**Environmental Physiotherapy Education guided reflection transcript (Unconference 2020)**

*Section 1 - Land and Heart*

I have been born and raised in Germany as a child to parents from former Yugoslavia. Even as a child, to me, my hometown was a land-locked concrete jungle. There was and still is, at least for what I perceive as my needs, limited access to natural environments, or, let’s say, relatively untouched and remote environments. Effectively, there is no access to them unless you travel quite far. It is also very difficult to put your feet on anything but concrete and, to me, even city parks never did the trick, given their cultured existence. Equally difficult, it seems like you can only ever see the sky in stripes and squares as you look up through rows of multi-story buildings and high-rises.

It seems as though this experienced engendered a deep longing for more natural environments in me and, with that, an urge to travel and reach remote places. Fully aware of my privilege in this regard, as well as, quite painfully, its environmental paradox, I have been fortunate enough to do a fair bit of travelling until today and have been to, for me, as far away places as the Yukon, Alaska, and Iceland. Until not too long ago, I also lived in Aotearoa New Zealand and revelled in the immersion in sea, forests and mountains that daily life affords there. I have climbed mountain-tops, kayaked with whales, touched glaciers, and camped in Fjords, and during my last few years of living there, I had the immense privilege and fortunate of waking up to the sight of the sea.

For about the last year now, I have been living in Norway. I have to pinch myself on the daily, but so far, this has been mostly on a peninsula in the middle of a Fjord. I live in a rather small house, but it is surrounded by trees and, quite unexpectedly for me, this spring through autumn I have benefited from wild growing berries of all sorts, deers and badgers visiting the garden, birds chirping every morning and, to be fair, also during the night with the never ceasing sunlight of the summer. The beach, if you welcome the colder water, is also just a few minutes away and the deep green of the water has something special to it that I have never experienced before.

All that said, my mother, for example, still lives in my hometown in Germany and has, over the years, experienced increasingly hot temperatures during summers. Beyond 35 Celsius seems the new normal now and I know it wears on her. As a child, I remember snow falling in the city in the winter and also staying around, at least for a while, but now you’d be hardpressed to experience that. It might snow sometimes though not as often, but it just doesn’t stay around anymore.

Where I have lived in Norway throughout this last year, it was really magical to see and feel snow again this past winter. It’s somewhat common in the mountainous areas of New Zealand, particularly on the South Island, but it only ever snowed once and very briefly where I lived for those 11 years. Speaking of the snow and winter here in Norway, however, it seems that this winter was amongst the first where people here really felt a big change, with there being far less snow than people are used to and looking forward to. You might say it was a mild winter and a rather warm summer, but in reality, they have maybe been moderately worrying, rather than mild.

The first time I went to NZ, a decade prior to moving there, I also remember visiting a glacier and hearing stories about how much it had already receded over the years. I’ve never gone back to that glacier and I must admit, this is at least in parts because I did not want to deal with the sadness and dread I would feel by seeing it having receded even further than. Standing at the edge of a glacier, there is something distinctly more about melting than there is about ice and deep-time when encounter a glacier today, and knowing what we know today.

There is a small chance that I might be moving further north within Norway in the not-too-distant future, following the call of a new job. This is a strange thing for me to consider, but on the one hand I am extremely excited about this prospect and on the other I am so worried and scared of the changes I will witness there throughout my time. Already now, the Arctic is warming at 2-4x the rate of the rest of the world. Permafrost is melting, arctic sea ice disappearing at dramatic rates and microplastics have been found in the snow falling there. It is hard to even think about and, to be honest, my chest feels like it is constricting, affecting both heart and lungs. Frankly, I don’t know what to do.

My name is Filip Maric and I will be guiding you through this podcast. Across 8 short sections, my hope is for us to circle through a range of topics relevant to what we might consider environmental physiotherapy education. I would like to invite you to use the pause between each section and note down a reflection or two. You can then bring all of them or just your most pressing one to the Canvas padlet for this stream so that we can talk and think more together.

(Reflection:) If possible, with this first section, I would like to invite you to go outside, walk through and reflect on the place you are from, or the place you live at now. If you cannot go outside, you can of course journey through these environments in your mind. Describe its natural environment, then describe what environmental changes have you observed in your own life? How do these changes make you feel?

To be clear, I am very aware of the fact that these personal experiences of the natural environments around us will be vastly different depending on a range of factors. There is no question that this needs acknowledging and reflecting on, but what I am interested here is our personal experiences of the natural environment and the changes we have seen in our own lifetime. I’m inclined to think there will be something available to all of us in the regard, no matter where we are. I’ll leave you to it.

Sound: Classic forest sound, birds chirping, pre- and post-reflection.

*Section 2 - Cold facts and warm approaches*

Global warming Is highly likely to exceed 1.5C target, more likely heading toward 4C on current emissions trajectory; emissions have doubled since 1980 alone; current estimates are that climate change drives 250,000 human deaths per year.

Populations of mammals, birds, fish, reptiles, and amphibians have, on average, declined by 60% between 1970 and 2014, the most recent year with available data. Currently we are threatening another 1 million with extinction: 40% of amphibian, ⅓ of marine mammals, and 400,000 insect species currently face extinction and in fact, it is projected that insects could vanish altogether within this century at the current rate of decline. Lost about 50% of shallow water corals in the past 30 years.

Urban areas doubling since 1992 with low-density suburbs posing particular environmental pressures by imping on natural environments and requiring greater resource use to be serviced.

100mio hectares of tropical forest cut down between 1980 - 2000 alone for agriculture and energy and then another 2.3mio km2 of primary forest since then - nearly the equivalent of Greenland; A fifth of the Amazon has disappeared in just 20% due in just 50 years to deforestation. ⅓ of planets land devoted to crop and livestock, as well as 75% of all freshwater; 70% of all farming related to meat production; 31% of infectious disease outbreaks are directly linked to deforestation, COVID-19 including

Air pollution now the leading cause of COPD, kills an estimate 7mio people worldwide every year, with 9 out of 10 people breathing air that contains high level pollutants. Water pollution sickens about 1bio people every year, transmitting diseases like diarrhoea, cholera, dysentery, and typhoid. Plastic pollution has increased tenfold since 1980 alone, microplastics now detectable in arctic snow, rain over the USA, every ocean, even in deepest areas. Chemical pollution (300-400mio tonnes of heavy metals, toxic and other industrial waste dumped annually into worlds waters; 400 dead ocean zones resulting from fertilizers entering coastal ecosystems, leaving only 3% of ocean now considered free from human influence,

According to WHO, the burden of disease attributable to environmental problems amounts to 13 million deaths each year (one quarter of all deaths). More specific health impacts include dramatic increases in:

* Non-communicable diseases, respiratory and cardiovascular diseases
* Heat stress
* Malnutrition
* Obesity
* Infectious and vector-borne disease
* Trauma and injury
* Climate migration, displacement and conflict,
* Associated mental health problems

These are just some of the hard facts around the ecological crises we are facing. It seems as though we have lost sight of these somewhat due to COVID and this is a worrying trend in itself, especially if we understand the socio-ecological causes of the COVID-19 pandemic.

Maybe even more so to prevent such neglect, these hard facts must inevitably become part of any socio-ecological healthcare education. What interests me, however, is the question of whether they are really the best starting point or not. This is maybe an oversimplification, but I would argue that we generally have a tendency to begin with the hard facts in physiotherapy, to use, e.g. anatomy, physiology and pathology as our anchoring points. Engaging with the hard facts around our dire environmental crises affords some interesting possibilities that might lead to different ways of thinking our way into, or teaching physiotherapy.

To start with a question: How do the hard facts of climate change, biodiversity loss and environmental degradation make you feel? Do they get you excited? Motivated to act? Or do they induce fear, overwhelm, maybe a resistance and unwillingness to engage. The way I’m asking these questions undoubtedly reveals my bias, but there is some evidence to suggest that your emotional responses to the hard facts are likely not on the positive side.

I suppose the possibility that I wanted to explore here, by contrasting an introductory section on personal experiences of natural environments and environmental change with a section on the hard facts surrounding the latter, is whether starting from the lived, personal experience might be a more warmer, humane, emotionally-relatable, or better starting point for environmental physiotherapy education. Does teaching through lived-experience and emotions associated with difficult topics like climate change and environmental degradation present an interesting alternative, experiential approach? Does it reduce resistance to dealing with these issues? Does it makes us more open to learning about them and our potential role in meeting them?

I’m wondering whether environmental physiotherapy might be a great place to try such alternative entry routes. If so, I’m inclined to think this could be really fruitful for other subject areas of physiotherapy and actually also patient education, this starting from the personal and experiential.

Going back to the idea environmental physiotherapy education more specifically, the point has also been made that reconnecting to nature is a critical element of all ecological education. In the way I opened the previous section, I have taken loose inspiration from indigenous traditions in which any introduction of oneself includes an introduction of the place one lives in, as part of oneself. As an exercise, it is a conscious attempt to reconnect oneself, with the land one lives on and lives off; as a praxis, it is an expression of this deep connection between person, people, land and sea. In this way, it is also another pointer towards the idea to begin with the personal.

I’ll leave it here and will look forward to further discussing the interweaving of personal experience and hard facts, or evidence in environmental physiotherapy education with you in other elements of this activity stream.

Sound: Construction site, industrial noise, hammers…

*Section 3 - Intersections and causes*

Theoretical link to decoloniasing curricula stream: Shaun Cleaver: colonialism, racism, extractivisim & human hubris; Human action/activity, attitudes, values and beliefs

To Shaun: I was hoping to talk to you (read: interview you) about (your views on) the causes of today’s environmental crisis (and maybe intersectionalism in this way?). Clearly biased in this regard, I was hoping you/we would drop words like colonialism, imperialism, capitalism, maybe racism and speciesism, extractivism etc. Maybe this could lead to the importance of decolonialisation as a key topic and action for environmental physiotherapy / planetary health education, and so also create a purposive link to your podcast.

Historically, the Industrial Revolution is associated with the inception of the Anthropocene, while in the view of many historians, industrialisation and extensive fossil fuel use have only been made possible with the European colonialisation of the Americas - new, cheap natural resources extracted to Europe drove industrialization there (Maslin & Lewis, 2015).

Sound: Water stream

Reflection

1. Interweaving content, actively creating intersections. Think about your particular teaching focus and responsibilities. How do they intersect with environmental issues? Social issues? And these with each other?
2. How could knowing about these change the content of your teaching? The teaching approach for the content at hand - example: air pollution and COPD? COVID: How are we still comfortable with teaching students about the treatment of covid and its rehabilitation in total disregard of its socio-ecological causes and the primary need to act on those for the sake of prevention?

*Section 4 - Sustainable Development Goals*

F: Hi Cliona, it’s great to talk to you. So, you are a physiotherapist by trade and worked clinically for 10 years, in the UK, Scotland, including 2 years in West Africa. Lecturer at the university College Dublin for the last 13 years. I know that you have been very interested in global health and international health and development. We’ve had a little talk about the UN Sustainable Development Goals and their integration in health professional edu. Before we dive into specifics, can you briefly say what the SDGs are?

C: The SDGs are… 17 goals, UN Agenda 2030, poverty, inequity, 17, interactions between health, poverty, climate change.

A roadmap to strive towards achieving some pretty big goals.

F: Great, thank you. And so can you give me a brief example of how one could go about integrating the SDGs into pt education, maybe taking an obvious one like SDG3 about good health and wellbeing as a starting point.

C: Core module, head of school, health in a global society, underpinned by SDGs, introduce students to SGDs at beginning, discuss, debate, move into SDG3, revisit SDoH, relevance to local context.

F: Can you give another less obvious example more explicitly closer to environmental issues (maybe SGD 13 climate action, 14 life below water, 15 life on land)?

C: For example, how does climate change impact on health, social protection, biodiversity is essential life; not an expert, but the SDGs imply that we need to learn across them…

F: Brilliant, there’s lots to think about here so thank you for that. For listeners, my suggestion would be to read up about the SDGs on their official UN website - the link is provided in the podcast info: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/> and then, maybe as a kind of challenge, reflect on how one SDG apart from SDG 3 might relate across environmental issues, social issues and your area of expertise/teaching.

Sound: Traffic

*Section 5 - From intersections to actions and beyond*

In the last two conversation with Dr Shaun Cleaver and Dr Cliona O’Sullivan we have touched on a variety of issues that intersect with environmental problems and their health impacts, from colonialism, racism and extractivism to poverty and hunger. We also touched on the twofold potential that is implicit in these intersections:

* The first of these is that whatever we do or teach in the realm of healthcare is inherently related to social and environmental questions and has direct and indirect consequences at the level of society and environment, and these in turn reflect back on human health, function and wellbeing. The first task here is what we suggested as a reflection in the last two conversations, namely, the active searching for and recognition of these intersections in everything we do or teach. I think that developing this socio-ecological awareness is a really critical fundamental point and, where it becomes a praxis embodied or enacted by the teacher, can also be a praxis that can be emulated by students and is a really fundamental tool for helping them become deliberate global citizens and healthcare professionals.
* The second implication of the intersections is that there are multiple, if not infinite entry points for action, which gives us great choice and freedom with regard to where we wish to enter our own, and our students socio-ecologial healthcare education.

To me, particularly the second implication relates to a very important point that also links the preceding two conversations to the opening ideas on our personal experience and the hard facts around today’s environmental crises. Specifically, I think that the way out of overwhelm is to identify a space of action where we feel comfortable-ish, meaning, a place where we recognise intersections, where there is a challenge in what needs doing, but we feel capable enough to take it on.

Put differently, there is an argument that symptoms of ecological grief, anxiety, or overwhelm might be alleviated, precisely through actions aimed at reducing the underlying threat and supporting and enhancing environmental, physical, and mental health in conjunction. This means that consciously choosing and engaging in active transport, spending time in nature, engaging in community garden or tree planting projects, litter picking, protest marching, taking patients outdoors to engage in exercise, reducing waste production and energy use in teaching and clinical practice, shifting policies, changing professional responsibilities to integrate environmental ones, and so on and so on. All of these ‘actions’ - knowing what one can do and acting on it - can be helpful to reduce a potentially debilitating overwhelm and meaningfully shift focus towards something possibly more positive and contributive.

There is also a link here to the idea that, at least as far as research in this space goes so far, positive motivators like a focus on capability, connection, future-orientation, appear more effective in the production of positive socio-environmental transformations than negative ones like guilt, shame, sorrow or fear. So along these lines, building on a recognition of the multitude of actions we can take presents a hopeful starting point.

There is one other issue, strongly in contrast to this, that regularly makes me wonder if positivity, hope and action are really all there is, or should be. If we are thinking specifically in the realm of today’s environmental crises, species extinction has already happened and will continue to happen, even in the best case-scenario. The same is true for global warming and a range of other issues, and this is also why we are not just taking about mitigation, but also adaptation in this space. But even adaptation (and maybe related concepts like resilience) are express hope and capability.

What I sometimes wonder though, is whether our quickness to action, to doing something disables us from consider other possibilities. I would argue that we have a deep-seated tendency in physiotherapy to rush to actions and solutions, a kind of actionism. We want to know what we can do and we want to do stuff. But to what extent does that preclude us from truly going into and engaging with grief and, in a sense, the palliative aspects of health and sickness, and maybe also care? How often do we allow us, as physiotherapists, and so in that way also our students and patients to sith with the loss of one thing or another, one capacity or faculty or another? What do we teach students about grief? How often do we teach our students that it is ok to just sit with something and grieve, rather than do this, that or another to change it; and then how does that trickle down into clinical practice?

This is all maybe a curious tangent, but I do wonder if maybe precisely environmental physiotherapy education, because of the immense losses it must acknowledge and engage with, might be the prime space for deepening our exploration and maybe teaching of these extremely difficult problems and emotions.

Sound: Walking / hiking

*Section 6 - Embodied and experiential teaching methods*

F: Hi Adriane, thank you for your time, it’s great to talk to you. You teach at the Federal University of Rio Grande do Sul in the south of Brazil and you have a particular interest in ritical perspectives, anthropology of the body and health, qualitative research and chronic pain. I know you teach several subjects in the physiotherapy program, one of which is called Embodiment, health and education. In this course you have a class in the Botanical Garden of Porto Alegre city that I am excited to talk to you about. Can you tell me more about your course. What course is this?

A: This is a first-year course, where I try to work with students on different ways of thinking about the body, health and education and give them practical activities every week, which involves games, dances, exercises, meditation and outdoor activities.

Our campus is very close to the Botanical Garden of the city, a place with a silent and open space, small lakes and regional trees.

So some years ago, I decided, in the middle of the semester, to give a class there. The students loved the experience and I incorporate these activities in my course every year. It is always a good experience for the students.

At the beginning of the day, we start with them walking around in small groups or by themselves. They are suggested to do it in silence, observing the birds, lakes and trees. Then we join the groups together to work with an invited professor from the dance course who works with the culture of native Brazilians.

F: That sounds both interesting and like so much fun, I’m wishing I was your student. What are the learning objectives?

A: In this class, we have many objectives, but for me three are special.

1. The first is to make them connect with nature and understand the relevance of green spaces for health.
2. The second is the opportunity to talk about some of the rich culture of native Brazilians. During the conversation with the students, the teacher mixes the experience of native dances with conversations about their culture and their views of the world, body and health.
3. The third is to give some time for the students to interact, finishing off the morning with a picnic where each of them brings something along to share

F: Why do you choose to teach it outdoors? What are the benefits of teaching outdoors?

A: I think it is important, when you want to explore the embodied perspective, to bring different experiences and stimulate different senses, which is difficult if you always stay inside of your four walls. Also, going outdoors helps them to realise that you can promote health creating connection with nature and cultural issues.

F: What is the added value of working with a colleague from the dance program at your university?

A: I think professor Jair Umman brings a different outlook of the body and movement, pushes the students to move collectively and in a very simple way, which creates a strange feeling but at the same time it brings a lot of joy and integration between the students. He also works with an understanding of the health of the native Brazilians which sometimes challenges biomedicine’s views of health, a topic we have a more formal discussion about in another class.

F: What are students saying about this course?

A: They really love it! For a final written project, where they have to talk about three classes from the course, this morning activity is always present, because they feel this is an unusual class which helps them to reflect on their interaction with nature, colleagues, the different cultures we have here in Brazil and how this simples activate makes them feel better, not only in the end of the class, but for the rest of the day, or even, the week.

F: Thank you so much Adriane. This is really wonderful and gives me lots of inspiration and ideas to think about for my own teaching. One of the interesting things for me, based on my readings across planetary health, is also that it is fairly widely understood that reconnection to the outdoors/nature is considered an important action to transition us to a more sustainable future, so what you have told me here fits in really well with that. I think I have to go outside now after all this talk about being active outside, feeling and experiencing, and connecting to the outdoors with our bodies. Thank you😊

Sound: Jungle sounds

Reflection

Can you think of some embodied, experiential approaches that could enhance the ‘environmental’ elements of your teaching? Something that additionally facilitates students re/connection to the environment (this has been identified as a key action for improving planetary health) through the process of learning?

*Section 7 - Placements & enviro pt in the clinic / clinical edu*

F: Hi Olivia, it’s really great to talk to you again. You are a physiotherapist and primatologist and in your current work you are the acting director for the University of Otago physiotherapy clinics in Christchurch on the gorgeous South Island of NZ. Is that correct and could to just tell me what the school clinics usually do.

O: 6 students, 6-week rotations in their final year.

F: So I know that you’ve been trying to integrate some enviro and sus elements into your work in the school clinics. Could you tell me a little about what you have done in this direction so far.

O: [How to move a mountain with a biodegradable spoon](http://environmentalphysio.com/2020/03/11/how-to-move-a-mountain-with-a-biodegradable-spoon/) material

* Teaching by example

F: Has COVID created any problems to your operation as a school clinic, particularly with regard those things that you’ve been trying to do to make the clinic more sustainable and pass this on to students?

O: Laundry

F: Any other considerations, experiences or ideas that come to mind as problems to address in the future?

O: Space & windows, lighting.

F: I have some experience on this too. WHO carcinogens. Specify reflections: Consider possibilities and challenges for integrating enviro pt edu into clinical education.

Sound: Emergency room

*Section 8 – Environmental Physiotherapy Agenda 2023*

Brief overview of [EPT Agenda 2023](https://eptagenda2023.com/):

* Launched in early March
* Came together via student engagement and desire to learn about enviro pt & a clear recognition of the fact that our environmental crises are now the greatest threat to human health, functioning and wellbeing; At this point in our profession’s history, ‘we believe that changing education is the single most effective action with the longest-lasting effect that we can take as a profession at this point to ensure the health of future generations and support the transition to a more sustainable and environmentally responsible future’, ie. education leading to environmentally responsible pt practice
* 2 parts:
  + Call to action to action aiming at the integration of environmental and sustainability perspectives into entry-level physiotherapy education programmes around the world: Over a dozen participating institutions from across New Zealand, Australia, Germany, Chile, the UK, Ireland, USA, Greece and South Africa already + over a dozen supporting organisations;
  + Collaborative development of an enviro pt edu knowledge-base / inspiration-base; open-access, online, transparent and collaborative sharing. Not about who does it better, but:
    - how many of us can do it as best as possible, asap.
    - About collaboratively generating a broad diversity of content and approaches to what environmental physiotherapy education could be and transparently sharing and developing this with each other.

There is a good relationship here between the EPT Agenda 2023 and this podcast, insofar as I hope that this podcast has delivered a little bit along these lines. We have touched on a range of topics that could be of interest to environmental physiotherapy education, and touched on a range of ideas regarding teaching methods. At this point, I think this leaves nothing for me to say but that I look forward to brainstorming, discussing, and science-fictioning the future of environmental physiotherapy education with you in our upcoming synchronous discussion and office hours, as well as our environmental physiotherapy education stream padlet. Feel free to add as little or as many reflections as you like on the latter in whichever format you prefer, written, spoken, video, image, or in singing, though you probably won’t hear much singing coming from me. Thank you and I will see you soon.