culture and religion. Paris accepted them the way they were and allowed them to do what they wanted.

Can art transform one's life? What is the power of creative force?

Let me tell you the story of one of many artists of the École de Paris living and working in Paris at the beginning of the 20th century. The already above mentioned Chaïm Soutine was born around 1893 in Smilavitchy (in today's Belarus) as the tenth of eleven children in a small village to very poor parents.¹ From the very beginning he showed a great interest in drawing. He would draw with whatever he could on whatever he would find. He would also always be punished for it, because his parents didn't approve of it and his culture would not accept any figurative art and painting or drawing were strictly forbidden. One day, the boy drew a portrait of an old man. The devoted son of the old man beats the young Soutine for that so badly that the young artist barely survives. It was so serious that his mother filed a complaint against the attacker of her son before the local court. The court decided that the son of the rabbi committed a crime and had to pay 25 rubles (here the amount varies according to each version of the story) which to a poor kid from a big, poor family was a crazy sum of money. He uses it to leave the village and to go to art school in Minsk, where he meets three other students (who are going to become part of École de Paris as well) and around 1913 he moves to Paris, with nothing, having burned every bridge to the past.

¹ I did simplify the following story, or to put it more precisely, I put together the most important elements of the story because each version differs slightly from the other depending on the book and the author. As for the date of birth, it's 1892 or 1893, some sources say even 1894. As a reference or for more details, I recommend the books of Vallès-Bled, Vial and Carl, listed in the bibliography.

So he starts another chapter of misery, painting incessantly. We don't know much about him except for his art but his poverty was the main thing his friends remembered him for at that time.

His art revolved mainly around still life (*la nature morte*), which was also a way of obsessing over food, which he constantly lacked. But this didn't keep him from carrying on with his painting. As extreme as his poverty was, so was his obsession with his own art. Obviously, there was also no recognition coming from the critics, no substantial buyers, and except for his closest friends (like for example Modigliani who introduces Soutine to Zborowski, their art dealer) – no support either. Until one day in 1924, a rich man from Philadelphia, Dr. Barnes, saw his portrait at one of the art dealers and to the great surprise of the latter, he bought a considerable amount of Soutine's paintings making the poor artist a rich man at once. Recognition followed, more support and more great art followed. Until Germany decided to destroy lives of unimaginable amount of innocent people, forcing Soutine to live in hiding until his death in 1943. Way ahead of his time, his art would go on to influence the next generations of painters (Willem de Kooning, Jackson Pollock, Francis Bacon, Jean Dubuffet, to name just a few), working mostly in the United States, where the center of art was relocated during and after the Second World War, where many artists from Europe had to flee trying to escape the destruction of the Nazis.

Putting aside the financial aspect of Soutine's success, the way art and creating influenced his life seems extremely interesting to me. His life, according to the information I was able to gather from various sources, is a perfect example of the literal transformative power of art on the individual as well as on a group of people. And of course, on the art itself. Coming from unsupportive environment with nothing to the center of art and following his artistic instincts, Soutine was able to truly transform his life – or maybe allow the art to transform his life – simultaneously transforming the art itself and paving the artistic way for future generations of artists. Painting, it would seem, only for himself, following his obsession, disregarding the pursuit of money or approval, but mostly facing almost exclusively disapproval from critics, and being his own ultimate judge (he used to destroy a lot of his works he was not fully satisfied with), he seemed to completely surrender to the demands of his art. Following it no matter what, ultimately attracting a financial success, which allowed him even more freedom to pursue his vision.

Even though I could go on for hours about Paris at the beginning of the 20th, I would also like to mention the one and only Frida Kahlo, a Mexican painter whose art is so special and such an integral part of her that it is really hard to separate it from her life. Since Kahlo never wanted to become a painter (she was planning to become a doctor until an accident horribly complicated her life and health)² she used art rather as a way of escaping and coping with her solitude and physical suffering, transforming her misery and pain into something exceptional on canvas, using art almost like therapy and self-reflection, which was in a way an act of transforming her misery into something limitless and powerful.

2 For reference or more details I recommend the biography of Herrera listed in the bibliography.

After mentioning all these artists, which obviously I admire, I cannot help but wonder and ask rhetorically, after all the rejection or years of misery why did they keep on painting? Why didn't van Gogh give up? He certainly didn't know that the world would become crazy about his works ... Why didn't Cézanne give in? He was rich, he didn't have to continue painting. Why did Modigliani stay in Paris doing portraits of his friends although his lifestyle was ruining his health and he was barely able to sell some of his works? Why did Soutine keep on living in misery for more than a decade? Stubbornness? No way out? Fear of losing the only reason to wake up in the morning? I think that art is such a powerful life force that once you really feel it, you have to follow it, you cannot give up without killing something in your soul. It's almost like a pain killer that helps you escape your reality and go on no matter the circumstances. It was also not about talent or basking their egos in the sunshine of flattery, these artists were not recognized back in the day (at least not all of them and definitely not in the beginning) – no one came to them offering big amounts of money and the approval of critics. There had to be something more to it. The act of creating, coming from some hidden place in the human soul or psyche that gives meaning to your life and makes your life more livable.

This is what comes to my mind when I think about art and its transformative powers. To me, it is not only about transforming the objects, creating new things, realizing your ideas or putting together some colors so it looks interesting. It is allowing yourself to do things you believe in and letting it manifest and transform you, your life. It is almost like allowing some higher power to take over without thinking or caring about the consequences. This is also what I love about art. It transforms people – gives them access to something inexplicable. It is a powerful force that can have a huge impact on people. Art allows to reveal a sensitive aspect of human beings. And when we think about the human drive and appetite for destruction, art allows humans to even rise above it. One of rather few beautiful things humans are capable of.

Destruction

It seems like death and destruction are integral parts of Nature and its cycles, and ultimately allow the creation of new things. Something must be destroyed in order for something else to be created and thrive. Something must end for something else to begin. It is a cycle. But what if things get slightly out of control and the conscious or subconscious tendency to destroy takes over?

Humans have not been living on planet Earth for a very long time. In fact, considering the age of the planet, we've been here for something like a blink of an eye. We consider ourselves the smartest, the most intelligent, capable and utterly exceptional beings. Every other life form fades, loses its meaning and worth in the light of our greatness. We are the last to have arrived, but we feel like every other creature owes us something and exists only to serve us. Because we're the only ones »designated« to make use of basically everything around us.

Lately, or more accurately, ever since I was a child, I have been wondering how such a smart and intelligent creature like a human can cause so much damage and death, ruining the one and only habitat possible for mankind and all other creatures. Why so much destruction? Why so much death and violence, not only towards other species but especially towards its own species? Is there any other species out there with so much hatred towards their own female kind?

Are there any other species that torture their females, oppress them, make their bodies a political playground or burn them at stake if needed? I am not sure but I would venture to say, no, there are no other species like that out there. We are very unique in this regard.

I wonder how the smartest creature on the planet Earth could get itself into this kind of mess we are currently going through. And by »mess«, I mean the dirt and pollution that covers the planet everywhere, where humans were able to grace the place with their presence. Let's take, for example, the millions of tons of plastic floating in the ocean, the smog in the air we breathe, the pesticides in the food we consume, the microplastics in the water we drink, just to name a few current »circumstances«. How come that the smartest creature on Earth and its glorious period – the Anthropocene – seems like a deadly disaster for the entire planet?

The answer seems obvious and complicated at the same time and it seems like everything about the environmental crisis has been said. Scientists are trying to draw people's attention with scarier and scarier scenarios for the future, and everyone on the planet with access to the news is aware of the alarming situation. And as the highly intelligent creatures with the exceptional ability to solve problems we are, we can decide for ourselves what to do with this kind of information, right? Or simply wait it out or deny it, because who cares?

It feels like there's no objective way to write about it – at least not anymore. If you're a scientist you write to the best of your abilities to inform and warn people about the dangers of the climate crisis. If you're a greedy entrepreneur, profiting from the planet's resources, you just shake off the problem and reassure your clients of your deep commitment to reversing environmental damage in order to sell your product to confused and desperate people who buy into your lies just to get on with their lives with a clear conscience. And if you're a poet, a nature-worshiper or just an individual concerned about your children's future, you try somehow to channel your anger, disappointment, disillusionment or hope – if you still have any – to the best of your abilities. To get on with your life. But it seems certain at this point, every approach is personal and everyone is somehow involved, even if they try to deny it.

Having said that and acknowledging the fact that I am no scientist, I cannot provide any new information or solution and I am not even going to try to come up with some ground-breaking insights about climate change and the ongoing environmental crisis. All I would like to do is to try to somehow filter my thoughts on this and put them on paper in the most accessible way possible (but even doing so I cannot promise any big conclusions) reflecting on the lecture of Odin Lysaker and his take on biocentrism, ecological democracy and so forth.

Speaking of a personal take on the environmental crisis, I remember being a kid and reading National Geographic (in paper form) with its absolutely amazing photographs of the Amazonian forest, this amazing vast territory supporting the planet with oxygen, with its almost fairy-tale creatures and trees and so many secrets inside. I couldn't believe that someone would want to destroy that. I was filled with terror reading about deforestation and the effects it would have on the ecosystem of our Planet. I especially couldn't grasp why would someone destroy something so important, not to mention kill all the beautiful creatures living there. Fast forward a good couple of years, nothing has changed and I still don't really understand. Except for the fact that there is something profoundly wrong going on.

In the middle of this glorious anthropocentric period that makes the Earth bleed with oil, and with all its destruction and gloomy visions for the future, the term biocentrism seems almost like a promise of a miracle cure for some mysterious disease that has been affecting our planet for a very long time. Could a biocentric approach be the solution to our problems?

According to Britannica, biocentrism »is an ethical perspective holding that all life deserves equal moral consideration or has equal moral standing«.³ The word »equal« seems to be very popular nowadays but very problematic to put it into practice. I would like to introduce at this point the Italian botanist Stefano Mancuso, whose books and research have provided some captivating discoveries lately. Mancuso's work is ground-breaking and to put it briefly, he is regarded as the father of plant neurobiology. His work and discoveries put plants and their ways in a completely new light, exposing our ignorance and showing how little we actually know about the organisms which make up an overwhelming percentage of our planet's biomass, and how narrow-minded and self-centered our vision of the world has been. Mancuso's work, in my opinion, makes the anthropocentric vision of the world seem outdated, disconnected and somehow extremely boring.

But then again, it is easier to destroy something you don't want to understand. It seems like there is an obvious link between the miserable state of our planet and general human ignorance. The open skepticism towards Mancuso's discoveries – instead of, for example, curiosity – only proves how self-centered humans are and how scared of losing their position at the top they imagine they are. The following fragment from his book »Brilliant Green« is just one of many observations that brilliantly question our role in our current situation on the Earth:

In fact, our situation really isn't so stellar. The plant world alone represents more than 99.5 percent of the biomass of the planet. It's like saying that if 100 is the total weight of everything alive, according to various estimates, between 99.5 and 99.9 percent is composed of plants. Or to put it the other way around, of all living things, animals – humans included – represent only a trace (a scant 0.1 to 0.5 percent).

Despite determined human efforts at maximizing deforestation, plants are the incontestable queens of living things. And thank heaven! It is this relationship that makes life on Earth still possible.⁴

Having said that and supporting it with numbers it should be pretty humbling for creatures like us that have only been around for the last 200,000 years. But there's also something about our kind and our entitlement that seems to blind some of us in the pursuit of »feeling special« that grants you the right to feel superior. And I would like to mention colonialism at this point, that in itself proves that biocentrism wouldn't stand a chance because humans have consistently proved that they as a species do not even consider themselves equal.

A couple of centuries ago, the Earth was designated or condemned – depending on the perspective – by influential institutions to be subjugated and exploited by a certain group of people. And when we factor in the boundless arrogance and self-imposed right to rule over other peoples and their lands, the combination becomes lethal, leaving the planet completely out of balance.

Silencing, murdering and disconnecting Indigenous peoples from their cultures, their families and themselves is a despicable crime, taking over their land to ruthlessly exploit it and even

3 »biocentrism«. (N.d.).

4 MANCUSO and VIOLA (2015), 40.

forcibly populate it with more »deserving« Europeans sounds like something we would rather not talk about, and so is brutal and profit-oriented deforestation, mining and polluting.

Why would I mention Indigenous peoples at this point and the effects of colonialism on the environmental crisis? Simply because during his lecture on ecodemocracy as a way to mitigate the crisis or replace our current situation, Odin Lysaker also referred to ecocentrism, which is another form of biocentrism and according to the definition, it »represents the idea that everything in the natural world has its own intrinsic value and deserves moral consideration«.⁵ Odin was also referring to principles, that seemed to me (as a person interested in Indigenous cultures) very familiar. I instantly had to think about the Lakota tribe of North America and a specific phrase, which is a prayer, a way of life, a philosophy, and goes: *mitakuye oyasin*. These two powerful words influenced the way people felt about themselves, their environment and our mother Earth, because in their culture the Earth was (and still is) considered as a Mother, marking their place in all scheme of life and their role as humans for centuries. Let me explain it further with the words taken from the book on Lakota ways by Joseph M. Marshall III, himself a member of the Lakota tribe born on the Rosebud Reservation:

Given the concept of family, it isn't difficult to understand the idea of kinship with other forms of life – *everything* was of the Earth. We all came from it one way or another and returned to it when life was over. These were the unalterable realities that connected us to everything around us.

A phrase essential to and used in all of our ceremonies is *mitakuye oyasin*, which means »all my relatives«. Its definition reminds us of that connection. Many of our stories about animals refer to them as »the elk people«, or »the bear people«, or »the bird people« not because we were anthropomorphizing them but because in our language the designation »people« was not limited to humans. This kinship, this sense of connection, also served to remind us of our place in the great scheme of life.⁶

As we can see, this kind of philosophy which we in our western culture call ecocentrism already existed many centuries ago and it was not a philosophy, but an actual way of life. Just by reading this little fragment I personally feel like there is a profound and powerful impact in this way of thinking and approach. You would not destroy something you feel connected to. Could this be a remedy for our problems? I do think so, but I also feel like it is a little too late to reverse the damage, and to go back in time doesn't seem like a feasible option. Respecting the Earth, celebrating its beauty and majesty, appreciating and respecting all forms of life should be a normal state of affairs on our Planet. But we have managed to normalize the abnormal and now we have to live with the consequences. And maybe if we started considering ourselves as a part of the Planet, and not its rulers, we wouldn't feel so isolated and depressed in the end. But realistically speaking, to get there, to be able to act from a place of respect and empathy (and maybe manage to somehow save the Earth from impending disaster) people as a collective would need to look critically at themselves and acknowledge the failure of their current approach and the situation resulting out of it. A change in mentality would be necessary. And for this, I don't think people are ready because it would also mean renouncing their current way of living and acting, it would also demand a change of mentality and for some people it would no longer be profitable.

5 »Ecocentrism«. (N.d.).

6 MARSHALL III (2002), 211.

Is the idea of ecological democracy relevant in the Anthropocene? I would venture to say absolutely not, we have been disregarding ecocentric views for such a long time that I wouldn't say that it is relevant or that it actually matters. Or at least it doesn't feel like it matters. Profit is relevant. Progress is relevant. Industrialization is relevant. All the things that in the long run make us look for a way out of this situation. The concept of ecological democracy seems good but does it have a chance to be put into practice? What would need a profound change and how could it be achieved? Let us get back to the Indigenous cultures of Americas. Why was it so important for the European immigrants colonizing the Americas to oppress, erase and eliminate the Indigenous peoples and their cultures from the continent and make them slowly disappear in the mainstream of coming Europeans? Maybe they were supposed to be banished because they were a threat to the western approach and western culture obsessed with making profit and »subjugating« everything on its way? Ecocentrism existed long before western civilization put a fancy name on it and according to peoples who have been resisting oppression for centuries and managed to preserve their culture and language, it was doing just fine. I cannot stress this enough: we cannot reverse the damage we have done to our planet, peoples, environment and ourselves. But we can look for some remedy, or a different way of doing things and thinking about ourselves and the impact we have on the environment. However we may call it, ecocentrism, ecodeмокracy, it would be wise to try a different approach than we have been using until today. There is a saying that you cannot keep doing the same thing over and over again and expect different results. I couldn't agree more. The situation we have now seems far from perfect, otherwise we wouldn't be »bothered« with depressing news on a daily basis. So if we were about to truly revolutionize our ways, I think it would be really advisable to try out more alternative ways, ways we once rejected or deemed unprogressive, outdated or »possessed« by the devil. And obviously for the marketing purposes we could attach an »-ism« or »-centrism« to it and hope for the best.

One thing can be certain, humans have proved over various periods of time that they have a huge capacity to adapt to hard living conditions, mostly out of necessity or for lack of a better option. Basically one can get used to anything. What seems to be one of the most concerning things nowadays is the ignorance and the disturbing necessity to adjust or to get used to changing environments. But what is really disappointing is the fact that all these changes are caused by mismanagement, some very bad decisions and it seems like none of them are positive. Everything changes – change is part of life, no doubt about it. But what if the change feels like an imminent danger and deprivation? The environment changes for the worse and we as a part of it are going to be forced to suffer these changes, having to put up with dramatically worse conditions. Is it worth it? Well, just like the whole issue of environmental crisis, the answer is personal. I would like to end with the fragment of Mancuso's work about the much underappreciated plant world:

The benefits plants bring by producing oxygen, absorbing carbon dioxide and pollutants, and moderating climate have been known for a long time. But other ways plants can affect our well-being have been studied only recently, and the findings are remarkable: the presence of plants has been reported to reduce stress, increase attention, and speed recovery from illness. [...]

The reasons why plants have these psychological benefits for us are still mostly unknown and may go back far in time, bound up in our unconscious awareness that without them life for our species wouldn't be possible. The calm that pervades us in their presence may be the echo of an ancestral awareness that everything we need and every chance for our survival dwells in the green world. Now as long ago.⁷

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7 MANCUSO and VIOLA (2015), 43–44.

Grief and situated hope in entangled places

Ecological loss and crises have already happened, or are happening, in numerous places, whether it has been due to slow ecological collapse, or direct human intervention by industrialization, colonization, or war. In Norway, NRK mapped out 44,000 events of destruction of nature for industry, in only the last five years.¹ And if only it had been types of nature or ecosystems we have in abundance – but even vulnerable biomes such as bogs, coastal lines and reindeer grazing areas, have routinely been destroyed as well. In the article we find ten-year-old Casper who deals with forthcoming loss: »They are going to dig up the forest and build more houses. Then we can't play here anymore.« Arvid (79) has already experienced loss: »I just drive the old road. I'm afraid I'll have a heart attack if I see how it's turned out.« While Casper is anticipating the loss of his beloved forest, Arvid is trying to cope with loss by avoiding the destruction. They are not alone; we are all living on a damaged planet where we need to navigate new ways of living with progress and destruction. We are often directed to hope in progress for a better future, where beloved or sacred places simply must be sacrificed for the greater good. This kind of hope for progress can feel too mighty and far-removed from the reality of someone's life or love. It is usually tied to optimism in new technologies to replace fossil fuels – without acknowledging the abundance of resources they require, and that it is likely not enough when our consumption keeps increasing. So how do we then deal with the loss, if there is no hope? Moreover, many of us also benefit from the »nature ruins« that extraction and industries leave behind, for example in the form of new jobs and income to our society. Do we learn to live with loss, entangled with our benefit, and how? And how do we grieve forsaken places, because avoiding them, as Arvid does, is surely not very healing? To tend to these confusing questions of coping with loss in places where we are interconnected, I turn to two different approaches: participatory design research with the publication *Grief and Hope in Transition – An orienteering guide*,² and concepts from post-humanist feminist thinker Donna Haraway in *Staying with the Trouble: Kin in the Chthulhu*.³

To guide you to a place where we can find a sort of interconnection: Seymour describes in her book »Bad Environmentalism,« the irony that arose after the Chernobyl disaster, where wildlife could thrive again due to the absence of humans.⁴ Reports such as »Bikini Atoll, home to the world's biggest nuclear explosion is now a scuba divers' paradise. The Chernobyl Power Plant disaster site turns out to be the best place in Europe for wolf conservation«, displayed prosperity while downplaying the disaster. As she writes,

Yes, the wolves are thriving, but they are also radioactive. (...) The wolves of Chernobyl exceed the boxes of despair *and* hope, and challenge our equation of wildlife with purity.⁵

Yes, we might find hope in thriving nature, but it is still stained with disaster.

1 NRK (2024).

2 JÖNSSON et al. (2023).

3 HARAWAY (2016).

4 SEYMOUR (2018).

5 Ibid, 4.

In another abandoned industrial place, and my main example, we can find a similarly confusing event. A friend of mine, a lichen researcher, studies the emergence of unique species of lichens in old mine pits. These are places that are seen as lifeless remains of industry and ecological destruction, but the lichen researchers discover that species of »heavy metal lichens« have found their habitats at these sites.⁶ They are even »composed« of the heavy metals that are left over from mine tailings and are rusty with color, possibly as a way to adapt to these normally toxic compounds. The types of lichens are not new discoveries and have previously been found in areas where high levels of metals occurred naturally, but these places are now scarce due to mining. However, previously undescribed species of the metal lichens have been discovered – and this in an undesirable place for other living organisms, a toxic wasteland, that should be cleared up for contamination. One thing is the rarity of these lichens due to human intervention, but an absurdity appears where in industrial »wastelands,« or »exclusion zones,« which are simply toxic for most lifeforms, come about to be »niche eco-habitats« for certain life forms. In this curious scene it might be difficult to pinpoint what is despair and what is hope – it is more an entanglement of the two. How do we go about caring for species in a place that should not be?

In »Grief and Hope in Transition – An orienteering guide« by design researchers at Malmö university, we are presented with tools for how we can reorient ourselves in meetings with ecological, as well as cultural loss, and how to find hope in an uncertain future. They invite grief as a companion when traversing places with ecological or cultural loss, because many of the losses we face are inevitable, and therefore we need to find ways to live with it. But also, because the nature of some losses is not typically what we recognize as loss, we also need to learn to recognize them as losses, and how to grieve them:

There are established rituals and traditions to express and contain the grief after the loss of a close friend or relative. But how do we grieve the objects, practices, habits and ideas that a society based on fossil fuel made possible, that we now need to let go? And how do we grieve the loss of landscapes and species altering or disappearing because of climate change?⁷

Here, the losses they describe and those we may face, are not only limited to nature ruins – but also habits in lifestyle and consumption to transition away from, and ideas that needs to be redeveloped. But the ways to tend to this grief, and to do so collectively, is not obvious. The rituals for grieving the loss of a loved one are collective; we have the burial and a one minute of silence. What kind of rituals can we have for the loss of natural landscapes and non-human life?

One of the visited places is »the proposed mine,« in an area with mineral-rich clay. The clay was traditionally used to build houses, but in the current times, minerals are too valuable for various (energy) technologies, to be hid away in building blocks. The place is then a prospect for a mine, with the risk of turning the village into a »shadow-place,« meaning an industrial area which is no longer attractive for life. How did they grieve the to-be-lost place, and where did they find hope? In the introduction, I mentioned how we are told to find hope in progress or development, but that this hope is usually tied to upholding business as usual and may

⁶ TORGERSEN (2023).

⁷ JÖNSSON et al. (2023), 5

therefore not feel hopeful at all. However, as we do not really know what kind of alternative future we can place ourselves in, the task of reorientation can be unnerving:

When we try to envisage a fossil free future, we might feel lost and disoriented, since so many of the tools previously used for navigating no longer can be taken for granted. [...] How do we reorient in times of disorientation? How do we establish new pathways, leading in new directions, in the face of the loss of a future already so invested with hope and meaning?⁸

The concept of reorientation is drawn from Sara Ahmed's work,⁹ where orientation is how a person, or the body, orients themselves in relation to some object, person, or place. But the way we orientate ourselves is shaped by societal structures, in our context a fossil fuel-based world, where progress is requisite to sustain our consumption and the growth of it. So, if we want to orient ourselves outside these structures, we need to do the *work* of reorientation, to find new relations and new structures. If we only observe or find ourselves among loss of places without reorientation, and if we are only told that it is a sacrifice towards a future with growth, a status quo that we do not understand as sustainable, we may instead feel disorientated.

The acts of reorientation and the grieving rituals in the proposed consisted of making an inventory of the place; as a collective memory of a future sacrifice, and as caring for the place in the present. They made clay castings of collected objects to reproduce and make memories for the future. When anticipating a future loss, the possibility to care for, and map out a place, can help to process grief. The questions posed in the beginning are practiced – they express and contain grief of a place collectively by making material memories together. Mapping a place and extracting its knowledges can be thought of as similar to what the lichen researchers do – they are preserving knowledge before it is lost, and even more importantly, discovering new species that we otherwise never would have been known. If the abandoned mine of the metal lichens is covered and built upon, the knowledge of what or who was there, must surely help the researchers grieve future losses? Knowing they have made the puzzle of undiscovered lichen species, more complete? However, these are not actually rituals of mourning, we cannot assume the researchers tend to the act of it. Drawing inspiration from the proposed mine: a way to care for the place and its life could be to make paints from the metal oxides in the soil, and paint the lichens in the landscape? Maybe find documentation of species from the research, and incorporate it? In this way, one gives the lichens representation and respect in the threat of extinction, while also caring for a place (with lichens) that will likely be cleared up, in full or partly. Finding rituals of mourning can help us navigate losses in places that are entangled with hope and despair, by also caring for and acknowledging the place. But how do we understand our entanglements with places like the abandoned mine, and how are we accountable? Are the rituals merely for us, or the place and the non-human life in it, as well?

Inviting grief as a companion can resemble the notion of »staying with trouble« from Haraway, as in »staying with the grief.« In a messy and complex world, we need to accept the difficulties, by engaging with the interconnectedness in the places, situations, and ecosystems. She, like the designers, stresses that we do not need to know the future in order to respond, act, or tackle the present:

⁸ Ibid.

⁹ AHMED (2006).

Staying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present (...) as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings.¹⁰

In turn, Haraway rejects holding onto hope:

Alone, in our separate kinds of expertise and experience, we know both too much and too little, and so we succumb to despair or to hope, and neither is a sensible attitude. Neither despair nor hope is tuned to the senses, to mindful matter, to material semiotics, to mortal earthlings in thick copresence.¹¹

More than feelings in themselves, she seems to be interested in mutual engagement and response. »Thick copresence« can be interpreted as not simply being present with other life or species, but engaging deeply to all facets of interconnectivity, and going »towards a collective becoming.«¹² She might be too dismissive of humans' need for hope; is it not too easy to fall into despair and apathy without it? But maybe, if meaningful response comes from active engagement with the world, or thick copresence in her words, hope is not necessarily meaningless or useless, but rather, excessive.

Haraway's view on us and how we relate to the world, as intertwined with others, is important to settle in the question of how to navigate losses in the world and inviting in grief. »Becoming-width« others, as in an interconnected species relationship, is central in her work and rejects human exceptionalism when relating to others.¹³ Her view on grief is then accordingly »grieving-with.«¹⁴ A backdrop is also that grief is not exclusive to humans; animals grieve too, as found in animal-behavioral studies.¹⁵ When one recognizes the capacity for grieving in non-humans, and meanwhile our interconnectedness, it does not suffice to just grieve over:

Grief is a path to understanding entangled shared living and dying; human beings must grieve *with*, because we are in and of this fabric of undoing.¹⁶

Grief can lead us to awareness of how we belong together, and maybe we do not need to rely on hope or consolation, because we expand our relational capacity.

Haraway's proposals to stay with the trouble and »grieving-with« other subjects, can show us how to respond and grieve in complex and interconnected situations. A possible course of response in the abandoned mine, considering it all, may be to stay with our complicity in making, and then abandoning wastelands, which highlights our interconnectedness in ecosystems. And we must learn from it, to fully understand our impact and how to avoid harm in the future. We recognize the intrinsic value of lichens and their right to exist and flourish in their habitats, but also consider the complexity of their habitats being toxic to other life. We may have trade-offs when caring for other beings as well – we can mitigate and reduce the toxicity of the mine, but this may disrupt the habitat of the lichens. If so, we grieve with them, as we are entangled.

In summary, the designer's guide explores how to reorient ourselves when confronted with loss in a messy world where we do not necessarily find hope in the future. We should therefore just let go of it, and rather find small grains of situated hope to help us navigate a changing

10 HARAWAY (2016), 1.

11 Ibid, 4.

12 LINKE (2021), 138.

13 HARAWAY (2016), 13.

14 Ibid, e.g., 38.

15 VAN DOOREN (2014).

16 HARAWAY (2016), 39.

world. To invite in grief, hope critically, and stay with future uncertainty, is likely drawn from the thinking of Haraway,¹⁷ which they build upon to show how design can help us approach these matters practically; accessible and tangible for participants and readers. They made rituals for grieving and caring for places, landscapes and species, entangled with damage by humans (directly or indirectly). But how we are interconnected with others was not explicitly explored, where Haraway calls for a more transformative way of being and relating with others, or »becoming-with«.

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TONE FALCK

Natur og antroposentrisme

Hvordan verdsettes natur i forhold til mennesket? Denne teksten er inspirert av Odin Lysakers forelesning »Ecological Democracy: Caring for the Earth in the Anthropocene« ved Humboldt-universitetet i Berlin i november 2023. Forelesningen handlet om økologisk demokrati, et politisk tankesett som bygger på et økosentrisk fremfor et antroposentrisk natursyn. En revurdering av det antroposentriske natursynet som preger vestlig politikk er ifølge Lysaker en hensiktsmessig respons på vår tids miljøutfordringer.¹ I denne teksten vil jeg gjøre rede for ulike varianter av antroposentriske og ikke-antroposentriske natursyn, slik de defineres av Sigurd Hverven i artikkelen »Mennesket i sentrum? – Muligheter og begrensninger ved kritikk av antroposentrisme«.²

Etisk antroposentrisme

Ordet »antroposentrisme« er avledet fra de greske ordene for menneske og midtpunkt. Innenfor miljøfilosofi brukes det vanligvis i forbindelse med etikk. Et etisk antroposentrisk natursyn er et natursyn som setter mennesket i sentrum for etiske og moralske spørsmål, mens all annen natur (her definert som ikke-menneskelige og ikke-menneskeskapte fenomener) betraktes som ressurser som kan brukes til menneskelige formål.³

Hverven skiller mellom en sterk og en svak variant av etisk antroposentrisme. I sterk etisk antroposentrisme er det kun mennesker som har egenverdi og er mål i seg selv. En slik antroposentrisme er et fellestrekk ved vestlige moralfilosofier som deontologi, utilitarisme, dydsetikk og kontraktteori, og har følgelig vært dominerende i vestlig politisk praksis. I svak etisk antroposentrisme plasseres mennesket øverst i et moralsk hierarki der mennesket er betydelig mer verdifullt enn annen natur. Når det oppstår konflikter mellom menneskets interesser og naturvernshensyn, vil både sterk og svak etisk antroposentrisme prioritere menneskets interesser høyest.⁴

Et eksempel på en slik interessekonflikt er den langvarige konflikten om deponi av gruveavfall i norske fjorder. Deler av miljøbevegelsen i Norge saksøkte den norske staten for å ha gitt en tillatelse til gruvedeponi i Førdefjorden som ifølge aktivistene er i strid med EUs lovgivning om bærekraftig bruk av vannressurser. Konflikten ble avgjort i Oslo tingrett i 2024, der staten fikk medhold. »En krise for naturens rettsvern i Norge«,⁵ var uttalelsen fra Naturvernforbundets leder om dommen i en sak der økonomiske interesser veide tyngre enn mulige konsekvenser for økosystemet i fjorden.

1 LYSAKER (2024).

2 HVERVEN (2022).

3 Ibid., 293.

4 Ibid., 293–294.

5 NYHUS, SVALHEIM og HEGGEN (2024).

Opplyst antroposentrisme

At man vektlegger vern av naturområder betyr ikke nødvendigvis at menneskelige og ikke-menneskelige interesser sidestilles. Det Hverven kaller opplyst antroposentrisme er et natursyn som tar høyde for menneskets økologiske avhengighet av naturen. Perspektivet tar til orde for beskyttelse av økosystemer av hensyn til menneskets fremtidige generasjoner. Det er dermed fortsatt menneskets behov som er i sentrum. »Bærekraftig« vil i et slikt perspektiv bety at naturen skal kunne fortsette å bære menneskelig aktivitet i fremtiden. Det er ifølge Hverven hovedsakelig opplyst antroposentrisme som legges til grunn for norsk miljøpolitikk. Han trekker frem Brundtland-kommisjonens rapport Vår felles framtid fra 1987 som et toneangivende eksempel. I denne rapporten fremstilles natur som en ressurs som må beskyttes, ikke for sin egen del, men fordi naturressursene også skal gagne fremtidige generasjoner av mennesker.⁶

Opplyst antroposentrisme innebærer en større bevissthet rundt naturens økosystemer og menneskets rolle i relasjon til naturen enn det man finner i sterk etisk antroposentrisme. Hverven trekker frem at mange miljøfilosofer mener at opplyst antroposentrisme likevel er et utilfredsstillende grunnlag for en omfattende miljøpolitikk, fordi dette perspektivet ikke anerkjenner at ikke-menneskelige eksistensformer kan være betydningsfulle i seg selv. Følgelig vil ikke opplyst antroposentrisme gi grunnlag for å beskytte naturformer som man antar at menneskeheten vil klare seg i uten i fremtiden.⁷

Patosentrisme, biosentrisme og økosentrisme

Hverven definerer tre alternativer til etisk antroposentriske natursyn som har blitt benyttet av miljøbevegelsen som begrunnelse for natur- og miljøvern: patosentrisme, biosentrisme og økosentrisme. Disse perspektivene står ikke i motsetning til opplyst antroposentrisme, men de utvider det etiske grunnlaget for miljøvern fra å bare angå menneskets egenverdi, til å også omfatte henholdsvis følende eller bevisste organismer, samtlige individuelle organismer, og alle naturfenomener som inngår i økosystemene organismer lever i.⁸

Patosentrisme, der »patos« viser til det greske ordet for følelser, er et natursyn der det er evnen til å ha følelser og sanseerfaringer – gjerne evnen til å føle lidelse – som kvalifiserer et vesen til moralsk status. Dette perspektivet, som også kan kalles *sentientisme*, skiller seg fra etisk antroposentrisme fordi også visse ikke-menneskelige vesener tildeles moralsk status. Hverven beskriver patosentrisme som en dyreetikk som først og fremst står sterkt blant dyrevernsorganisasjoner, og at heller ikke dette perspektivet gir grunnlag for en omfattende miljøetikk, ettersom det ikke omfatter organismer som antas å ikke ha følelser.⁹

Biosentrisme er et natursyn som setter alt som er levende i sentrum. Dette perspektivet er en utvidelse av patosentrisme der alle individuelle organismer, uavhengig av hvor mye de ligner på mennesker, har moralsk egenverdi. *Økosentrisme* bygger videre på den biosentriske tankegangen om at alt liv har moralsk verdi. I økosentrismen omfatter imidlertid »liv« alt som inngår i livets kretsløp, også såkalte »livløse« fenomener som vann, jord og luft. Dette er en relasjonell

6 HVERVEN (2022), 296.

7 Ibid., 298.

8 Ibid., 299.

9 Ibid., 298.

forståelse av liv som legger vekt på at levende vesener bare kan realisere seg selv som en del av en større økologisk helhet. Der biosentrismen bare anerkjenner verdien av individuelle organismer, ser økosentrismen dem i en holistisk kontekst av større, overindividuelle nettverk som regnes som verdifulle i seg selv, og som også inkluderer livløse naturfenomener.¹⁰

Ontologisk antroposentrisme

I tillegg til den etiske betydningen av ordet, kan antroposentrisme også brukes i en ontologisk forstand. Hverven definerer *ontologisk antroposentrisme* som tankeretninger som forstår menneskelig som en forklaring på, eller målestokk for, andre former for eksistens. I sterk ontologisk antroposentrisme forstås ikke-menneskelige naturfenomener ut fra den grad de ligner på menneskelig eksistens.¹¹ Sterk etisk antroposentrisme, som avskriver verdien til alt som er ikke-menneskelig, er fundert på ontologisk antroposentrisme. Det gjelder det også det patosentriske natursynet, ettersom moralsk verdi kun utvides til ikke-menneskelige vesener i den grad de har følelsestilstander som ligner på menneskelige følelsestilstander. Det samme kan sies om det biosentriske natursynet, der det er menneskets definisjon av »levendehet« som er det avgjørende kriteriet for moralsk status.

De patosentriske og biosentriske perspektivene er dermed antroposentriske i den forstand at de tilskriver menneskelige egenskaper til andre naturformer, som dermed kvalifiserer til etiske rettigheter på grunnlag av en underforstått holdning om at det kun er menneskelige egenskaper som er verdifulle i seg selv. En slik overføring av det verdifulle ved det menneskelige til ikke-menneskelig natur er et uttrykk for ontologisk antroposentrisme som kalles moralsk ekstensjonalisme. Hverven trekker frem økofeministen Val Plumwood, som har tatt til orde for at moralsk ekstensjonalisme benekter fundamentale forskjelligheter som er knyttet til egenskaper som mennesker ikke har. For eksempel måler vi typisk ikke verdien til naturfenomener etter deres evne til å ta opp næring fra jorden, ta opp oksygen fra vann, eller evnen til å fly kun ved hjelp av sin egen kropp.¹²

Hermeneutisk antroposentrisme

Tendensen til moralsk ekstensjonalisme er knyttet til det Hverven kaller *hermeneutisk antroposentrisme*, som viser til det faktum at mennesket bare kan fortolke og forstå verden fra et menneskelig perspektiv og gjennom menneskelige begreper. Menneskelig tenkning er begrenset av hva det er mulig for mennesker å erfare, forstå og kommunisere om. I den forstand er det begrenset hvor ikke-antroposentrisk noen form for tenkning, også miljøtenkning, kan være.¹³

Til forskjell fra etisk og ontologisk antroposentrisme legger ikke hermeneutisk antroposentrisme til grunn at andre naturformer skal eller bør forstås i forhold til mennesket, men det belyser hvorfor mennesket er tilbøyelig til å anta et slikt perspektiv. Samtidig er hermeneutisk antroposentrisme en erkjennelse av at det finnes eksistensformer og erfaringsmåter i verden

10 Ibid., 298–299.

11 Ibid., 294.

12 Ibid., 301.

13 Ibid., 294.

som mennesker ikke har mulighet til å forstå i sin helhet. Dette perspektivet skaper dermed et større rom for undring og ydmykhet overfor naturen.¹⁴ En slik bevissthet kan også åpne for en erkjennelse av at ikke-menneskelignende egenskaper ved naturen kan ha en ontologisk verdi i seg selv, selv om de ikke ligner på det som er menneskelig eller fremstår å være i direkte relasjon til mennesket.¹⁵ I så fall er det nødvendig å legge et økosentrisk natursyn til grunn.

Konklusjon

I denne teksten har jeg redegjort for de etisk antroposentriske natursynene som preger vestlig politikk, og for de alternative natursynene patosentrisme, biosentrisme og økosentrisme, som ofte benyttes som verdigrunnlag av miljøbevegelsen. Jeg har deretter redegjort for den ontologiske betydningen av ordet antroposentrisme og vist at også patosentrisme og biosentrisme er antroposentriske i en ontologisk forstand, ved at de måler naturens verdi med mennesket som målestokk. Til slutt har jeg vist hvordan samtlige natursyn er antroposentriske i en hermeneutisk forstand, ved at de fortolkes og formidles gjennom et menneskelig perspektiv.

Hermeneutisk antroposentrisme belyser at vår forståelse av naturens sammenhenger er begrenset av den menneskelige opplevelsen vi har av verden. Heller enn å legitimere en ontologisk antroposentrisme der ikke-menneskelige fenomener verdsettes ut fra den grad de ligner på eller fremstår å være til nytte for mennesker, kan hermeneutisk antroposentrisme legges til grunn for en ydmyk erkjennelse av de menneskelige begrensningene som legger rammer for hvordan vi kan forstå kompleksiteten av erfaringsformene som finnes i naturen. En slik ydmykhet kan åpne opp for erkjennelsen av naturfenomeners verdi i seg selv, for eksempel i kraft av å være uerstattelige deler av et komplekst samspill som ligger utenfor menneskets forståelsesevne.

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14 Ibid., 294–295.

15 Ibid., 302.

Petrokultur, maskulinitet, økodemokrati

Februar i år var i globalt gjennomsnitt den varmeste februarmånedens noensinne målt, og er den niende måneden i følgen som mottar denne tvilsomme rekorden.¹ Vi kjenner alle alvoret i miljø- og klimakrisen så altfor god. Og enda ser vi ikke ut til å klare å gjøre nok, tidsnok, for å få økosystemene og klimasystemet tilbake på rett kjøl før de beveger seg utfor de mye omtalte og fryktede vippepunktene, hvor oppvarmingen blir selvforsterkende og skadene irreversible. Dette er selvfølgelig bakteppet for dette essayet om Katie Ritsons og Odin Lysakers Henrik-Steffens-forelesninger, deres artikler og mine tanker rundt koblingene dette har til mitt eget fagfelt, nemlig kjønnsstudier.

Katie Ritson beskrev i sin forelesning et paradoks: Til tross for at oljen er helt grunnleggende for det norske samfunnet, er det usedvanlig lite olje å spore i den norske kulturen. Hvor er alle filmene om oljen, alle bøkene og TV-seriene? Tatt i betraktning at oljen bokstavelig talt er overalt rundt oss, i plastikken, i bilmotorene, i industrien – hvor er alle de språklige petroleums-metaforene? Med tanke på at oljen er stoffet som driver samfunnet rundt, burde vi ikke forventet å se et avtrykk av oljen i kulturen?

Den indiske forfatteren og sosialantropologen Amitav Ghosh har beskrevet denne ›slibrigheten‹ som en helt spesiell egenskap ved oljen: Oljen glipper unna oss, vrir seg vekk fra det kulturelle blikket og forblir bortgjemt og usynlig.² Kanskje kan vi tenke oss oljen som vårt tids ubehag i kulturen, litt som Freud forstod det undertrykte tabu, det som er fortrent til vår kollektive underbevissthet, men som fortsetter å påvirke oss derfra. Til tross for at olje er noe tvers igjennom ekle greier – klissete, stinkende, og forurensende, et stoff det er umulig å få bort og som kveler alt liv det legger seg over – handler den nasjonale fortellingen om oljen som et eventyr, ›det sorte gullet‹. Narrativet om den norske oljen er påfallende delikat og ›rent‹, tatt i betraktning hvor abjekt de fleste av oss finner selve stoffet og hvor ukomfortabelt det er å bli konfrontert med at din og min velferd i alt for stor grad er forbundet med oppvarmingen av klimaet, stigende havnivå, utryddelsen av et hopetall av arter og vanskeligere kår for generasjonene som følger oss.

Likevel, noe har endret seg de siste årene, mener Ritson: det kan se ut som om oljen har begynt å sive inn i kulturen. Den siste tiden har vi sett en større produksjon av kulturelle arbeider som handler om utvinningen av petroleum og som til dels behandler de følelsesmessige konsekvensene av dette, for eksempel serien *Lykkeland* (2018) som handler om funnet av Ekofiskfeltet i 1969 og starten på Stavanger som oljeby og Norge som oljenasjon. Eller Atle Berges roman *Puslingar* som tar for seg traumene i kjølvannet av ulykken på Alexander Kielland-plattformen i 1980. Ritson ser denne utviklingen i sammenheng med de økologiske krisene som presser seg på grunnet overforbruk av petroleum. Kan det være starten på et nytt narrativ om oljen i Norge? Berges roman ser hun på som et forsøk på å behandle traumene etter

1 VETTER (2024).

2 GHOSH (2016).

oljens historie, men hun mener også at det trengs flere forfattere fra yngre generasjoner for å ta et mer direkte oppgjør med de økologisk destruktive sidene av oljeutvinningen.³

Hva skal til for at vi tar dette nødvendige oppgjøret med vår del av ansvaret for klimakrisen, for de økologiske krisene vår oljerikdom er tuftet på? Er det nok at forfattere og kulturpersonligheter skriver bøker og lager filmer om oljen, hvor kilden til vår rikdom stilles under et mer kritisk blikk? Hva med resten av oss, holder det at vi passivt tar imot, leser og ser disse kulturproduktene? Eller vil et oppgjør med Norges ansvar for klimakrisen kreve noe mer av hver av oss?

Odin Lysakers forskning handler om nettopp dette, om hvilken rolle folket bør spille i de politiske prosessene som angår miljøet og klimaet: om mulighetene for økologisk demokrati.⁴ Lysaker ønsker at økologiens interesser ikke skal være én av mange motstridende politikk-områder, men det grunnleggende interesseområdet for all politikk. Dagens norske demokrati-form, hvor politikk for de fleste blir redusert til å stemme en gang annethvert år, er kanskje ikke forenlig med de dype og raske endringene vi må gjennom som samfunn om vi skal nå de satte klimamålene, og ikke minst om vi skal arbeide oss gjennom dette ubehagelige ved at vi er delaktige i de økologiske krisene. Lysaker er inne på dette i sin artikkel når han skriver om økologisk medborgerskap.⁵ Han hevder at det liberale demokratiet av i dag er basert på for snevre prinsipper for folkestyre, hvor dette blir forstått som representativitet gjennom enkelte gitte institusjoner. Vi velger noen som simpelthen kan ta seg av alle de ubehagelig spørsmålene for oss, som kan ta seg av hele miljøproblematikken, som om det var en teknikalitet vi kunne overlate til ekspertene.

Hvis vi tenker, med Ritson og Ghosh, at petroleumen er overalt rundt oss, men likevel unevnelig; som et spøkelse i kulturen, så å si, framstår jo dagens modell for demokrati mer som en ansvarsfraskrivelse og en undertrykkelsesmekanisme enn en ansvarliggjøring av folket. På denne måten slipper de fleste av oss å forholde seg til oljens ubehag: at nettopp vår velstand er kjøpt med oljepenger. Problemet skyves på en komfortabel måte over på de folkevalgte, som sikkert kjenner på et stort nok ansvar, men som i bunn og grunn har dette ansvaret som en jobb og som jo er satt til å nettopp representere velgernes interesser; velgere som har snudd blikket fra dette ubehagelige, som ikke vil se sin plass i det store regnskapet.

Lysaker skriver selv at økodemokratiet må forankres i flere former for politisk deltakelse. Han nevner »folkeavstemning, folkemøte, valgkampdebatt, folkelig deliberasjon, høringsrunde, rundebordskonferanse og seminar«.⁶ Om vi tenker at vi ikke bare skal slå fast politikk som løser »teknikaliteter«, men også gå gjennom en kollektiv affektiv forandring, en slags felles konfrontasjon med eget ansvar og kanskje skyld – kanskje vi kunne kalt det en kulturell katarsis – er det lett å se at det er behov for en økt og bredere deltakelse for hver og enkelt av oss. På denne måten synes jeg det gir mening å se Ritsons og Lysakers tekster og forelesninger i sammenheng: Mens Ritson beskriver våre anstrengelser for å unngå å se vår delaktighet i klima-

3 RITSON (2023), 180.

4 LYSAKER (2019).

5 Ibid., 45–46.

6 Ibid., 45.

endringene i øynene, tilbyr Lysaker en styringsform som kobler oss mer på denne realiteten, som tvinger oss til å involvere oss og ikke rent institusjonelt lar oss slippe unna ansvaret vi har.

Ritson nevnte ett forskningsområde som gjør det lett å se hvordan kjønn henger sammen med hele dette sakskomplekset: petromaskulinitet. Det var Cara Daggett som skrev om dette begrepet først.⁷ Begrepet setter ord på hvordan oljen ikke bare har satt sitt avtrykk på kulturen og samfunnet, men også hvordan den har formet gitte identiteter, i dette tilfellet en avart av maskuliniteten. Daggett viderefører naturligvis en tradisjon og et prosjekt som har vært en del av kjønnsstudier og feministisk teori og forskning i lang tid, nemlig å se koblingene mellom økologi og kjønn; ofte forent under samlebetegnelsen økofeminisme. Fra før av har jeg vært borti forfattere som hevder at maskuliniteten er forbundet med å spise kjøtt, spesielt Carol Adams' *The sexual politics of meat*, og jeg synes Daggetts begrep gjør et lignende arbeid med maskulinitet og fossile brennstoff.

For å illustrere hvordan maskulinitet og kjøtt er nært forbundet i kulturen er det bare å se til måtene kjøtt reklameres på overalt rundt oss. Jeg husker for eksempel Rema 1000s grillreklamer med ›Grillkongen Craig‹, som kroppsliggjorde en veldig klassisk macho eventyrer, kanskje en slags biffgrillende Indiana Jones; det var vanskelig å ikke legge merke til hvor stereotypisk maskulin han fremsto. På lignende vis tror jeg de fleste av oss har personlige opplevelser av å at mannlige familiemedlemmer har langt flere meninger når det kommer til tilberedningen av biff, ribbe eller stek, enn det de har om tilberedningen av salater, grønnsaker og andre sideretter. Kjøttet er på en måte unntaket fra regelen om at kjøkkenet har vært kvinners domene.

Dette er bakgrunnen min for å forså sammenhengen Ritson viser til mellom fossilt brennstoff og maskulinitet. Konseptet petromaskulinitet beskriver måten en variant av maskuliniteten, altså én spesifikk måte å være mann på, er knyttet til, nærmest basert på, fossile brennstoff som noe spesielt mannlige. Petroleum representerer modernitetens framgang, rå kraft og styrke, kvaliteter som appellerer til visse menn. Petroleum – kjærligheten for den, nostalgien for dens gullalder og ›oljeeventyret‹, kunnskapen om den – er en måte å være mann på, å *gjøre* maskulinitet på, som vi sier. Ritson nevnte i forelesningen at petroleum på denne måten blir en kilde til mening, ja kanskje til og med en kilde til glede og nytelse. Det er ikke intuitivt så vanskelig å se for seg hva det siktes til her, og det forklarer nok for eksempel den maskuline gleden ved å kjøre digre bensinslukere, enorme SUVer med firehjulstrekk på steder hvor det ikke finnes noen praktisk grunn til å skulle gjøre det, for eksempel i urbane strøk. Jeg tror spesielt fossile framkomstmidler, slik som bilen, båten, motorsykkelen og flyet, har en viktig rolle i forbindelsen mellom petrokultur, petromaskulinitet og klimaendringer. Det geniale med Daggetts begrep, petromaskulinitet, er måten det knytter noe veldig abstrakt, slibrig og uhandgripelig, nemlig oljens plass i kulturen, til noen helt konkrete og materielle størrelser som åpenbart har store innvirkning på miljø og klima. Oljen er kanskje vanskelig å få øye på i den norske kulturen, men SUVen er alt annet enn usynlig.

Det problematiske og vanskelige med petromaskulinitet er at forsøk på å fjerne fossile brennstoff blir angrep på maskuliniteten selv, på (visse) menns identitet og selvforståelse. Ikke rart vi ser reaksjonære politikere med sterk appell hos menn snakke nostalgisk og storslått om biler,

7 DAGGETT (2018).

fly, industri; kort og godt den fossildrevne moderniteten kloden så sårt trenger at vi beveger oss vekk fra. Dette kompliserer avviklingen av olje og gass enormt, for med ett blir petroelium en identitetspolitisk sak, det blir et oss mot et dem – temperaturen i debatten stiger betraktelig. Kanskje er kjønnsviteres jobb å ta slik maskulin reaksjonisme på alvor. I rettferdighetens navn må det heller ikke glemmes femininiteten heller ikke er løsrevet fra fossile praksiser.

Mens vi gjør vårt beste for å holde fast ved det komplekse i denne situasjonen, kan kanskje et kjønnsperspektiv på oljen gjøre det lettere å få øye på denne slibrige substansen som tross alt siver inn i alle rom og irranger i det norske samfunnet. Kanskje kan kjønnsstudier bidra på denne måten, ved å peke på noen muligheter til å støtte menn i en overgang vekk fra biffen og bensinen. Ved å synliggjøre forbindelse mellom kjønn og petroleum kommer det dessuten til syne hvor foranderlig og dynamisk det sosiale kjønn er, som jo åpner for visse muligheter for forandring.

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The role of algae in the Planetary Health Diet and its opportunity in the food system to protect the climate from CO₂ emissions

1. Introduction

In the block seminar we dealt intensively with the responsibility of current generations towards future generations. We have found that there is a desire from some quarters to fulfill this responsibility, but implementation often takes a long time and is postponed for economic reasons or acute crises. Nevertheless, a certain trend cannot be denied and the latest decision of April 2024 by the International Court of Human Rights for climate protection as a human right also gives hope for change. To what extent this will actually result in improvements remains to be seen.

In a world increasingly facing the challenges of climate change and food security, alternative food sources are becoming increasingly important. Securing the basic supply of food essential for survival is also part of this responsibility. In these aspects, algae comes into the spotlight as a potential solution that could contribute to both individual health and the well-being of the planet. In this essay I would like to shed light on the importance of algae in nutrition in accordance with the Planetary Health Diet.

The Planetary Health Diet was developed to sustainably support both human health and the environment. It emphasizes the consumption of plant-based foods and advocates reduced consumption of animal products in order to promote health and, above all, minimize the ecological footprint. In this context, algae offer an attractive alternative because they are rich in nutrients, especially proteins, and at the same time require few resources for their cultivation or harvest.

In this paper I will categorize algae as plants in general. There is an active debate about whether all types of algae are plants or some of the unicellular ones are bacteria, since they are very similar to other unicellular organisms. For me, they are plants because they conduct photosynthesis.

2. Algae and algae products in nutrition

Algae are freshwater and saltwater plants that provide food and even habitat for many other living beings. They produce more than half of the annual oxygen, more than plants growing on land, but are rarely noticed because they are not taken in the quantities available. Of the known species of algae, only a few are suitable for human consumption. A distinction is also made between macro and micro algae. Currently, commercial cultivation of microalgae mostly takes place in freshwater and macroalgae in saltwater.

According to EC Regulation No. 258/97, algae are so-called »novel foods« that are tested uniformly as food before approval.¹ However, they are not generally checked regularly. The legal situation in Europe and Germany is also not sufficient. The maximum amounts of iodine and heavy metals are not legally stipulated and the information on the ingredients of imported products is often not sufficient.² There is hope that this could change with the new EU Supply

1 ARAUJO and PETEIRO (2021), 3.

2 KNIES (2017), M86.

Chain Act, should it come into force, as well as with the »Lieferkettensorgfaltspflichtengesetz«, which came into force on January 1, 2023. This would at least inform consumers about environmental production standards. This new legislation shows to what extent the legislators are fulfilling their responsibility towards future generations, in this case: slowly, laboriously, watered down, but ultimately somewhat successful despite resistance from parts of the German government, primarily from the Free Democratic Party (FDP).

Certain seaweeds are an excellent source of a variety of nutrients, including proteins, omega-3 fatty acids, vitamins and minerals, essential elements of nutrients. These ingredients are essential for a balanced diet and help prevent numerous health problems, from cardiovascular diseases to malnutrition. In addition, seaweed contains various bioactive compounds that exhibit anti-inflammatory and antioxidant properties, further highlighting its role in promoting health.

Another important aspect of the Planetary Health Diet is reducing the ecological footprint of the entire food production chain. Algae offer several advantages here: On the one hand, they require less land and water to grow compared to conventional crops. The advantage over meat is correspondingly greater, as conventional meat production is even more harmful to the environment. This is particularly important given limited resources and increasing demand for food in a rapidly increasing global population. Macroalgae are also used for the industrial production of polysaccharides such as carrageenan, agar-agar and alginates (thickeners, emulsifiers, gelling agents) and various projects e.g. used in Wales for bread or to reduce salt.³ Recently, the dye from the algae spirulina has become very popular on the Internet.

3. Cultivation of algae and ecological benefits

In addition, algae can be grown in various natural or artificial environments and habitats. Especially in coastal areas of the Nordic countries or in vertical farms, highlighting their adaptability and versatility as a food source. Another ecological benefit of algae is their ability to absorb carbon dioxide from the atmosphere. Through photosynthesis, algae convert CO₂ into oxygen, which helps reduce the greenhouse effect and curb climate change. By acting as a carbon sink, algae can make a positive contribution to reducing CO₂ emissions and support achieving global climate goals. However, despite their numerous benefits, algae face challenges that may hinder their widespread acceptance and use. These include issues of food safety, taste preferences and the scalability of algae production.

To achieve their full potential, these obstacles must be overcome through research, innovation and education. Overall, algae show enormous potential as a food as part of the Planetary Health Diet. Their rich nutrients, ecological efficiency and ability to help combat climate change make them an attractive option for a sustainable diet. By investing in research and development and promoting consumer awareness and acceptance, algae can help improve people's health while protecting the health of the planet. There are already algae farms in Europe, in Germany on the island of Sylt. The early harvest of the red and brown algae grown there ensures a reduced iodine content.

3 Ibid., M87.

4. Planetary Health and world food situation

Sustainable nutrition means that around 10 billion people will need to have their diet secured by 2050. Therefore, food production and food security can only take place taking planetary boundaries into account, i.e. »flexitarian«, but predominantly plant-based or vegetarian, if not vegan. This is intended to create a »win-win situation« for human nutrition that is both health-promoting and takes the planetary boundaries into account and is therefore environmentally friendly, is.⁴

Food group	Food subgroup	Reference diet (g/day)	Possible ranges (g/day)
Whole Grains	All grains	232	0 to 60% of energy
Tubers/Starchy Vegetables	Potatoes, cassava	50	0 to 100
Vegetables	All vegetables	300	200 to 600
Fruits	All Fruits	200	100 to 300
Dairy Foods	Dairy Foods	250	0 to 500
	Beef, lamb, pork	14	0 to 28
Protein Sources	Chicken, other poultry	29	0 to 58
	Eggs	13	0 to 25
	Fish	28	0 to 100
	Dry beans, lentils, peas	50	0 to 100
	Soy	25	0 to 50
	Nuts	50	0 to 75
Added fats	Unsaturated oils	40	20-80
Added sugars	All sweeteners	31	0 to 31

Scientific Targets for Healthy Diets⁵

The Eat Lancet Commission formulates some goals and conditions for the success of the Planetary Health Diet: It means changes in the everyday life of every eater, taking into account different eating cultures and ways of preparing food.⁶ Algae and algae products have always been part of the cultural nutritional treasures of many island nations (e.g. Japan).

5. Protein supply and protein alternatives

5.1 Nutritional recommendations according to DGE

The DGE, Deutsche Gesellschaft für Ernährung e.V., updated its recommendations in March 2024 – from the »10 rules of DGE« to the »DGE nutrition circle«. This symbolizes a balanced, healthy and environmentally friendly diet.

The food groups shown in the individual sections of the circle symbolize a recommendation as to what should be consumed and in what quantity. Unsweetened drinks are shown as the largest group in the middle; more than $\frac{3}{4}$ of the rest of the diet should consist of plant products. An emphasis is on variety within food groups. Deficiency symptoms and serious health problems can occur due to an unbalanced diet. Due to the high protein content, especially in macro-

4 WILLET et al. (2018), 4.

5 Ibid., 2–3.

6 Ibid., 4.

algae and products made from them, the necessary proteins can also be obtained in other ways than through meat and fish consumption. In some cases, the dry matter of algae even contains more proteins than milk and dairy products. You can use this to greatly support a vegetarian or vegan diet. However, it should also be noted that other ingredients in animal products must also be adequately replaced, such as certain omega-3 fatty acids or vitamin B12. These can also be replaced surprisingly well with algae, although here again the problem is the difference between the product contents and the product labeling. Vitamin B12 is contained in microalgae. However, the amount of vitamin B12 in the dietary supplements that contain the algae *chlorella* varies considerably; those made from the algae *spirulina* therefore contain a pseudovitamin, i.e. an inactive form of vitamin B12 that humans cannot absorb. The misinformation resulting from incorrect labeling can cause malnutrition. »Das Oberlandesgericht Hamm stellte in einem Urteil vom 17. August 2010 fest, dass Werbung mit Hinweisen auf den hohen Vitamin B12-Gehalt in *Spirulina*-Produkten irreführend sei.«⁷

Other health benefits are suspected, e.g. B. in type two diabetes, but the study situation is not yet sufficient. It has also been found that seaweed stores potentially harmful heavy metals, such as arsenic, lead, mercury, cadmium and tin – the assessment of the German food safety and consumer protection authorities differs. The Bundesamt für Verbraucherschutz und Lebensmittelsicherheit does not see a major risk of poisoning symptoms from normal consumption of algae products, but wants to investigate the situation further, while the Bundesamt für Risikobewertung does not rule out a health risk from long-term consumption. Radioactive iodine and cesium could also be stored in algae. According to Jana Mara Knies,⁸ there was no risk for European consumers after the nuclear accident in Fukushima in 2011, but the quality of food from the sea was negatively affected. High amounts of iodine can be harmful to pregnant women, breastfeeding women, children and people with thyroid dysfunction. The amount of safely consumable algae and algae products that can be consumed is therefore limited for these groups.

5.2. Algae as a protein alternative

Algae as food are offered in two product lines: as complete, non-closed, mostly dried algae in powder form or mixed into other products, e.g. in pasta, bread or as a smoothie, or valuable algae ingredients are extracted and marketed as food ingredients or dietary supplements (carotenoids, sterols, omega-3 fatty acids).⁹ The advantage of cultivating algae is that they achieve a significantly higher efficiency in photosynthesis (12.6 %) than land plants, whose values are only between 0.1 and 2.5 %. Microalgae only require water and CO₂ and a nutrient solution in an aquatic culture. This eliminates the amount of agricultural land required for the cultivation of alternative crops (legumes such as soy).¹⁰

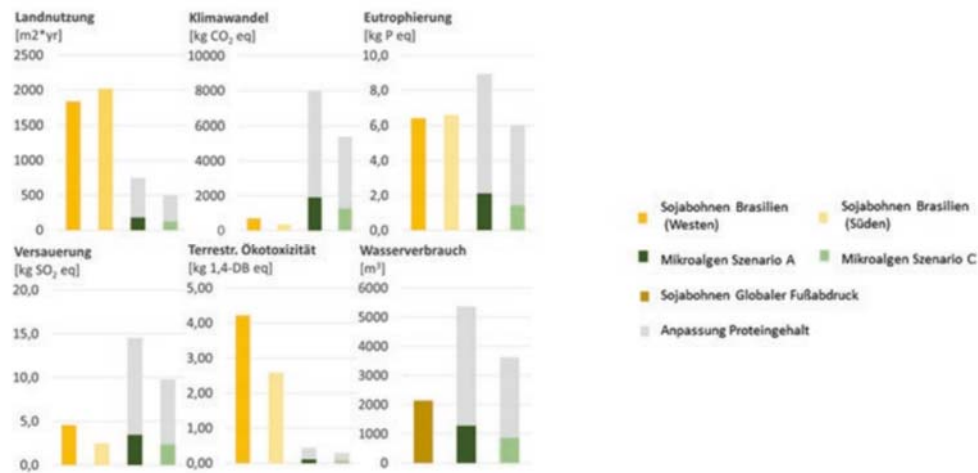
They are therefore very high in protein, but the production costs in this country are still very high due to the complex drying process and a lack of production facilities and technical equipment. We in Europe are not yet prepared for algae production.

7 KNIES (2017), M90.

8 Ibid., M91.

9 RÖSCH and ROßMANN (2020), 345.

10 Ibid., 348.

Soybeans vs. microalgae¹¹

6. Discussion and conclusion

Algae can contribute to achieving the goals of the Planetary Health Diet and is therefore a positive factor in reducing CO₂. They are rich in nutrients such as protein, omega-3 fatty acids, vitamins and minerals, making them a healthy source of nutrition. In addition, algae can be grown in aquaculture, which requires less land and water than conventional agriculture, which can accordingly conserve these resources. Growing them can also help absorb CO₂ from the atmosphere, helping to combat climate change. So they are a healthy food alternative to many, especially animal protein sources such as meat, fish, milk and eggs, however, also have some (few) health disadvantages such as the high iodine content. Another problem could be social acceptance within the respective food cultures. There is already broad acceptance of algae and algae products in the Asian region, i.e. in Japanese and Korean cuisine, which is only slowly finding its way into other food cultures, which, among other things, could also play a role in communal catering. The acceptance of insects as a source of protein is similarly problematic, which also results in further exciting research tasks in this field of research. Current start-ups in Scandinavia, i.e. in Iceland, are intensively involved in the use of large-leaved seaweed, which can also contribute to a change in the food culture, which is also characterized by life near the sea. This trend will certainly become more widespread in the future as economics and consumer acceptance come along with it. The fundamental potential of algae as a raw material to feed humanity is great, considering proportionality and maintaining food safety. However, there is also a big problem in the current situation. At the moment, the assessment of the risk situation from heavy metals and other potential pollutants is not clearly backed by the law. Consumer protection and the necessary information for consumers are also not adequately met. Consumers will e.g. negligently misinformed, e.g. through misleading advertising with health promises. In order to use the full potential of algae as an environmentally friendly food, the legislature must fulfil its obligation to protect consumers even more and supply chains and ingredients must be better checked and communicated more transparently.

¹¹ Ibid., 353.

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